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Original Articles.

THYROTOMY; WITH REPORT OF A SERIES OF CASES OPERATED UPON DURING THE PAST TWENTY YEARS.¹

BY CLINTON WAGNER, M.D.,

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THYROTOMY, or laryngotomy, as it was formerly termed, was first proposed by Desault about a century ago, although he never had occasion to perform it. To Bauers, of Louvain, is due the honor of having been the first to perform it. Gordon Buck, of this city, did it in 1851, his being the third case on record. Dr. Sands and Dr. Gouley, also of this city, performed it early in the '60's.

The introduction of the laryngoscope into general practice, by which the cause of laryngeal obstruction to respiration can easily be diagnosticated, caused the operation to grow rapidly into favor with surgeons. I think it may safely be assumed that it was performed in many cases by those engaged in general surgery, in which a skilled laryngoscopist might have operated by the intra-laryngeal method. In fact, thirty years ago, a contention arose between Dr. Morell Mackenzie and Mr. Durham, of Guy's Hospital, as to which was the preferable method for removing laryngeal growths, thyrotomy or the intra-laryngeal method through the mouth.

It is not my purpose to discuss the relative merits of the two methods. The immense number of cases of growths that have been successfully removed *per vias naturales*, without involving life, settles the question as to the superiority of that method.

But there are two classes of cases in which thyrotomy will always be justifiable, if not absolutely necessary. First malignant growths, for which the radical surgical treatment must be either thyrotomy or excision of half or the entire larynx; secondly, cases of occlusion of the larynx in very young children, such as I will describe later on. I shall endeavor to show that although thyrotomy is not always a simple, easy operation, still it is not dangerous to life if carefully performed, neither is it necessarily destructive to the vocal function in non-malignant cases.

In performing the operation, the shoulders of the patient should be well raised, and the head thrown back, by which the skin covering the larynx is made tense, and that organ thrown prominently forward. An incision should then be made through the skin and fascia from a little above the thyroid notch downward, in the median line to the cricoid. With a small probe-pointed knife, the crico-thyroid membrane is divided, and then with a gentle sawing motion the knife is carried upward through the thyroid cartilage. In young persons the section is made without difficulty, but in middle-aged or old persons ossification of the thyroid will have taken place, to divide which, the saw must be employed. I use a small file-cut saw

wheel, made to revolve by means of the electric motor. The section can be made in an incredibly short space of time. The incision is clean and can be maintained in the median line without difficulty. Malgaigne says of this operation, "ossification of the thyroid renders it absolutely impossible." But in his time the electric motor did not form a part of the surgeon's armamentarium. The difficulties of the operation begin as soon as the larynx is penetrated. The introduction of the knife, together with the flow of blood, produce violent reflex action. The larynx rises and falls spasmodically and very rapidly. The employment of a sharp-pointed knife or scissors, at this stage of the operation, is highly fraught with danger. During the rapid movements of the larynx, its posterior wall might be penetrated, and thus cause a laryngo-oesophageal fistula. At this moment, the operator has need of all his coolness and presence of mind. During the spasmodic action of the larynx, in spite of all that may be done to prevent it, a certain amount of blood will find its way down the trachea and into the lungs. If the patient is not fully under the influence of the anæsthetic (and he should not be), it will excite further reflex action. Violent coughing will follow, and the blood will be expelled.

I am always extremely careful in regard to the amount of anæsthetic administered. Coughing, under these circumstances, may be regarded as a danger signal. In deep or complete anæsthesia it will not take place. The blood will collect, and death on the table from asphyxia may suddenly take place.

The divided edges of the thyroid should now be kept widely apart by retractors, the anæsthetic carefully pushed, and the removal of the growth, false membrane, or whatever the cause of the laryngeal occlusion may be, proceeded with. Except in cancerous growths the hemorrhage usually is not very great. In all my operations I have never found it necessary to apply a ligature. Gentle compression has always been sufficient to arrest the bleeding, and I cannot conceive where a distinguished laryngologist, Fauvel of Paris, placed thirty-eight ligatures in one of his thyrotomies, and I am not surprised that he should denounce it as "a severe and bloody operation." The only artery that lies in the course of the surgeon's knife is the crico-thyroid, which is very small and can easily be secured by compression. No evil effects follow the division of the cricoid cartilage. I usually cut down to the cannula in the trachea, in order to gain more room. The cannula may be removed during the operation, if it is in the way, and it generally is. Silver sutures, as recommended by the earlier operators, passed through the thyroid for the purpose of maintaining the divided edges of the cartilage in apposition after the operation, are quite unnecessary. If the skin is brought together by a few sutures, aided by plaster, it will maintain the edges of the thyroid in firm apposition.

Thyrotomy is not an operation for the display of brilliancy and dash on the part of the surgeon. It is a tedious operation in which, in order to secure safety, celerity should not be attempted. The larynx of a child under five years of age is extremely small, the opening made for the play of instruments still

¹ Read before the New York Academy of Medicine, Section Laryngology and Rhinology, November 27, 1895.

smaller, which, with the flow of blood and the rapid spasmodic movements of the larynx, tend to obscure the landmarks, and tax to the utmost the patience of the surgeon and his assistants.

I have performed thyrotomy on five adults and five very young children. My youngest subject was eighteen months old, my oldest sixty-six and a half years. Upon one of the adult cases I subsequently operated four times, and upon another a second operation was performed, both being for the removal of recurrent malignant growths. If I include these operations, the total number of thyrotomies I have performed will amount to fifteen. In none of these cases of malignant growth was the operation in any way responsible for the death of the patient. They all survived the operation several months. With the exception of two, all the cases have been reported. I will, therefore, refer to them in as brief a manner as possible. The two that have not as yet been published I shall give more in detail.

CASE I.—Epithelioma.—Mr. C—, aged forty-seven, consulted me in October, 1875. There was a large sessile growth on the right vocal cord, covering the middle and extending into the anterior third. I removed all that could be seized with the forceps; very little remained and his voice was greatly improved. In November, 1876, he called for an examination of his throat. Recurrence had taken place, but he did not care to have treatment resumed just at that time. In June, 1877, the stenosis was very great, producing an alarming dyspnoea. Tracheotomy was performed at the Metropolitan Throat Hospital, followed immediately by thyrotomy. In consequence of the small breathing-space, no ether was administered until the cannula had been introduced. The growth was found to extend downward to the cricoid cartilage. It was thoroughly removed, the cord destroyed, and the galvano-cautery freely applied to the attachments of the growth. Recurrence took place at intervals of a few months. Thyrotomy was performed in all five times. He died in June, 1879, nearly four years after he first came under my treatment.

I might mention that the operations subsequent to the first thyrotomy were not performed with any expectation, on my part, of a radical cure, but at the solicitation of the patient, who declared that they gave him relief from suffering. The hemorrhage accompanying the curetting was always very profuse.

CASE II.—Papilloma Recurring as an Epithelioma.—Consulted me in January, 1881, at which time there was a growth on the right cord near the anterior commissure. I regarded it as a papilloma and suggested removal by forceps, which could have been done without difficulty. The patient declined operative interference and sought treatment elsewhere. Twelve months later he again consulted me, at which time the whole box of the larynx was almost completely filled with the growth. Several large pieces were removed by means of the forceps, but as it was found to extend downward below the cricoid cartilage, and as dyspnoea was becoming more urgent each day, tracheotomy and thyrotomy were performed, the growth removed, and the patient discharged in a few weeks from the hospital. The tumor was submitted to Dr. Heitzman, of this city, for examination, who pronounced it a papilloma. But in his report he stated that it had grown from a highly inflamed base, and if it recurred it would most likely come as a malignant growth. A few months later, in June, just before I left for Europe the patient came to me, suffering from great dyspnoea. A large amount of growth had reappeared in the larynx, on the right side. During my absence a cannula was introduced into his trachea by a surgeon in Brooklyn; and upon my return I again operated. This time I removed an enormous amount of growth.

It involved the whole of the right side of the larynx, and extended below the cricoid cartilage. Its attachments were destroyed by the galvano-cautery. A portion of the tumor which was submitted to Dr. Heitzman for microscopic examination, was pronounced to be epithelioma. Recurrence took place four months later. I then excised the entire right half of the larynx. The patient died fifteen days after this operation.

CASE III.—Epithelioma.—J. D—, aged forty-eight years. Case presented no unusual features; tracheotomy and thyrotomy were performed at the Metropolitan Throat Hospital; thyroid found to be ossified. Growth was thoroughly removed and the patient left the hospital in two weeks in good condition. Recurrence took place within four weeks and the patient died three months after the operation.

CASE IV.—Ecchondrosis.—J. H—, aged thirty; Irish; consulted me at the Metropolitan Throat Hospital, at the suggestion of Dr. Moore, of Troy. About a year previous tracheotomy had been performed for laryngeal dyspnoea, which had suddenly become alarming; since then has worn the cannula; has had syphilis.

An examination revealed a large rounded mass on the left side of the larynx, just anterior to the left arytenoid, and filling almost its entire cavity. I performed thyrotomy, and found that the tumor grew from the thyroid, very hard and firm, and, without doubt, of the very rare variety known as an ecchondrosis. I could make no impression upon it, either with gouge or knife, and attempts at removal brought on violent paroxysms of spasmodic coughing, although the patient was fully under the influence of ether.

I saw and examined him about fourteen months after the operation; apparently no change had taken place.

CASE V.—Epithelioma or Papilloma?—E. F—, aged sixty-four and a half years, applied for treatment at the Metropolitan Throat Hospital in April, 1893. Stated that about a year previous he began to grow hoarse, and have difficulty in breathing. On the left side of the larynx, involving the entire vocal cord and the ventricular band, was a large growth which produced considerable stenosis, although respiration was fairly good. There was considerable infiltration of the submucous tissue. As there was a history of syphilis, contracted some thirty years ago, I decided to give him the benefit of the doubt and accordingly gave him the proper remedies; but no appreciable effect was produced, and the treatment was discontinued. In September, having caught a slight cold, the dyspnoea became so severe and urgent that in my absence Dr. Hope performed tracheotomy. Later on he removed a portion of the growth with the forceps and submitted it to a microscopist for examination, who reported it to be a typical epithelioma. As the patient seemed comfortable and in excellent health, and was, moreover, disinclined to submit to a radical operation, it was decided to do nothing. I saw the patient at long intervals, but about fifteen months after the cannula had been introduced I was struck with the appearance of the growth. Instead of having increased, it had apparently diminished in size. This was probably owing to the disappearance of the submucous infiltration. The man's general condition was excellent, no engorgement of the cervical lymphatics, and the growth presented very much the appearance of a papilloma. The patient was very anxious to dispense with the cannula, if possible. I proposed a thyrotomy, and explained to him that in case there was no recurrence of the growth, I would remove the cannula. The thyroid was ossified, or rather eburnified. The circular saw, propelled by the electric motor, went through it very rapidly. The growth was thoroughly removed by means of curette

and forceps, and the galvano-cautery applied to its attachments. The mass removed was submitted to another microscopist, who pronounced it a papilloma. The patient rallied nicely from the effects of the operation, and left the hospital ten days after it was performed. He wore a tightly fitting cork in the orifice of the cannula, and breathed without difficulty through his larynx. He frequently urged me to remove the cannula. About ten weeks after the operation he suddenly expired at his residence of some acute pulmonary trouble. He had not been at the hospital for a week before his death. When I last saw him, about nine weeks after the operation, no recurrence of the growth had taken place. An autopsy was refused by his friends. He was sixty-six and a half years old at the time of performing the thyrotomy.

CASE VI.—Georgie, aged five years, was admitted into the Metropolitan Throat Hospital February 3, 1879, suffering from alarming dyspnoea, with frequent attacks of spasm of the glottis. An examination revealed a large papilloma attached to the right cord and almost completely filling the box of the larynx, and between the cords posteriorly could be distinctly seen what appeared to be a web of membrane stretched from cord to cord. As the child was greatly reduced in flesh and strength, thyrotomy was at once decided upon. Tracheotomy was first performed, followed immediately by the thyrotomy. The growth was removed, the membranous web cut away with the scissors, and the patient put to bed. The membranous web was the result of an attack of diphtheria or croup which he had had some months before. The boy recovered perfectly and gained rapidly in strength and flesh; was discharged from the hospital five weeks after the operation. This patient, operated upon nearly seventeen years ago, was exhibited at the meeting. Voice excellent.

CASE VII.—A boy between three and four years of age was attacked with diphtheria at the New York Foundling Asylum in November, 1882. Tracheotomy was performed by Dr. G. M. Swift, at that time house surgeon of the institution. The child recovered from the diphtheria, and in due time an attempt was made to dispense with wearing the cannula. Dyspnoea followed and the tube was reinserted. Numerous attempts were subsequently made with the same result. Five months after the tracheotomy was performed I was requested to give my opinion as to the cause of dyspnoea upon removing the cannula. Owing to the resistance made by the child, I was unable to obtain a very satisfactory view of the larynx. I gave as my opinion that there was laryngeal obstruction, probably a membranous web, the result of the ulceration of diphtheria. I suggested thyrotomy and was requested to take charge of the case and perform the operation. I found below the vocal cords and just above the inferior border of the thyroid a membranous web stretched across the larynx and occluding at least the anterior two-thirds of its lumen. This was removed carefully by means of scissors and knife, after which I had no difficulty in carrying my index finger through the glottis into the mouth. The wound healed kindly, twelve days after the operation; the cannula, which he had worn for nearly six months, was removed. Two years later the child, well and strong, with a good strong voice, was sent from the asylum to a home in the West which had been provided for him.

Sister M. Irene, founder of the New York Foundling Hospital, writing to me under date of November 19, 1895 (twelve and a half years after the operation), says, "His voice is clear and strong and his throat healthy, never having experienced any difficulty in breathing, etc."

CASE VIII.—A girl child, aged three years, was

admitted into the Metropolitan Throat Hospital in April, 1884, suffering from alarming dyspnoea with frequent attacks of spasm of the glottis, caused by a large papilloma attached to the left vocal cord. Tracheotomy was performed, but during the operation a large vein was cut, which bled profusely; the prostration from hemorrhage was so great that I was compelled to defer thyrotomy for two weeks; it was then performed in the usual manner. The patient was discharged from the hospital at the expiration of two months, but attended my clinic as an out-door patient, and was kept under observation for six months longer.

I saw this girl about ten days ago, eleven and a half years since the operation. Her voice is good, loud, and distinct, but modified. There is a small granulation at the anterior commissure in the line of my incision, the removal of which with the forceps will greatly improve her voice.

CASE IX.—A child, boy, aged eighteen months, I was requested to take charge of while at Colorado Springs. Dyspnoea began about three months before I saw it, following exposure to wet and cold. Spasms of the glottis were frequent, especially during the night, and were most alarming in their intensity. There was complete aphonia. An examination with the mirror was impossible. Merely approaching the child caused it to struggle, and in its struggles spasm of the glottis was invariably brought about.

Carefully observing the child when quiet and undisturbed by excitement, I became satisfied that the obstruction to respiration was laryngeal and not thoracic. I performed tracheotomy and immediately upon the introduction of the cannula the relief in respiration was quite apparent. On account of the extremely weak condition from long deprivation of a proper air supply, I decided to postpone the thyrotomy until it had improved in health and strength. Two weeks later I performed thyrotomy and upon the left vocal cord posteriorly I found quite a large papilloma which I removed. The wound healed kindly, and in about ten days after the operation the parents were compelled to return to their home and declined to leave the child in the hospital, promising, however, to return with it at an early day. I instructed the father to insert, a month after the operation, a tightly-fitting cork into the cannula in order that respiration might be carried on through the larynx. I was absent from Colorado for many months and upon my return I wrote the father to bring the boy to me. In his reply to my letter he stated that the child was in excellent health, that he breathed without difficulty through the mouth and nose, and that voice was returning to him. He named an early day on which he would bring him to me. A few days later he again wrote, stating that the little fellow had just died, eleven months after the operation, after a brief illness from the grippe, which at the time was very prevalent throughout Colorado.

CASE X.—Mary M.—, aged three years and seven months, was admitted into the Willard Parker Hospital on June 2, 1895, suffering from diphtheria. An intubation tube had been introduced six days before admission. On July 13th it became necessary to perform tracheotomy. The larynx seemed to be occluded and the cannula was worn continuously.

The above is an abstract of the report of the case furnished me by Dr. W. L. Somerset, resident physician at the Willard Parker Hospital. On October 14th she was sent to the Metropolitan Throat Hospital for surgical treatment. At that time she was in an extremely feeble condition, and very much reduced in flesh. In fact I desisted in my effort to make a laryngoscopic examination on account of her weak condition. I obtained, however, a good but momentary view of the epiglottis and the region immediately be-

low it. The aperture of the larynx seemed to be completely obliterated. Two days after admission ether was administered through the cannula, and the operation performed in the usual manner, by an incision from the thyroid notch downward through the cricothyroid membrane, which was afterward extended through the cricoid to the cannula. An extraordinary condition was encountered. The entire lining membrane of the larynx, from the epiglottis to the cricoid cartilage, appeared to be thickened and covered with a mass of what seemed to be granulations. After removing a portion with the scissors and forceps, an attempt was made to pass an ordinary laryngeal silver sound upward and forward into the mouth, but without success. It encountered an obstinate resistance. Upon carrying the index finger of my left hand into the mouth, and below the epiglottis, I could distinctly feel the point of my sound below this dense mass of adventitious tissue, and finally I succeeded with the aid of the knife and my finger in forcing an opening sufficiently large to permit the sound to pass through into the mouth. Further efforts enabled me to force a dilator through, and to enlarge gradually the opening. As much of the tissue as I could reach I cut away. The lower part of the canal was also cleared out as thoroughly as possible. Fearing, from this unusual condition, that complete occlusion of the canal might again result if I brought the divided edges of the thyroid together, the entire cavity was packed with iodoform gauze which was daily renewed, the dilator frequently passed upward into the mouth, and granulations removed by the curette from time to time. On the nineteenth day after the operation the gauze was permanently removed, and the external wound closed in the usual manner, the cannula being allowed to remain.

At the present time the child's general condition is excellent, she being fat and strong. The external wound has closed, a very fair amount of air passes through the larynx, and from time to time a tightly-fitting cork is inserted into the orifice of the cannula and the little patient is thus compelled to breathe through her nose and mouth. The voice is returning, and from present appearances and indications I shall be able before a great while to remove the cannula.

Casts in Non-Albuminous Urine.—Dr. A. Kossler has examined the urine of twenty-nine patients for casts, there being no albumin in any of the cases. In eighteen out of the twenty-nine cases, hyaline and granular casts were found, and in a few cases epithelial ones also. Cases of pulmonary phthisis showed the largest number of casts. While none of the specimens of urine contained serum albumin, most of them yielded nucleo-albumin, in varying quantity. In a number of cases Dr. Kossler had opportunities to make post-mortem examinations of these cases of nucleo-albuminuria, with casts. In none of them were there any well-marked inflammatory changes in the kidneys. He found, however, some changes in the epithelium of the urinary tubules, showing various stages of necrobiosis of the cells.

Tuberculosis.—Dr. Ingraham regards the fever thermometer as an ideal instrument in the diagnosis of suspected cases of tuberculosis. He feels sustained in the assertion that a rise of temperature of from one-half to one degree at some period of greater or less duration every twenty-four hours, may be regarded as the first symptom of pulmonary tuberculosis. Also that this rise of temperature, as a rule, occurs previous to every other symptom, and before the general health of the individual is influenced to a noticeable degree.

—INGRAHAM.

THE LAW OF LIBEL AND SLANDER, AS AFFECTING MEDICAL PRACTITIONERS.¹

By W. A. PURRINGTON,

NEW YORK.

Job and Dogberry wished to be libelled. Dogberry, that he might have an action for damages; Job, that he might answer the charge against him; for the desire of the man of Uz that his accuser might write a book, was but a call for the indictment against him, so that, knowing the specific accusation, he might the better "maintain his ways." In ecclesiastical and admiralty courts the first pleading, which sets out the cause of action, was the book, *librum*, *libellum*, or libel. In common law the word came to mean any communication, otherwise than by oral speech, unjustifiably accusing private individuals, officials, or governments of anything tending to make them ridiculous or injure them in reputation or public esteem. Slander, on the other hand, is a statement by word of mouth, unjustifiably imputing to a person either crime punishable at law, a contagious disease of a nature to exclude him from society, incapacity, or lack of integrity in the discharge of an office of profit; or else something that either naturally tends to injure him in his business, or actually has occasioned special and provable damage to him. The distinction between the two classes of defamation is generally ignored by laymen; it is too little borne in mind often by lawyers and sometimes even judges in their reasonings; and occasionally, on the other hand, it is emphasized to the point of hair-splitting. Libel is an indictable crime. Slander is not. The reason generally assigned for this difference, that the former more than the latter tends to cause breach of the peace, is obviously as inadequate as is the modern punishment of criminal libel, which is usually a small fine, although imprisonment is sometimes meted out, as recently in the District of Columbia, where one Moreno was imprisoned ninety days for defaming the Italian envoy. A better ground for the distinction is the deliberate evil intent and far-reaching consequences of written, as contrasted with oral, vilification. Because one is disposed to resent a truthful rather more than a false accusation, the maxim grew up in criminal law, "The greater the truth the greater the libel." And even now, when, as a general rule, truth of the publication may be pleaded as justification in both civil and criminal suits for defamation, yet in the criminal action it must appear that the publication was not only true, but also made with good motive. But although in the criminal action fuller justification is required, and conviction thus made easier, still the punishment is so inadequate that redress for libel is almost always sought, as in case of oral slander it must be sought, in civil courts.

Examples will best show the difference between oral and written defamation. In New York, adultery is not a crime, although forbidden by the Decalogue; therefore, an oral charge of that offence against Jones, a player or lawyer, is not slander, and might even flatter a wanton youth; but as against Jones, a clergyman, the same words would be actionable, from their tendency necessarily to injure him in his holy office; while the like accusation against a physician has been said to be no slander, unless, perhaps, the co-respondent named were a patient, in which case the charge, probably, would be slanderous.² So, too, in those States where adultery is a crime, a false charge of this nature would be slanderous, if orally made of any one; and the like accusation, if written, becomes libellous even where there is no statute in aid of the seventh commandment, by force of its ten-

¹ A paper read before the Society of Medical Jurisprudence, in New York City, on December 9, 1895.

² Ayre vs. Craven, 2 Ad. and E., 2.

dency to hold up the accused to scorn and injure him in public esteem. Again, to say that Brown, an attorney, has certified to the efficacy of Blowhard's Unfailing Remedy, charges the man of law with no unprofessional conduct and is not slander. But a statement that Brown, a physician, has puffed the nostrum, probably would be adjudged defamatory,¹ such puffing being not only contrary to medical custom and tradition, but a violation of the laws of medical societies, for which a member may be expelled.²

It is difficult to assent to the application of general principles to facts in some of the cases. The principle is well settled that any words imputing general professional ignorance or malpractice to a physician are actionable *per se*—that is to say, without proof of special damage. But merely to say that a physician in a particular case has been mistaken, or insufficiently careful, or might have managed it better, is not slanderous, unless resulting damages be proved; for all men are liable to error. Thus, in an old English case,³ in the time of Charles I., the slanderous words alleged were: "Thou art a drunken fool and an ass; thou wert never a scholar, and art not worthy to speak to a scholar; and that I will prove and justify." Defendant's counsel urged that these words were not actionable, "fool and ass" being merely terms of scorn, while the other words touched plaintiff only in his scholarship and not in his art, since "a physician may be no good scholar, and yet a good physician." The chief justice was also, at first, of that opinion, but took the point under advisement; and, finally, it was adjudged for plaintiff, on the ground that "no man could be a good physician unless he be a good scholar." It may well be doubted whether to say that a physician is no scholar would constitute slander today. And in a somewhat doubtful Pennsylvania case, holding it no slander to say of a physician, "If he is a twopenny bleeder, I am none. I am a regular physician and no quack," it was held that this old English case did not apply in a community where many physicians held no diplomas, and college graduation was not essential to medical repute and right to practise.⁴

What statements relating to the medical conduct of a case constitute slander, was thoroughly discussed in an action brought in Connecticut early in the century.⁵ Dr. Sumner had been unfortunate, as we all may be in our cases. As a man-midwife he had attended Mrs. Phœbe Johnson, brought to bed of twins. Her first child was born dead, the other died within two days, and the mother followed them within a fortnight. He also attended Mrs. Haynes, but for what ailment the record does not disclose. One Utley said of Sumner's treatment of Mrs. Johnson: "He has killed three and ought to be hung, damn him. They all died through his mismanagement. I have understood he left the after-birth; and a man that would do that ought to be hung, damn him." And to Mrs. Haynes Utley said of Sumner: "He was the means of your sickness, by cutting an artery in your head. Damn him, you ought not to pay him a cent. If Mr. Haynes had took him up for it, it would have cost him \$400. It ought to be put in the newspapers." The jury found a verdict for plaintiff in the sum of \$600, no inconsiderable amount for the time and locality. A new trial was asked, on the ground that the expressions complained of only alleged malpractice in particular cases, and no special damage was alleged or proved. But the verdict was sustained, and the correct principle in such cases stated to be that "The misrepresentation of a physician's

practice, in a particular case, if it does not warrant the presumption of damages, is not actionable, unless special damages are alleged and proved; but if, from the nature of the calumny, damages are inferable, the words are actionable *per se*." All the judges agreed as to this governing principle, but differed in its application; for one dissenting judge could find nothing generally slanderous in these words, while his colleagues, although admitting that mistaken conduct in a particular case might be consistent with great knowledge, skill, or care in general, since any physician might err in diagnosis or judging the effect of drugs, were yet of opinion that to charge a surgeon with opening an artery by mistake for a vein, or a man-midwife with leaving the after-birth, was to make an accusation which, if believed, necessarily implied such gross ignorance as would prevent the public from employing the accused, and so injure him professionally. The chief justice said: "As a general principle it can never be admitted that the practice of a physician or surgeon in a particular case may be calumniated with impunity unless a special damage is shown. By confining the slander to particulars, a man may thus be ruined in detail; a calumniator might follow the track of the plaintiff and begin by falsely ascribing to a physician the killing of three persons by mismanagement, and then the mistaking of an artery for a vein, and thus might proceed to misrepresent every single act of his practice, until his reputation should be blasted beyond remedy." This seems to be good sense, and has been approved since as good law. Somewhat later another and similar case⁶ arose in Connecticut. For some reason Dr. Camp ceased to attend a patient, and one Martin availed himself of the occasion to say, if Dr. Camp had "continued to treat her, she would have been in her grave before this time; his treatment of her was rascally." The physician sued and won a verdict. Still Martin prevailed eventually; for the court arrested judgment, thus reasoning: Except for the word "rascally," the expression conveyed no imputation on the plaintiff incompatible with his being a practitioner of general skill and learning, and perfect integrity; the term "rascally," however, in connection with the other words, "certainly implies that there was mismanagement of some kind on the part of the plaintiff in the treatment of the case;" but, nevertheless, as the nature of that mismanagement does not appear, it cannot be said that the charge necessarily affects plaintiff's general reputation for medical knowledge, skill, and care; and no special damage was shown. But the doctrine of Sumner vs. Utley was expressly approved. That doctrine was early accepted in a New York case,⁷ growing out of the following remarks by a certain Mr. Harris: "Dr. Secor killed my children. He gave them teaspoonful doses of calomel and they died." "Dr. Secor gave them teaspoonful doses of calomel and it killed them; they did not live long after they took it. They died right off, the same day." The trial court—following an older New York case⁸ which held it no slander to say of an attorney, "Foot knows nothing about the suit and he will lead you on until he has undone you," and a medical case in Queen Elizabeth's time,⁹ holding it not actionable to say that a physician killed a patient with physic, since he might have done this involuntarily, through not knowing the disease—considered the words of Harris not slanderous, and said, with unpleasant frankness, "There is no physician, however eminent, who is not liable to mistake the

¹ Clark vs. Freeman, 11 Beav., 112.

² People ex rel. Bartlett vs. Med. Soc. of Erie, 32 N. Y., 187; 25 How, 333; see Medical Codes.

³ Cawdry vs. Highley alias Tythay, Cro. Car., 270; Godb., 441.

⁴ Foster vs. Small, 3 Whart., 138.

⁵ Sumner vs. Utley, 7 Conn., 250.

⁶ Camp vs. Martin, 23 Conn., 86.

⁷ Secor vs. Harris, 18 Barb., 425, cf. Ganvreau vs. Superior Pub. Co., 62 Wis., 403.

⁸ Foot vs. Brown, 8 Johns., 64.

⁹ Poe vs. Mendford, Cro. Eliz., 620.

symptoms of a particular disease; nor any attorney who may not misunderstand the complicated nature and legal consequences of a particular litigation." But Dr. Secor appealed, and the appellate court, pronouncing the doctrine of *Foot vs. Brown* unsound, and approving *Sumner vs. Utley*, decided the words of Harris to be slanderous *per se*. So, too, in an Alabama case it was held actionable to say of a doctor, "He has killed the child, by giving it too much calomel."

In England it has been said that, while it was not slander to say of an apothecary, "He made up the medicines wrong, through jealousy, because I would not allow him to use his own judgment," there being no suggestion that injury resulted from the medicine, yet the words, "He killed my child; it was the saline injection that did it," would give a cause of action.¹ And, in Indiana, it was held that, although the words, "In my opinion, the bitters that Diver fixed for Smith were the cause of his death," since they impute neither crime nor general incompetency, were not actionable, yet a cause of action did arise upon the words, "The bitters that Dr. Diver gave to John Smith caused his death. There was poison enough in them to kill ten men;" for they constituted an allegation of gross incompetency.² Long ago it was considered slanderous in England to say of an apothecary, "It is a world of blood he has to answer for in this town through his ignorance; he did once kill a woman and two children at Southampton; he did kill John Prior at Petersfield." "He was the death of John Prior; he has killed his patients with physick."³ And two hundred and fifty years ago, Mr. Ockham paid damages to Apothecary Davis for saying of him, "That knave Davis, the apothecary, hath poisoned my uncle; I will have him digged up again and hang him."⁴

After Southee, a surgeon and accoucheur, had safely delivered a patient, defendant said to her in the presence of others: "I wonder you had him to attend you! Do you know him? He is not an apothecary; he has not passed any examination; he is a bad character; none of the medical men here will meet him. Several persons have died that Mr. Southee has attended, and there have been inquests held on them." Southee brought an action, but alleged no special damages; and defendant contended that the holding of an inquest did not impute lack of skill in the surgeon. But the court held that the words were actionable, and inclined to believe that they were so, even apart from the statement as to inquests, and that the words, "He is a bad character; none of the medical men here will meet him," were slanderous.⁵ But where an action was brought upon words charging a physician with meeting homœopaths in consultation, innuendo that in consequence regular practitioners would not meet him, the words were held to be not slanderous.⁶

Sometimes the *odium medicum*—a survival, perhaps, of the *odium theologicum* from the time when priest and physician were one—finds expression in condemning the unorthodox rather than his doctrine; and then lawyers may reap a profit. Thus the poor opinions held and frankly expressed of one another by Drs. Carroll and White, in the quiet town of Amsterdam, have served to illumine this dark province of the law. Dr. White took occasion to say: "Dr. Carroll has killed six children in one year. Dr. Carroll and the other physicians of the village have killed seventy in one year." Now, Amsterdam is comparatively a small place, and these large mortality statistics may be

taken *cum grano salis*, when it is understood that Dr. White, although reared in the faith, had gone over to the doctrines and practice of homœopathy. However that may be, Dr. Carroll brought his action of slander; but neglect to plead that the regular practice of medicine was the weapon hinted at as used by him in slaughtering the six innocents, almost lost him his case; for the court held that, as the killings were not attributed to his ignorance, lack of skill, or misconduct, the charge did not affect him professionally. But, on the other hand, the judges declined to consider the word "killed" *in mitiori sensu*, as was the old rule laid down in *Poe vs. Mendford*—already referred to as holding that the involuntary killing of patients is consistent with eminent medical attainments—and held, on the contrary, that as the charge of killing six children could be fairly understood as imputing, at least, manslaughter, if not murder in the first degree, it slandered plaintiff as a citizen, if not as a physician.⁷ Thus Carroll triumphed. But his turn generally comes to the patient man. In course of time Mr. Jay Phillips, falling into his last illness, called upon Dr. White to help him homœopathically, and then upon Dr. Carroll to aid him in orthodox wise. Both physicians were in vain; and the patient, dying, left a will as his contribution to the support of the legal profession. Dr. Carroll being called before the surrogate to testify as to the mental capacity of testator, was asked if any other physician had attended decedent. Here was his opportunity to give slur for slur, at least so a jury thought. He answered: "Not as I know of, not as I know of. I understand he had a quack; I would not call him a physician. I understand that Dr. White, as he is called, had been there." Here, in turn, was Dr. White's chance to go to law, and he went there, getting a verdict of \$100. Dr. Carroll, claiming that his words as a witness were privileged, took the case to the court of appeals, but all the courts held that privilege attached to his testimony only while given in a *bona fide* belief in its pertinency and relevancy; but if the jury believed, as they had a right to do, that defendant answered maliciously and only to defame his adversary, they were entitled to find the verdict against him.⁸ This was White's victory; and by this case it was finally settled in the State of New York that it is slander to call any lawfully practising physician, whether regular, homœopathic, eclectic, or what not, a "quack;"⁹ a rule in accord with the English decision above referred to, that it is no libel to write of a regular practitioner that he meets homœopaths in consultation. But, nevertheless, it would seem from the cases that a physician of the greatest attainment may be called a "quack" if he be not licensed to practise within the jurisdiction. Thus, in a leading English case,¹⁰ defendant, Dr. Carnegie, appears to have said: "I know no such person as Dr. Collins, but I do know such a person, by name Joseph Collins, who calls himself Dr. Collins; but such a person I know to be an impostor and a complete quack, and has not the slightest title to such an honor, as I have made inquiry at the different colleges; Dr. Collins is a quack and impostor." "A man of his description would be guilty of anything; I will do everything in my power to oppose such a character while here." Carnegie also used words imputing drunkenness and malpractice. Collins sued on six counts, and having proved that St. Andrew's University had conferred upon him the degree of Doctor of Medicine, recovered a verdict on two counts; but the court, holding under advisement the question of the effect of this degree,

¹ Johnson *vs.* Robertson, 8 Porter, 486.

² Edsall *vs.* Russell, 4 Man. and G., 1090.

³ Jones *vs.* Diver, 22 Ind., 184.

⁴ Tutty *vs.* Alewine, 4 Mod., 221.

⁵ Davis *vs.* Ockham, Styles, 245.

⁶ Southee *vs.* Denny, 1 Ex., 195.

⁷ Clay *vs.* Roberts, 3 L. T. R., N. S., 397.

⁸ Carroll *vs.* White, 33 Barb., 615.

⁹ White *vs.* Carroll, 42 N. Y., 161.

¹⁰ Corsi *vs.* Maretzek, 4 E. D. Smith, 1, held in an action *ex contractu* that a homœopathist was a physician in New York under the act of 1844.

¹¹ Collins *vs.* Carnegie, 1 A. and E., 1834.

eventually decided that, inasmuch as a Scotch degree conferred no right to practise medicine in England, a verdict must be entered for defendant on all counts charging slander of plaintiff in his profession. Like conclusions have been arrived at in this country and in Canada. Thus, in Kentucky, recently, defendant said of plaintiff: "Have nothing to do with him. He is on doctor; nothing but a travelling quack; knows nothing about medicine, and but little about anything else." The action was dismissed, and upon plaintiff's appeal the court said: "We think appellant was not legally authorized to practise medicine in this State when the alleged slanderous words were published, and, as a legal sequence, has no cause of action therefor."¹ In an older case in New York, defendant wherein had charged plaintiff, a "cancer doctor," unlicensed to practise medicine in the State, with killing a woman and with malpractice, Chancellor Walworth said: "It is not actionable to charge such a person with ignorance of the healing art, or with having destroyed human life by lawful but misapplied and well-intended efforts to preserve it;" but he also intimated that the case might have been different if the words had charged manslaughter, as by alleging that plaintiff had caused death through reckless use, contrary to law, of poisonous drugs, knowing their properties.² So, too, it resulted in the case of Dr. or Mr. Skirving, in Ontario, who sued one Ross for saying that he, Skirving, "was a quack, charlatan, and the lives of the people were not to be entrusted to such a scoundrel, as he was an unqualified medical practitioner;" and also that his papers were fraudulently obtained. It was proved that plaintiff was duly qualified under the medical act (21 and 22 Vict., chap. 90) to practise medicine in any part of her majesty's dominions. But a subsequent act (31 Vict., chap. 29) allowed colonial legislatures to regulate the registration within their jurisdiction of persons already registered under the medical act. And as it appears that Skirving was not registered under the Ontario statute, it was held that he could not maintain his action.³ As a result of these cases it would seem to follow that the courts hold it no slander to say of the most intelligent medical man, if unlicensed to practise medicine within their jurisdiction, that he is a "quack," "a charlatan," "a person ignorant of the healing art," and even "a scoundrel;" upon the ground that the gist of slander is the injury to one in his profession, and no such injury can result, at least in the eye of the law, where his practice of that profession is itself unlawful.

It would also seem a logical conclusion from these cases that the like disparaging remarks might be safely made of one retired from the active practice of medicine; for if he no longer seeks livelihood by his profession, no harm can result to him from sayings imputing lack of medical ability. And yet in common sense a wrong would be done by such statements, for which, even if the words were, technically considered, not slanderous, some remedy should, and perhaps, would, be found by the courts; especially if special damages were laid. A case illustrating the extent to which courts will at times go in redressing a personal wrong, regardless of its technical name, arose in Massachusetts in recent years. Dr. Morasse was a member of the Roman Catholic parish of Notre Dame. His wife procured a divorce in February, 1886, and in the following May, while his pastor, Father Brochu, was in Europe, the doctor married again before a justice of the peace, an act working his excommunication. Father Brochu, after his return, used these words in a sermon to his flock: "During my absence there was a scandal of marriage by law in this parish, and you

know who the person is. On my return from Europe, when I first heard of it, I thought I would say nothing about it, because I supposed he would not have the sympathies of the people. But I see it is not so, and, on the contrary, this person is gaining the sympathies and favor of the people, and that they are running after this person, and they give him the first places. Why do you run after him so? Not long ago I was invited to a party where that person was, and I refused to go, because I would not meet an excommunicated person. If any of you are sick and want my assistance, you need not send for me if that person is there, because I will not be under the same roof with him." Alleging that these words falsely represented him as unfit for society and the practice of his profession, the doctor brought an action for slander against the priest, and proved that, although prior to the sermon he had earned from \$1,800 to \$2,000 a year, in the week after it was preached he earned nothing, and subsequently earned only about a dollar a day until four months later, when he ceased to practise in Southbridge. As showing malice, plaintiff proved the utterance of these other words in a sermon preached after the action was begun: "An action has been brought against me. I am not the party sued. Everything falls upon the congregation. Be not disturbed. The congregation is worth \$60,000. We shall see if the Church shall destroy the vermin, or the vermin the Church." A verdict for \$1,500 was found for the plaintiff and sustained on appeal. It is obvious that the priest neither imputed lack of professional ability to plaintiff, nor charged him with crime under the laws of Massachusetts. And it is difficult to perceive how, consistently with the definitions and laws, the expressions complained of could be treated as slanderous. But the court seems to have reasoned thus: The words were uttered with intent to work temporal injury and effected their purpose; a tortious act was thus committed, and whether it be called slander or not makes little difference; the jury were entitled to find their verdict; because, (1) if they believed that the words, although not defamatory *per se*, were nevertheless uttered maliciously and unjustifiably to cause and did cause temporal loss, such words are actionable; (2) if they believed that this part of the sermon falsely instructed the parishioners that plaintiff was not fit to be employed professionally, and that such employment of him would be at the risk of losing caste in the Church and its holy offices, then they were entitled to find the words slanderous; and the jury were entitled to find that such imputation was false, if the plaintiff, notwithstanding his ecclesiastical disability, was, in their opinion, a competent and worthy physician. The right of the priest to instruct his flock as to the consequences of civil marriages under such circumstances was admitted. His right to say that he personally would not associate with an excommunicated person can scarcely be denied. It seems clear that court and jury viewed the case as one of temporal, ecclesiastical persecution for conduct permissible and innocent under the laws of the State, and reached their conclusions accordingly.

One result of multiform State legislation is that there is no uniformity of standards in licensing medical men. A physician or surgeon, however eminent, may not, solely by virtue of his license in one jurisdiction, practise his profession in every other. He may be a writer of authority, far surpassing the average practitioner in general skill and knowledge, an admitted expert in special branches, and yet, if the strict rule of the cases cited be applicable, he may be called a "quack" with impunity in any State where he is not licensed. Nay, more, formerly in the State of New York—and it may be so now in some other States—a licensed physician registered in one county could

¹ Hargan *vs.* Purdy, 93 Kentucky, 424; 20 S. W., 432.

² March *vs.* Davison, 9 Paige, 580.

³ Skirving *vs.* Ross, 31 Up. Can. C. P., 423.

not lawfully practise medicine in another county, unless registered therein also. Is it to be supposed that if a physician registered in New York City had been called a "quack" in Brooklyn, he could have had no redress while that statute was in force, unless he had been registered also in Kings County? This seems to be a *reductio ad absurdum*, and yet it is but the ruling of the court in the Canadian case of *Skirving vs. Ross*, which holds, as we have seen, that a person qualified under the imperial medical act to practise medicine in any part of her majesty's dominions, can have no redress for a professional slander uttered of him in a colony with whose registration law he has not complied. Eminent medical men frequently visit other States in advisory capacities, to attend professional gatherings, or as expert witnesses. In the States of their own residences they are qualified to practise their profession. Have they no redress if, elsewhere, their professional reputations are assailed? Of course, every case must be decided under the laws of the jurisdiction, and upon its own facts and circumstances. But if the person maligned be not in fact a pretender, it is reasonable to believe that the courts would, as in the case of *Dr. Morasse* just quoted, seek to give him vindication upon some less technical theory than that of the ancients. Certainly, if such a plaintiff were a medical writer or expert authority, the facts that he was not actively engaged in the practice of his profession, or that he could not lawfully practise medicine within the jurisdiction where the slander was uttered, ought not to afford immunity to his defamer.

It is said that the cause of action for slander is transitory, and, when it has once accrued, the action may be brought in a forum other than that in which the defamation was uttered; and so when, both parties being residents of Jersey City, *Vreeland* spoke these words of *Hull*, slanderous at common law, the latter maintained his action in New York.¹ But *Miss Stout*, of Indiana, was not so successful. She brought an action for slander against one *Wood*, who had spoken words accusing her of fornication, words not actionable at common law, but, at least so the court said, "deriving all their turpitude" from the statute of Indiana. She proved that the words were spoken in Ohio, but failed to prove that they were actionable in that State; wherefore it was held that, although slander be a transitory action, yet, since a cause of action must arise in one jurisdiction before it can pass over into another, it was error to have submitted her case to the jury,² the court remarking that in this case they followed a trackless course. Analogous to this is an English case, arising upon an application for a writ of service out of the jurisdiction. It appeared that one *Marescaux*, a passenger on the *Para*, bound from England to Jamaica, complained to the captain that third officer *Bree* had misconducted himself toward a lady passenger. The matter having been reported to the London office, *Bree* was dismissed. He then sought to bring an action for slander against *Marescaux* in England. The court refused the writ, for the following reasons: (1) If the act done, that is, the utterance of the words, were the basis of the action, then, as it was done beyond the jurisdiction, the action would not lie; (2) if, on the other hand, the special damages, that is, the loss of his place, were the cause of action, then, although that damage occurred within the jurisdiction, nevertheless it resulted from the captain's repetition and not from *Marescaux's* original utterance of the slander; and as a man is only liable in slander for the direct results of his own speech, and not for the effects of its repetition, again the action would not lie. But, had *Marescaux* written the

charge in a letter and sent it to England, thus libelling *Bree*, the case would have been different.³ Whether, then, a physician dubbed a "quack" in a jurisdiction wherein he is unlicensed to practise, can have a remedy, depends largely upon the particular statutes and the peculiar circumstances of each case. In the State of New York, since, at present, a physician from abroad may enter any county for consultation, such an one could maintain an action if so defamed. In other jurisdictions the case might be different. The truth is that our forebears, pugnacious and irascible men, never encouraged the seeking redress in court for transitory exclamations of passion or abuse, considering them as the fruit of impulse rather than of malice, and, perhaps, to be settled rather by the rules of the ring than by those of the forum.

When we come to libel, however, the rule is different; and therefore *Dogberry* cried, although not in *Job's* spirit, "Oh, that I had been writ down an ass;" for if he had been writ down he might have had his action against *Conrad* for libel; whereas, that worthy's exclamation, "You're an ass. You're an ass," was no slander. And in this *Dogberry's* legal position was sound, for, shortly after his time, it was expressly held that it was not slanderous to say of a justice of the peace, "He is a fool, an ass, and a beetle-headed justice," those terms not affecting him in his office, but being only such general abuse as the law winks its eye at, if uttered orally. But the court agreed "That the defendant deserved to be bound to his Good Behaviour for his Sawciness of a Magistrate."⁴

If the Massachusetts court ignored the technicality of the law in order to sustain *Dr. Morasse's* verdict in his action for slander against *Father Brochu*, the Mississippi tribunal availed themselves of extreme technicality to defeat a jury's finding for plaintiff in an action for libel growing out of the political murder of *Miss Chisholm* and her father, in that State, in 1877. The *Vicksburg Herald*, in an article entitled "Rash Southerners and Philanthropic Northerners," mildly deprecating the "unfortunate occurrence," as such episodes used to be called, said: "The accident of *Miss Chisholm's* death, caused by malpractice, and not by her slight wound, adds tenfold to the deplorable consequences." The murdered girl's surgeon brought an action and recovered \$500. But the appellate court set this small verdict aside, (1) because the trial judge's charge "assumed that the word malpractice meant gross ignorance and unskillfulness, which is only one of its ordinary meanings," instead of leaving it for the jury to decide in what sense it was used; (2) because a witness had been allowed to testify to the technical meaning of the word; and (3) because defendant, having introduced evidence of improper treatment without objection, was not allowed after the court's charge to amend his plea, so as to set up justification; a righteous decision, perhaps, but of the sort that makes uninstructed laymen cry, "Woe to them that call evil good and good evil,"⁵ for it would seem that no amount of theorizing or hair-splitting can alter the fact that, to common sense and understanding, it is so defamatory to attribute a patient's death to the surgeon's malpractice that any other person would hesitate to employ a practitioner so charged. In a comparatively recent New York case,⁶ the evidence went to prove that defendant said among other things, in speaking of an amputation by plaintiff: "It would have been better to have taken off the other arm, then he would have had the right arm to use; it was a perfect piece of malpractice; it was the biggest piece of malpractice he ever knew or heard of."

¹ *Bree vs. Marescaux*, L. R. Q. B., 7, 434.

² *Bill vs. Neal*, 1 *Leving*, 52.

³ *Rodgers vs. Kline*, 56 *Miss.*, 808.

⁴ *Lynde vs. Johnson*, 39 *Ill.*, 12.

¹ *Hull vs. Vreeland*, 42 *Barb.*, 543.

² *Stout vs. Wood*, 1 *Blackf.*, 71.

He cut the arm off, and got his name up and got a big fee. He acted hastily." No special damage was averred, and a verdict was found for defendant. A motion for a new trial on exceptions alone was denied. The opinion, dealing only with questions of law, is highly technical; but it is of interest here because, although it holds the statements that plaintiff in amputating acted hastily and without sufficient examination, and that he might better have cut off the boy's left arm, etc., were not actionable *per se*, nevertheless it carefully points out that the exceptions do not raise the question whether the words charging "malpractice" were actionable *per se*, and expressly states that the court does not hold that they are not so. From this it seems a fair inference that, if that question had been before the judges, they would have differed with the Mississippi court, and found the charge of malpractice actionable *per se*.

Since any written words holding a person up to scorn and ridicule are libellous, it is not necessary, as in cases of slander, that, in order to be actionable, they should refer to the party defamed in his profession. But let a modern instance serve to show at once how judges, as well as doctors, disagree in their professional diagnosis of a case, and how difficult it is to prophesy what will or will not be considered libel by the courts. The Rochester *Democrat and Chronicle* spun a little romance of the finding of Farmer Hammell, apparently frozen by the wayside, the proceedings before Coroner Purdy, and the resuscitation of the supposed corpse by Dr. Lester. Romance seems to be the proper word, for the general term's opinion states that the publication was "conceded to be false." Among other things, the newspaper said: "To all appearances the man was frozen; the limbs were rigid, the face was pale, the eyes had a glassy look and there was no sign of life. . . . Coroner Purdy arrived, summoned a jury, and began to inquire, according to law, how and by what the man then and there lying dead came to his death. Dr. Lester looked at the supposed remains, and after a careful examination said the man was alive. They laughed at him, but he insisted so strongly that life was still within the stiffened body, that Nicholas Durnir, a brother-in-law of the deceased, caused the body to be removed to his store. The coroner's inquest was then interrupted, and the inquest and perhaps a funeral was averted." The article then describes the resuscitation, and concludes: "Mr. Hammell can thank Dr. Lester for the fact that the coroner's jury did not return a verdict that he came to his death from exposure, that he was not placed in a coffin and buried alive, and that his family and friends were not called upon to mourn his unfortunate death." Now it so happened that Coroner Purdy was also a practising physician and surgeon; and the publication being concededly false, as appears from the opinion of the general term, he brought his action for damages. When the case came to trial, the circuit judge directed a verdict for defendant, on the ground that the publication was not libellous *per se*, and there was no proof of malice. Plaintiff appealed to the general term, who granted him a new trial, saying: "To make the publication libellous *per se*, it was only necessary that it should tend to bring the plaintiff into obloquy or disgrace, ridicule or disrepute. Can it be said that such was not the tendency of the publication in question? Was it not calculated to bring disgrace or ridicule upon a physician to say of him, in substance, that he did not know on inspection whether a man was alive or dead? And was there not the same injurious tendency in the comparison implied in the last statement of the narration, viz., that the man might thank Dr. Lester that he was not pronounced dead and buried alive?

"It is true that the publication does not mention

the fact that the plaintiff was a physician, but he was so in fact, and was known to be so by the public among whom he lived; and the publication had the same tendency to bring him into disrepute as a physician where he was so known, as if it had named him as such. It is not necessary to mention a man's profession or calling in order to libel him in it."¹

The three judges of general term concurred in this apparently lucid opinion, which has been quoted at such length for purposes of illustration and contrast. In some less fortunate jurisdictions, an appeal having been had and three judges out of four having decided the words to be libellous *per se*, that point would have been deemed settled. But in New York, with its blessed privilege of an appeal from an appeal, there yet remained seven judges to pass upon the question, which, like the farmer himself, was only apparently settled; and so the defendant, worsted below, appealed unto Cæsar, and this is the way in which the matter struck our judges of last resort, who were unanimous in their opinion, as the general term had been in theirs: "We are unable to find in the words used or the general scope of the publication any slanderous or defamatory meaning, nor do we perceive that it is susceptible of any construction which would make the words actionable. It appears from the complaint and evidence that the plaintiff was by profession a physician and by office a coroner. In the article complained of he is referred to in the latter capacity only, and nowhere can be found a word or suggestion from which the most astute inquirer could infer that he had any other than that public occupation. As the language used did not relate to his profession in any way, so as to his office of coroner, it exhibits on his part a prompt and efficient performance of its duties, and it is impossible to see how any person reading it could ascribe to the words used a defamatory meaning, or, without the innuendo, apply them to the plaintiff in his professional capacity, and there is no evidence that such application was intended. . . . The plaintiff was not spoken of as a physician; he was not described as acting as such on the occasion in question, and if we assume, with the plaintiff's attorney—as I cannot, in fact, concede—that the language of the defendant could in any connection be deemed actionable, it is not so here." The only authorities cited by the court of appeals to support this reasoning are two cases of slander, not of libel. The gist of the general term decision, that the article was libellous, in holding up plaintiff to ridicule, as sitting coroner-wise on a live body, is ignored. Let us suppose that the newspaper had told the story in this way: "Hiram J. Purdy, one of the coroners of Seneca County, is lamentably ignorant of medical science. He is, to be sure, an efficient and zealous coroner. He sits on bodies promptly and well. But, unfortunately, he does not always know whether the body he is sitting on is alive or dead; this is proven by the fact that he held an inquest on the live body of Farmer Hammell, and the latter would have been buried if Dr. Lester had not discovered that the coroner's supposed corpse was alive." There is here no more reference to the fact that the coroner is a physician than there was in the actual publication; the reasoning of the court of appeals is just as applicable to one set of words as to the other. But will any one say that our hypothetical words would not disparage in his profession and make ridiculous to all who knew him any physician of whom they were uttered, even though he happened to be also a coroner? Perhaps the result arrived at by the highest court in this case was correct—the publication may not have made its victim ridiculous among his neighbors. But, if so, he was

¹ Purdy vs. Rochester Printing Co., 26 Hun, 206.

² Purdy vs. Rochester Printing Co., 96 N. Y., 372.

saved from ridicule, not because the article described him as a coroner, but because his alleged failure to recognize life under the circumstances was a mistake that might have been made by any physician of average knowledge and skill; so that, in this particular case, to attribute such error to him, even as a physician, did not necessarily injure his reputation or make him ridiculous, and therefore was not actionable, in the absence of proof of special damage.

If a medical practitioner makes himself a laughing stock by efforts to achieve notoriety, he cannot recover damages from those who further his attempts. Henry Sullings wrote a gratuitous puff of himself for the *Kalamazoo Gazette*, published by his friend, Andrew J. Shakespeare. When the article appeared, thanks to the printer or the devil, he was represented as having skilfully removed a "patty tuber" from the "hypogastrum" of A. B. Smith. Sullings sued Shakespeare for libel, but failed to show that the defendant was responsible for the new medical nomenclature. The plaintiff was not only defeated, but received a sharp admonition from the court, who said: "We cannot forbear, in the interests of public morality, to call attention to the fact that the plaintiff, if a physician, has no right to publish matters of professional confidence, and that the article, if published as he wrote it, without the approbation of the person operated on, would have been a very plain breach of professional duty."¹

And this brings us to consider for a moment defamation by medical men. Not only is it the obvious moral duty of physicians and surgeons to guard sacredly their knowledge of patients acquired in their professional relations, but in almost every State physicians are exempt, or expressly prohibited, from revealing such knowledge, even on the witness stand. To falsely attribute a contagious disease to any one is, as we have seen, a slander. And if a physician should do this unnecessarily or negligently he would be liable in damages, even if his statement were due to mistaken diagnosis. Of course, the case would be different if he were under a duty to disclose the fact. A case illustrative of this point, although not founded on defamation, arose in this city. Dr. Purdy, a physician of standing, formerly president of the medical society of the county, was called to attend a patient, Miss Brown, whose skin was in eruption. The physician, diagnosticating the case as small-pox, properly reported his opinion according to law to the health authorities, whose inspectors, upon their own diagnosis, removed Miss Brown to the small-pox hospital. The patient brought an action against her physicians for damages, alleging mistake and lack of skill in diagnosis, and negligence. She won a verdict, but on appeal the judgment was reversed, and she was said to have no cause of action, on the ground that the physicians were not responsible for the acts of the health officers.² But if physicians should falsely report to persons with whom they had no duty to communicate, that the patient had small-pox, an action for slander might be maintained against them, as well as against laymen who should make a like report.

And this suggests the protection of privilege. In the law of defamation, any statement is privileged that A makes to B in good faith upon a topic in which both have such an interest, or in reference to which both have such a duty, whether legal, moral, or social, as to make it proper for A to speak and for B to hear. But the extent of this privilege is no more than this—that the statement covered by it is not actionable, even if false and defamatory, unless proved to have been made out of express malice, or, what is the same thing, with gross negligence; in other words, privi-

lege means that malice is not to be inferred merely from the falsity and defamatory character of a statement, but must be proved. Three New York cases will serve to illustrate the point. One of them³ has been referred to already. There it was held that a person could not misuse the privilege of a witness to defame a fellow-practitioner by irrelevant criticism of his professional attainments. In another case,⁴ it appeared that one Mr. Fawcett obtained admission to the Allegany County Medical Society upon a diploma of the Royal College of Surgeons of Edinburgh, stating that he was qualified to practise surgery. That document was handed about in the society, but, being in Latin, no one could understand it. Dr. Charles, learning subsequently, from exoteric sources, that the diploma did not authorize the holder to practise physic, introduced a resolution for the expulsion of Fawcett from the society, upon the ground that he had obtained admission to it by false pretences. This resolution having been adopted and published in the *Allegany Republican*, Fawcett brought his action against Charles for libel. The court held that the society had no jurisdiction to act, and that the resolution was, therefore, not privileged. A somewhat similar action is now pending in New York City, growing out of criticism, by a member of the county society while upon the floor, of an advertisement printed in the society's directory. The third case⁵ showed these facts. Dr. Allan McLane Hamilton, as assistant inspector of the Board of Health of New York City, made, in the line of duty, an official report, published in the *City Record*, recommending a certain kind of pavement. Mr. Amos F. Eno wrote a letter to the *Tribune*, intimating that the motive of the official was open to suspicion. Dr. Hamilton promptly brought his action for libel to vindicate his character, and, Mr. Eno's plea of privilege being unsuccessful, obtained a substantial verdict. The case was taken up, and the court of appeals held that, while the occasion was such as to make the defendant's letter privileged, since the report was before the community and, as to its facts, open to criticism and to attack even by satire and ridicule by any citizen, yet there was no privilege to go beyond criticism of the report and assail the character of the writer. The verdict in Dr. Hamilton's favor was therefore sustained.

Defamation is a personal wrong; so is false imprisonment; and actions growing out of both are analogous. Thus a recent New York action⁶ for the latter cause is relevant to our inquiry. Plaintiff was committed as insane by the recorder of Albany upon the certificates of two physicians. A trial of the issue of insanity resulted in his discharge as sane; whereupon he sued the recorder and the doctors. It was held that the former acted in a judicial capacity upon the facts stated by the physicians, and was not liable, but that the physicians themselves, as experts, possessed no judicial immunity, and owed the duty to plaintiff of exercising ordinary care and skill. The rule would be the same in libel.

It is, of course, easily possible for physicians to defame or be defamed by those who purvey articles of use in medical practice. A surgeon of New York once complained to me that in all cases in which he used ligatures furnished by a certain house, suppuration supervened. This coincidence justified investigation and comment, and if the ligatures were septic, the dealers were liable in actions for negligence; but, if incorrect, the statement was defamatory. And a similar report that the silk of a certain manufacturer contained enough arsenic to hurt the factory hands was

¹ *White vs. Carroll*, supra.

² *Fawcett vs. Charles*, 13 Wend., 473.

³ *Hamilton vs. Eno*, 81 N. Y., 116.

⁴ *Ayres vs. Russell*, 50 Hun, 282.

¹ *Sullings vs. Shakespeare*, 46 Mich., 408.

² *Brown vs. Purdy*, 54 Super. Ct. (22 J. and S.), 109.

held in Massachusetts to be slanderous.' A case converse to this arose of late in Louisiana, where the civil law does not recognize the distinction between words actionable *per se* and those requiring proof of special damage. A pharmacist declined to compound two prescriptions written by a certain practitioner—one containing as a component a patent medicine whose ingredients he did not know, and the other calling for articles he did not have. Afterward he spoke words belittling the physician's ability, saying that his diploma was not worth a straw. It was held that his refusal to put up the prescription gave no cause of action, even though it created a presumption of the doctor's lack of professional skill, since the druggist had the right to distrust his own or the physician's ability. But the defamatory words were said to be slanderous.*

I have thus tried to illustrate the application of the law in cases of defamation wherein medical men have been the *dramatis personæ*. There would be no such cases if Arthur's charge to his Round Table were observed, "To speak no evil, no, nor listen to it." Unfortunately for parties, fortunately, perhaps, for lawyers, the precept has been and always will be broken by the envious and the irascible.

REPORT OF A CASE OF DISLOCATION OF THE TESTICLE INTO THE PENIS.

BY RAMON GUITERAS, M.D.,

NEW YORK.

THE patient, J. C.—aged fifty-two, a piano mover, was referred to me at the Post-Graduate Medical School by Dr. Medina, the surgeon of the Northwestern Dispensary, on account of a deformed condition of the external genitals following an accident.

Previous History.—This shows nothing of interest in relation to his present trouble. He has never had any venereal disease nor any trouble with his genito-urinary organs, excepting a few attacks of urethritis of short duration without complications.

History of his Present Trouble.—This is briefly as follows: About two months ago he was riding on a cart loaded with radiators, which was being towed by a heavy truck, and noticing that a piece of rope had fallen from the truck, he jumped off the front of the cart to pick it up.

On striking the ground he slipped and fell and the wheel of the cart passed up between his legs over his left pubic bone, groin, and flank on to the left side of his thorax when it glanced off.

After the accident he tried to get up but found that he could not support himself on his left leg, which seemed to be limp and powerless. In addition to this he felt a severe pain in the region of his left hip and loin where the wheel had passed over him.

He accordingly lay by the roadside for a while until an ambulance could be summoned, which conveyed him to the nearest hospital. On arriving there he was examined by the house surgeon who found that his sixth and seventh ribs had been fractured in the axillary line, that the region of the left hip was very much contused, and that the wheel had cut through the soft tissues in the left pubic region, lacerating the superficial external pudic, the superficial epigastric, or some other of the small branches of the femoral in that region, from which a profuse hemorrhage had taken place.

The patient was placed upon a water bed and his fractured ribs were duly attended to.

Later in the day his scrotum, penis, and the adjoining region of his left thigh and hip were seen to

be much swollen and bluish-black in color, giving rise to a considerable amount of pain. An ice-bag was therefore put upon his genitals and he was made as comfortable as possible.

At the end of a week the swelling and pain had diminished to such a degree that the ice-bag was discontinued.

The patient remained in bed for about three weeks, during which time the principal pain seemed to be in his hip, although his penis felt sore and sensitive.

During his stay in the hospital he felt quite comfortable while lying quietly on his back, but immediately on raising himself to a sitting posture he noticed a feeling of faintness accompanied by nausea and dizziness. On leaving the hospital at the end of three weeks he still felt weak and was obliged to support himself on two pieces of fence railing. On reaching his home he again went to bed and remained on his back for nearly two weeks longer. Shortly after this he consulted Dr. Medina who referred him to me for treatment.

Observations at the Time of the Examination, that is, on presenting himself at the Post-Graduate Medical School. The patient was a large, powerfully built man, as one would expect to see in one of his vocation. His general condition seemed to be good and he said that he felt well with the exception of some pain in his hip and a feeling of pain and discomfort in his



FIG. 1.

penis, which was especially marked when moving about.

On questioning him in regard to the condition of the functions of his genito-urinary organs he replied that he had had no difficulty in urinating since his injury, but that he had had no erections since that time, although he had considered himself well preserved and vigorous before the accident.

Examination locally revealed a scrotum which

* *Elmer vs. Fessenden*, 151 Mass., 359.

* *Tariton vs. Lagarde*, 46 La. Ann., 1368.

looked flat and empty in its lower portion, while in the upper part of the sac a nodular mass was present. Over the upper and anterior surface of the scrotum a small wound was noticed which had not as yet entirely healed. This was the one caused by the passage of the wheel over this region, from which the hemorrhage



FIG. 2.

already alluded to had taken place. The penis looked flattened and abnormally wide at its base, where it measured five and a half inches in circumference and two inches in width. The left side of the organ appeared to be especially bulging from behind the glans to the pubes and on palpation had the peculiar elastic feel resembling that known as testicular. On more careful manipulation it was observed to be oval in shape and directly connected with the nodular mass at the peno-scrotal junction on the left side (see Fig. 1).

On elevating the penis to obtain a view of its under surface the deformity was much more marked and the relation between the mass in the left side of the penis and that in the scrotum was more clearly discernible (see Fig. 2).

Palpation of the scrotum below the nodular mass revealed an elongated body extending from it down to nearly the bottom of the scrotal pouch where it was felt to be again slightly expanded.

The case was evidently one of dislocation of the testicle into the penis and the points of interest were, first, how it had been accomplished and, second, how to reduce it. In order to decide upon the first point, namely, how it had been accomplished, it might be well to consider briefly the anatomy of the parts in question and their relations.

The testicle as we know is an oval gland, upon the outer edge of the posterior border of which is a long flattened body, the epididymis. This consists of an upper expanded extremity, the globus major, which is

intimately connected with the upper part of the testicle by its efferent ducts; a central portion or body; and a lower extremity also slightly expanded, the globus minor, which extends into and is continuous with the cord. The tunica vaginalis is the serous membrane covering the testicle and epididymis and lining the scrotum. It is derived from the peritoneum during the descent of the testicle. It has a visceral and a parietal layer; the former covers the testis and the epididymis and connects the two by a distinct fold; the latter lines the wall of the inner surface of the scrotum. The scrotum which contains the testicle and epididymis and is lined by the tunica vaginalis consists of an integument which is continuous with the skin sheath of the penis, and a dartos or its proper tunic which is continuous with the dartos sheath of the penis.

As in this patient the oval body in the left side of the penis seemed to be the testicle, the nodular mass in the upper part of the scrotum the globus major, and the elongated mass extending from the nodular portion in the upper part of the scrotum nearly to the bottom of the pouch the body of the epididymis and the globus minor, it was evident that the testis had been torn away from the body of the epididymis and the globus minor, had been turned upon the globus major, and then been forced through the parietal layer of the tunica vaginalis and beneath the dartos sheath of the penis.

This conclusion of the manner and variety of the dislocation having been arrived at, the next or second point for consideration was how to reduce it.

As it had been for so long a time displaced and was evidently bound down by adhesions, it did not seem probable that it could be reduced excepting under an anæsthetic and probably not even then without resorting to operative interference; I therefore referred him to the Columbus Hospital for further treatment. On the following day the patient was etherized by the Carter Cole method, that is, by mixing oxygen with ether in the ether-can, and reduction was attempted by external manipulation without success. Accordingly an incision was made over the lateral aspect of the penis corresponding to about the centre of the mass from about an inch behind the glans to the peno-scrotal junction on the left side. The integument and the dartos sheath having been cut through, the testicle was brought into view lying beneath. An attempt was then made to push the testicle down into place, but the adhesions were found to be so strong that this could not be accomplished. Accordingly a second incision was made from the peno-scrotal junction on the left side down over the part of the scrotum covering the globus major of the epididymis, and the adhesions which were principally about the globus major and that part of the testicle adjoining it were broken down. This same incision opened the upper part of the pouch of the tunica vaginalis, so that after the testis had been drawn out of its place of confinement an attempt was made to push it once more into its former abode. The sac, however, seemed to be too small to contain it, due probably either to inflammatory changes or to having shrunk owing to the absence of the gland during this short period. It was necessary therefore to stretch it with the fingers before the testis could be made to enter.

After the testis had been replaced and the contents of the scrotum were once more in normal relation to one another, they were carefully washed with a warm solution of boric acid and their coverings once more put back into place.

The dartos sheath of the penis was united with a continuous catgut suture and the skin sheath with silk, while in the scrotum the tunica vaginalis was united with a continuous Lembert suture of catgut, and the

integument and dartos with silk. The dressings were of the usual order.

The patient stated that he had an immediate feeling of relief on coming out of the ether after the operation. Three days later some of the stitches were removed, and at the end of six days the remainder were taken out. The patient was then able to stand erect and walk about with comparative ease. The soreness in his penis had disappeared and with the exception of a slight pain in his hip he felt entirely well.

One month later the patient called at the office and stated that his genital organs were in the same condition as before the accident, with the exception of a slight amount of tension noticed on the injured side of his penis when in a state of erection, due probably to the cicatrix left after the operation. He also stated that he had had intercourse and the accompanying ejaculations were without pain. His hip, however, was still weak.

23 WEST FIFTY-THIRD STREET, NEW YORK CITY.

NOTES ON URINE ANALYSIS.¹

By E. E. SMITH, PH.D.,

PHYSIOLOGICAL CHEMIST.

I. Tests for Traces of Albumin.—The writer has so frequently been asked to recommend qualitative tests for traces of albumin in urine that he is led to give the following description of the methods he employs:

The first essential for a delicate albumin test is to have the sample of urine perfectly clear. To those who are satisfied to test turbid urine, even though the turbidity be slight, these notes can be of no service, for they are of value only in testing clear specimens. If the urine is acid and fresh it is usually rendered perfectly clear by filtration, filtering through a wet plaited filter paper several times, if necessary. If the reaction is amphoteric or alkaline, the previous addition of one or two drops of dilute acetic acid may be of advantage. Specimens that cannot be clarified in this way are made alkaline with a few drops of solution of caustic soda and then filtered. The separated phosphates serve to carry down bacterial debris and to fill the pores of the filter-paper, sufficing in nearly every instance to clarify the specimen. Occasionally, however, a decomposed specimen is not entirely clear even after this treatment, in which case the precipitate of phosphates may be increased in bulk by the addition of ammoniacal magnesium mixture. The addition of dry solids to the urine for the purpose of clarifying is not to be recommended. This procedure, while perhaps it may not always remove mere traces of albumin, is certainly liable to remove a considerable portion, if any quantity is present, and hence can only be used, even by a competent chemist, with extreme caution.

The first test is the nitric-acid contact test. About a half-inch of pure concentrated nitric acid is placed in a test-tube, and an equal or larger amount of urine allowed to flow gently on to the surface from a pipette. With care this can be done so as to avoid any mixing of the two fluids. Concentrated or dark-colored urines are diluted with an equal volume of water before testing. In the presence of any but a mere trace there is a separation of albumin at the contact zone forming the so-called albumin ring. A cloudiness appearing above the contact zone is not indicative of albumin, but in nearly every instance, if not always, is due either to nucleo-albumin, which is the albuminoid basis of bladder mucus, and which has been called, though erroneously, mucin, or to the separation of

urates. A diffused haze does not signify albumin. This test is significant of albumin only when there is a distinct and clearly formed white ring at the contact zone.

I have described the Heller test first, because it is the least delicate of the tests I shall describe, though, when positive, it is the most satisfactory; and further, it is the test which I am accustomed to employ first when examining a specimen. If it is positive and is verified by the heat and nitric acid and the ferrocyanide tests, the presence of albumin is satisfactorily demonstrated. At the present time I particularly desire to speak of methods of detecting albumin where Heller's test is doubtful or negative. It is then that it requires especial care and caution to determine the presence or absence of traces of albumin. Such traces may usually be of no significance, yet in some clinical conditions they perhaps are, and at all events the question is frequently presented to the analyst and must be correctly answered.

The two remaining tests I shall describe are the heat and nitric acid and the ferrocyanide tests.

About an inch of the clear urine in a test-tube is heated to boiling, after which two or three drops of ten-per-cent. nitric acid is added. If after a few moments there is no reaction for albumin, the contents of the tube are again boiled and about ten drops of the nitric acid further added, and the tube set aside.

A quarter of an inch of a clear five-per-cent. solution of potassium ferrocyanide is placed in a test-tube, an equal volume of dilute acetic acid is added, and the whole poured into an inch of clear urine in another test-tube, the liquids being well mixed by pouring from one tube to the other several times. The test tube is then set aside. A comparison tube is prepared as follows: An inch of the urine, clarified at the same time as that previously used, is placed in a test-tube and two drops of dilute acetic acid are added. This tube is likewise set aside.

In forming a judgment regarding the presence or absence of mere traces of albumin there are several points to bear in mind. In the literature of urine analysis there is continual reference to the presence of mucin in the urine. More careful study of bladder mucus has, in late years, shown that bladder mucus does not contain mucin but a proteid at least resembling and probably identical with nucleo-albumin. Now the older method recommended for removing mucus, that is, the addition of a few drops of acetic acid to the urine before filtration, worked admirably in removing the saliva mucin which had been added to the urine for the trial tests, but unfortunately with urine containing true mucus, where nucleo-albumin and not mucin is the albuminoid basis, this procedure is not so satisfactory, for nucleo-albumin is only incompletely precipitated by acetic acid. Bearing this in mind, the following interpretation of the heat and the ferrocyanide tests will be understood. If both react positively either a trace of true albumin or of mucus is present, to decide which it is necessary to observe the comparison tube, in which, if mucus is present, there will be some turbidity from the partial separation of nucleo-albumin. If the urine in the comparison tube remains perfectly clear and the reactions with heat and with ferrocyanide present the appearance characteristic of the albumin tests, then it is safe to conclude that a mere trace of true albumin is present, but the appearance of even a slight cloudiness in the comparison tube is to be taken as evidence of the presence of mucus, to which then the delicate heat and the ferrocyanide tests are to be attributed. Since the separation of nucleo-albumin in the comparison tube is only partial, it is evident that no comparison can be made between the intensity of this reaction and the heat and the ferrocyanide reactions.

¹ Read before the Section on General Medicine of the New York Academy of Medicine on December 17, 1895.

The appearance characteristic of the heat and nitric-acid reaction with a trace of albumin is either the formation of a few flakes of coagulated albumin or the formation of a general turbidity which finally results in a fine flocculent separation, persisting when the solution is hot. The addition of one-third to one-half the volume of alcohol causes the flocculent appearance to become more pronounced, while any separated resinous substances, thymol, etc., pass into solution.

When traces of true albumin are present, the ferrocyanide test gives a finely flocculent appearance, while with nucleo-albumin a mere opacity is more common.

Finally, it is to be remembered that albumin is to be considered absent from a urine till its presence is demonstrated by methods which admit of its distinction from mucus. Undoubtedly the safest basis for interpretation, except perhaps in the hands of the skilled analyst, is the requirement of all three reactions here described, ignoring entirely the presence of such mere traces as fail to respond to the Heller test.

II. Standards in Quantitative Urine Analysis.—In the interpretation of the analysis of a twenty-four-hours' specimen of urine, the wide limits of variation in health must be recognized. By far the most important factor influencing the composition of urine is alimentation. Other factors, in health, are relatively unimportant. If, then, some way exists of checking this varying factor a constant or limit of variation can be obtained for each urinary constituent, which will serve for a basis of comparison for pathological urines. Evidently the most direct procedure is to obtain the exact analytical data of all food ingested. Then it is seen that the urea varies with the amount of nitrogenous food, that phosphates and total sulphates likewise vary directly with the proteids ingested, as does also the uric acid and even the ethereal sulphates. In other words, that the amount of nitrogenous food is, in health, the factor producing any considerable variation in the amounts of the important urinary constituents. Unfortunately, it is rarely possible to obtain the analytical data of the ingesta and never practicable, so that we are forced to an indirect method of obtaining urinary standards, a method, necessarily, which is applicable as well in practice. It is known that the amount of urea, or more exactly the total nitrogen of the urine, is dependent upon the amount of proteid, rising and falling in proportion to the amount of nitrogenous food ingested. A method, then, of indirectly estimating the amount of proteid food absorbed, consists in estimating the total nitrogen of the urine; and since proteids alone contribute to any considerable extent to the composition of urine, the total nitrogen becomes the standard of comparison for the other constituents. That the results may be more intelligible I have been accustomed to express the total nitrogen as urea, though this has some disadvantages in research work but less so in practice. Thus, in health, the uric-acid ratio varies, as you know, from 45 to 60, the total phosphate ratio (P_2O_5) between 12 and 15, the total sulphate ratio (H_2SO_4) from 10 to 15, the numbers representing in each instance the quotient obtained by dividing the amount of urea by the amount of the particular constituent. Instead of studying the relation of the urea and ethereal sulphates directly it is customary to compute the ratio of the preformed and ethereal sulphates, which procedure, it is readily seen, is only an indirect way of doing the same thing.

My reason for inviting your attention to the interpretation of results in quantitative urine analysis is because of the occasional objection that I notice in the literature to the method which I have described, an objection coming in some instances from promi-

nent investigators in this subject. Thus Salkowski early raised the following objections:

1. No definite number can be adopted for expressing the ratio of uric acid to urea, since the relation is influenced by the amount of urea excreted.

2. In investigating the influence of any substance upon the amount of uric acid excreted, it is only possible to draw a definite conclusion from the relation of the uric acid and the urea when the urea excreted is the same or nearly the same both in the normal period and in the period of experiment.

Hence Salkowski concludes that the study of the ratio is to be abandoned altogether and the absolute amount of uric acid excreted adopted as the basis for interpretation, an opinion in which Kuehnau recently concurred in his article "Experimental and Clinical Investigations on the Relation of Uric-Acid Separation and Leucocytosis."¹

The objection that no definite number can be adopted for expressing the urea to uric-acid ratio is to some extent correct. Thus Haig's statement that the formation of uric-acid is always in relation to the urea formed of 1 to 33 is entirely disproved by the observation that the relation normally varies at different periods of the day.

It is a fact, however, that the relation of the uric acid and urea of a twenty-four hours' excretion is fairly constant, in health, and that the limits of variation are more or less definite, particularly in the same individual. While then no definite number can be adopted, as Salkowski states, a definite limit to the uric-acid ratio in health can be fixed as Herter and Smith² have shown. Further, in disorders of nutrition there is an increase in uric acid and these limits of health are exceeded, the relation becoming, therefore, a practical index in diagnosis. It is, of course, to be recognized that other factors may give rise to increased cell destruction and consequent increased uric-acid excretion, but when by studying the ratio we have eliminated the major factor and by repeated observation have obtained the limit of variation of the ratio in health, we have a convenient and safe basis for interpretation in disease.

Salkowski's second claim, that in investigating the influence of any substance upon uric-acid excretion the urea eliminated must vary within narrow limits, if the ratio is to be the index of uric-acid excretion, is also in some instances correct. Thus a variation from 55 to 50 might be produced by varying alimentation, independent of the substance administered, and, to go further than Salkowski, might be produced by varying alimentation even if the urea eliminated were constant, so that in such a case the ratio would be misleading even if the urea were identical in the normal and experimental periods. To make this clearer, even though the urea were constant it might result from a different dietary, and the change in diet and not the substance administered might be responsible for such a slight variation in uric-acid excretion as would change the ratio from 55 to 50. In this case it would be necessary, then, to have the urea the same in both periods and the result, as well of the same conditions of alimentation, as for example the administration of the same form of food. But suppose in studying the ratio in health we have, on administering some drug, a variation from 50 to 38 without the intervention of any other unusual disturbing factor, we then know that there is an increased excretion of uric acid without considering the amount of urea, because 38 exceeds the ratio limit under the ordinary conditions of health. In this instance, then, Salkowski's second claim does not hold.

The conclusion, then, seems warranted that slight

¹ Zeit. f. klin. Med., vol. xxviii., p. 546.

² N. Y. Med. Jour., June 4, 1892.

variations in the amount of uric acid, that is, within the ratio limits of health, can be attributed to a particular cause, as, for example, to the administration of a drug, only when all other factors that influence the amount are constant; which means that the subject must be in nitrogenous equilibrium under identical conditions, both in the normal and experimental periods. Under such circumstances it is unimportant whether the interpretation is based upon the ratio or upon the absolute amount of uric acid, since the ultimate result is the same. Where, however, in practice we consider variations that exceed the limits of health, and especially in that class of cases where there is no definite knowledge of the ingesta, Sal-kowski's recommendation that we consider the absolute amount of uric acid may be misleading, and in such cases it becomes necessary to consider the relation of the uric acid to the urea. These statements are illustrated by the following figures quoted from Herter and Smith:¹

The twenty-four hours' specimen of a person in health gave:

Urea 38.82 }
Uric acid... 0.738 } Ratio, 1 : 54.

A neurasthenic case gave:

Urea..... 23.999 }
Uric acid... 0.637 } Ratio, 1 : 37.6,

the figures in the latter case indicating an excess even though the absolute amount of uric acid excreted was less than is seen in case 1, which was normal. The value of studying the uric-acid ratio is further brought out by the following illustrations:

Levison, in his work "Uric Acid Diathesis," makes the following statements: "Bodily exercise increases the excretion of uric acid. After rather active muscular exercise in the saddle my excretion of uric acid was on each occasion considerably increased. Two experiments were made, eight days elapsing between them, and the excretion rose by this means, from about 0.6 gramme to 0.981 to 0.985 gramme, and in the second experiment to 1.089 grammes." These figures of Levison certainly show an increase in uric acid. To what extent, though, did bodily exercise increase uric-acid excretion, and to what extent was the increase due to the larger amount of nitrogenous food eaten, which the author himself admits has a decided influence upon the formation of uric acid? Evidently in this case it is quite as probable, so far as any proof is offered, that bodily exercise stimulated the appetite and that the large amount of food increased the uric-acid excretion, as that bodily exercise had any specific influence upon uric-acid formation. Take, on the other hand, an experiment where the uric-acid ratio was used on which to base the interpretation.² Whiskey and champagne were administered to a young man with results as follows:

SHOWING INFLUENCE OF WHISKEY UPON URIC-ACID EXCRETION.

		Relation of Uric Acid to Urea.
First day before experiment, no alcohol.....	Urea, 31.555 grm. } Uric acid, .599 "	1 : 52.6
Second day before experiment, no alcohol.....	Urea, 37.401 " } Uric acid, .682 "	1 : 54.9
Third day before experiment, moderate use of beer and champagne.....	Urea, 29.052 " } Uric acid, .601 "	1 : 48.3
First day on whiskey, 2 oz....	Urea, 29.052 " } Uric acid, .697 "	1 : 52.2
Second day on whiskey, 3½ oz.	Urea, 33.534 " } Uric acid, .620 "	1 : 54
Third day on whiskey, 6 oz....	Urea, 33.460 " } Uric acid, .630 "	1 : 53.1

¹ N. Y. Med. Jour., June 4, 1892.

² Herter and Smith, N. Y. Med. Jour., June 4, 1892.

Relation of Uric Acid to Urea.

First day after experiment, no alcohol.....	Urea, 34.768 grm. } Uric acid, .657 "	1 : 52.9
Second day after experiment, no alcohol.....	Urea, 32.768 " } Uric acid, .643 "	1 : 50.1

SHOWING INFLUENCE OF CHAMPAGNE ON URIC-ACID EXCRETION.

		Ratio of Uric Acid to Urea.
First day, 8 oz. champagne...	Urea, 31.699 grm. } Uric acid, .754 "	1 : 42
Second day, 16 oz. champagne,	Urea, 29.758 " } Uric acid, .655 "	1 : 45.1
Third day, 24 oz. champagne,	Urea, 32.172 " } Uric acid, .686 "	1 : 46.8
Fourth day, no alcohol.....	Urea, 32.847 " } Uric acid, .643 "	1 : 51.2

During the time of these experiments the subject was receiving his usual diet and in every way adhered to his customary mode of living, except as stated in the tables. The positive manner in which the increase in uric acid resulting from the champagne is indicated by the ratio, and to what considerable extent the variation in diet is eliminated, are sufficiently evident on examination of the figures.

What has been said regarding the uric-acid ratio may be extended to the phosphates and to all sulphates as well, since these result to such a very considerable extent from the oxidation of the sulphur and phosphorus of proteids.

To what extent the retention of urinary constituents and especially urea interferes with this mode of interpretation I am not fully prepared to say, though it does not seem to exercise any regular or marked influence. Thus the diminution of phosphates in a typical case of interstitial nephritis is well illustrated by the following analysis:

Urea..... 23.713 }
Total phosphates (P₂O₅), 0.941 } Ratio, 1 : 25.2

I select at random the following analysis of a twenty-four hours' specimen of urine of a well-nourished man to illustrate how completely the results in health accord with the standards for the method of interpretation described:

	Ratio.
Urea..... 32.304 grm.	1 : 48.8
Uric acid..... 0.662 "	
Total phosphates (P ₂ O ₅), 2.480 "	1 : 13.0
Total sulphates (H ₂ SO ₄), 2.724 "	1 : 11.9

The Twelfth International Medical Congress.—The date fixed for the next International Medical Congress is the week beginning August 19th, and ending August 26 (new style), 1897. The official announcement will very shortly be sent to the English press. The Emperor has given his imperial sanction to the Congress, and the Grand Duke Sergi Alexandrovitch, the governor of Moscow (and grandson-in-law to Queen Victoria), has granted it his patronage. The nominal president will probably be the minister of public education; the acting president will almost certainly be Professor Klein, the Dean of the Faculty of Medicine in the University of Moscow. Professor Erisman, who holds the chair of hygiene, has, as already stated, been elected general secretary. The meetings of the Congress will be held in the theatres and laboratories of the University Clinique, the so-called *klinicheski gorodok*, or clinical townlet. Papers and discussions must be in either the French or German language; Russian has been excluded lest the Congress should become national rather than international, and English on the grounds that it is a language little used or understood by other than Englishmen.—*Lancet*.

Clinical Department.

SUCCESSFUL TRANSPLANTATION OF TEETH AND CHLOROFORM ANÆSTHESIA DURING SLEEP.

By E. S. PETTYJOHN, M.D.,

ALMA, MICH.

My little daughter, aged two years and nine months, fell headlong down the cellar-stairs, and struck the two upper middle incisors on the edge of the step, extracting them as completely as if by forceps. The alveolar processes of the right tooth were fractured and the gum lacerated the entire length of the root. After the fright and the crying, which continued a half-hour or more, the child was rocked to sleep in her mother's arms, and placed in her buggy. We found the teeth on the cellar-steps, uninjured. They were placed in a normal saline solution of tepid temperature. On the arrival of an assistant with chloroform for anæsthesia, the child was sleeping quietly. Chloroform was administered without the child awakening, and the teeth were placed within their sockets and pressed into position, the edge of each tooth fitting firmly in a groove of one blade of a pair of forceps, the hand of the operator being placed on the back of the head, with the pressure properly directed. The gums about were cleansed antiseptically, and the teeth left in position without further dressing or application.

The accident occurred about two o'clock, and when the child awoke from her sleep at half-past five, her teeth were in place. The teeth had been out of the mouth fully one hour. Milk and soft food were administered and the lacerated edges of the gums cleansed after eating. Healing of the gums occurred by first intention.

It is now over four weeks since the teeth were placed and they are now solid, in good position, and of normal color. The gums are normal in color and consistency, and the appearance of the mouth quite natural.

I report this as a successful case of transplantation of teeth that had been out of the mouth over an hour, and as another demonstration of chloroform anæsthesia during natural sleep.

ANGIONEUROTIC ŒDEMA TREATED BY PILOCARPINE.

By CHAS. E. NAMMACK, M.D.,

NEW YORK.

MR. M—, thirty-five years old, came to my office, July 5, 1895, and stated that for five years he had been much annoyed, and at times incapacitated for business, by attacks of urticaria, which had resisted all treatment and had recurred in spite of the most carefully followed diet, and a course of treatment at Carlsbad. Remembering the favorable results reported from the use of pilocarpine, I injected, hypodermatically, pilocarpine in gradually increasing doses up to one-half grain. The larger doses acted like a charm on the eruption, and the sialogogue action of the drug would have been promptly manifested, but the patient could not be made to perspire, even when the injection would be followed by active exercise in the sun during midsummer. In order to test the remedy thoroughly, I removed all dietetic restrictions, and the patient kept up the action of the medicine by taking $\frac{1}{16}$ -grain tablets every four hours. On October 3d, he celebrated his immunity from attacks by dining on sauerkraut, German sausages, and Rhine wine, and this remarkable gastronomic conglomeration brought

on a severe attack, which lasted forty-eight hours. A resumption of the pilocarpine again held the attacks in check, such repetitions as occurred being mild in character, localized in distribution, and evanescent in duration. It has been impossible, however, to bring out the sweating effect of the drug, and, following the suggestion of Lustgarten,¹ it is now proposed to administer thyroid extract.

The etiology in this particular case is clearly overwork. About the time of the development of the affection, the man started in business on his own account, and by great energy he has succeeded beyond his expectations. He has no evidence of any neuro-pathic taint. Direct heredity is wanting. He has never used tobacco or alcohol to excess, and, although he lives in Westchester County, has never had a well-defined malarial paroxysm. There is no periodicity in the time of appearance of the swellings. The closest search has not revealed an attributable cause.

The symptomatology is characterized by the appearance of circumscribed swellings on different parts of the body, by preference the face, throat, and extremities, without apparent cause or premonition, and non-inflammatory in nature.²

He has had thus far no involvement of the mucous membrane of the larynx. There is no heart murmur, no tachycardia, and the urine has been repeatedly examined with negative result. The characteristic features of exophthalmic goitre are wanting.

The pathological character of the disease is the same as that of urticaria, viz., a vasomotor neurosis. In fact, the disease is clinically the giant urticaria of the dermatologists. The pathology explains the beneficial influence of pilocarpine in relieving the attacks by relaxing the spasm of the vessels upon which the resulting exudation depends.

29 EAST TWENTY-FOURTH STREET.

A Word for Alcohol.—"Matthew Arnold had a poor opinion of Carlyle because the Chelcean sage preached diligence to a nation already far too zealous in the pursuit of utilitarian as opposed to ornamental things. It cannot be denied that this is the age of restlessness, of over-exertion, and worry, or, as our Gallic friends call it, *surmenage*. Competition, born of love of luxury and fostered by over-population, is so severe that even sluggards are induced to do violence to their natural inclinations by hard work, while people with an aptitude for toil are irresistibly driven to excess. These *obiter dicta* are *à propos* or not, as the case may be, of teetotalism. One favorite argument with total abstainers, based upon the experiments of Kraepelin and others, is the inhibitory action of alcohol upon the brain. A recent writer sums up the question in the following: 'I have quoted enough to prove that even in small doses alcohol does not stimulate but retards vital processes.' Now this is precisely what the too-zealous worker requires. Alcohol prevents the human machine from wearing out prematurely. The neurasthenic brain-user takes his customary dose in the shape of wine, spirits, or more humble beer, and forthwith finds himself, *no lens volens*, incapacitated from continuing his labors. He is compelled to allow his weary brain the rest which otherwise he would deny; alcohol, the fiend alcohol, becomes his guardian angel, saving him from cerebral exhaustion, if not from softening and utter demoralization." But Mr. Smith thinks differently.—*Cor. Lancet*.

Money in it to Him.—"I hear your husband enjoys poor health." "Yes. He's a doctor, you know."

¹ Journal of Cutaneous and Genito-Urinary Diseases, December, 1895, p. 506.

² Collins: "Nervous Diseases by American Authors," p. 858.

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WANDERING KIDNEYS, MOVABLE AND FLOATING.

WANDERING kidneys have probably existed since the fall of man, yet their recognition is an affair of recent date. Fewer than fifteen hundred cases have been reported. Any well-defined constitutional condition, as gout, rheumatism, malaria, can easily mask the symptoms of this particular anomaly. A preconceived idea precludes even the search for it. Hence much unrelieved suffering and impaired usefulness. Do wandering kidneys always produce symptoms and cause distress? By no means; they are often discovered quite by accident, and are of no more moment than certain benign tumors, asymmetries, irregularities in pigmentation, or deviation of the nose to right or left. Disturbances may vary from none at all to those that endanger life, and they bear no necessary relation to the amount of displacement. Widely divergent opinions exist, therefore, as to their power for evil. They are sometimes a source of harm, sometimes not. It requires an open mind, enlightened experience, and a sufficient quantity of sweet reasonableness to decide this question.

The normal kidney has a limited range of movement. When it transcends this, it is said to wander. Wandering kidneys are of two kinds, movable and floating. There are at least fifty that are movable to one that is floating. Sometimes both anomalies exist in the same person. By many, the floating kidney is believed to be nearly always congenital. It may or may not give rise to symptoms. The movable kidney, on the contrary, is more often extremely painful and a source of great irritation. Pressure and traction upon neighboring structures may set up inflammatory action that leads to the formation of adhesions, and thus transform the offending organ into a fixed displaced kidney. Wandering kidneys may be mistaken for tumors of the spleen, liver, omentum, and ovary. They are probably the great originals of so-called phantom tumors—here to-day, and gone to-morrow. Causes are various: traumatism, loss of perirenal fat, childbirth and its accidents, alterations in intra-abdominal pressure, mal-assimilation and imperfect development, and congenital defects of the peritoneum. The condition may appear suddenly, though the majority of cases require months, or even years, for their full development. It occurs most frequently between the ages of twenty and twenty-five; some say between thirty and

forty; and is, for definite physiological and pathological reasons, more common in women than in men. But in men it is far more frequent than was earlier believed, causing the same general symptoms as in women, requiring similar treatment, and is equally capable of producing disablement and distress. Children are not exempt, and infants are sometimes similarly afflicted. The right kidney is oftener displaced than the left.

The chief symptoms, when any exist, in the earlier stages are digestive disturbances, general nervousness, epigastric pain to the left of the median line, cardiac palpitation, and inability to feel comfortable or to sleep when lying on the left side. These annoyances are more or less chronic in character. Later, pain is a prominent symptom, due to chronic localized peritonitis or to pure neuralgia. Anorexia, nausea, sometimes vomiting, vertigo, anæmia, menstrual disturbances, occasionally renal or uterine hemorrhages, despondency, sometimes icterus, and attacks like renal or biliary colic, are now characteristic manifestations.

Careful search should always be made for wandering kidney in conditions in which vomiting constitutes crises. Otherwise serious errors in diagnosis may creep in, for such crises suggest tabes dorsalis, pregnancy, intestinal obstruction, hysteria, uncomplicated neurasthenia, and poisoning. In the sudden attacks of colic, the intense pain is referred to the epigastrium or to the umbilical region, and to the left of the median line. There is a slow, feeble pulse, much prostration, and the face is bathed in sweat. Just previous to and during an acute attack, the urine is diminished. There may be frequent urination, vesical tenesmus, vomiting, and severe diarrhoea. The attacks come on occasionally, then increase in frequency and severity. Complete rest in bed is essential, with gastric sedatives, as chlorhydrate of cocaine; and exclusive milk diet in the beginning, to be followed by eggs, and roast or boiled meats later. Vomiting may occur without pain or neurotic symptoms. It is then most misleading.

There are very few instances of wandering kidney in the female without some abnormal pelvic conditions. Displacements, oöphoritis, salpingitis, inter-menstrual uterine hemorrhage, and prolonged and profuse menstruation, are some of the abnormalities directly due to its influence. No doubt numerous normal ovaries have been removed to relieve grave or moderately severe local and general symptoms, really due to displaced kidney. Pelvic symptoms arise from the intimate relations of renal and ovarian nerves, and from compression of the renal nerves and blood-vessels. In some cases even the vena cava may be compressed.

The ordinary pain (not the acute attacks, resembling renal colic) is at times so severe as to suggest to the experienced the beginning of the first stage of labor. There is similar restlessness, an overwrought condition of mind, similar discomfort and distress, with about the same feeling of general rebellion. No doubt the cause is practically identical: a neuralgia of the lumbo-abdominal nerves. Circulation is much depressed, the appetite is *nil*, urination is frequent and difficult, no position gives real relief, and productive

activity is impossible. Lying quietly in bed is the only resource, with symptomatic remedies.

Through the severity of the pain, the inability to work continuously, the gastric and mental complications, and the alteration in nutrition that these bring about, life may be materially shortened. The dragging pain predisposes to what the French call "a strange melancholy." Lucas has reported cases in which melancholia and mania occurred. The nervous symptoms are perhaps those most likely to be misconstrued. Sometimes they are set down unfairly to hysteria and hypochondriasis. Men and women with an offending, misplaced kidney know that there is something the matter, though often quite ignorant of the real condition. The mental state may be best described as irritation rather than irritability; despondency over limitations rather than complaint of others; exaggeration of unpleasant subjects; and outbursts of sudden anger, with quick remorse and sincere repentance. It is sufficiently characteristic of nervous exhaustion. Chagrin and melancholy at being unable to work, pain, and digestive disturbances have occasionally terminated in death from exhaustion, with no lesion post mortem other than wandering kidney. Keppler has recorded such cases. They are significant and instructive. The patient with wandering kidney is a perpetual object lesson to the neurologist and the gynecologist, and sometimes a reproach to both.

What are the dangers when symptoms are produced? Hydro- or pyelo-nephrosis constantly; general peritonitis occasionally; and destruction of the secretory apparatus eventually. It must ever be remembered that misplaced organs have a tendency to take on disease, and sometimes malignant disease. Interstitial nephritis is a favorite form of degeneration in wandering kidney. Intercurrent disease may also end the many discomforts that have been described. The cause that gives rise to them all does not cure itself, and urgently demands definite and immediate treatment.

What can give relief? Three things—rest, a bandage, and an operation. Rest for a movable or floating kidney that makes itself felt, means a life of partial imprisonment; no great muscular activity, no riding, climbing, no jolting over rough roads, the alluring bicycle nevermore, no rowing, swimming, or even housework that causes any strain. Occupations requiring the upright position are simply impossible. Rest is, therefore, a measure best suited to an income of \$30,000 a year. Various mechanical appliances are recommended. To be effective a bandage must support all the abdominal viscera, and through them the displaced kidney. Elastic webbing entirely encircling the whole abdomen and making as much compression as can be borne, sometimes affords considerable relief. A well-fitting and rather tight corset is of benefit, to men especially, and to women when no uterine trouble exists. External supports contain always the element of suggestion, like mineral waters for gout. But they are a poor second best, since a wandering kidney escapes like quicksilver from the compressing hand, probably the most perfect pad ever known. In the choice of remedial agents, the last

shall ever be first—the operation. Nephrorrhaphy effects a permanent and complete cure in more than half of all cases operated upon. It may be a success surgically in others, and yet the symptoms still remain. Now and then kidneys escape a second time and make excursions as before. This has happened in thirteen cases out of eighty noted by Sulzer. Occasionally the patient dies. As Osler cautiously remarks, the operation does not always succeed. Yet it is the only success possible. The chances are that everything will turn out favorably. It depends upon who operates and who takes care of the case afterward. The risk must be run, since this alone offers a way out, possible freedom, probable health. Wisdom forbids a mean choice to an enlightened mind. The operation is the thing.

PUBLIC HEALTH AND THE UNITED STATES GOVERNMENT.

THE Committee of the American Medical Association, appointed to get up a Department of Public Health, with a secretary who shall be a member of the Cabinet, has issued another circular to the members of the American Medical Association. Ignoring entirely the fact that there is now before Congress a bill which would help enormously toward the end which they themselves desire, it proceeds to say that its own bill is not yet strong enough to pass Congress. It then recommends that all State medical societies and all local societies pass resolutions favoring the doctrine in the bill, and that every doctor in the United States (one hundred thousand in all) shall address a private letter, in advocacy of said bill, to the Senators and Representatives in Congress. The circular is signed by Dr. Jerome Cochran, of Montgomery, Ala., chairman, and the seven other members of the committee. We are greatly in favor of securing some such plan as the committee wishes, but nothing is more certain than that such a bill cannot be passed for many years. Therefore, instead of wasting time in empty declarations, it seems to us it would be wiser if the committee would take hold and try and get what is practicable. One of the means to this end would be a conference between the committees of the American Medical Association and the New York Academy of Medicine, with an agreement on a joint bill.

FURTHER STUDIES OF THE MALARIAL PLASMODIUM.

WE referred recently to the subject of the value of the examination of blood in the diagnosis of malaria. In the *Indian Medical Gazette* for November, 1895, there is a report of further examinations of this character, by Dr. F. P. Maynard, surgeon-captain in the Indian Medical Service, and professor of pathology in the Medical College Hospital at Calcutta. Dr. Maynard says that from December, 1894, till April, 1895, he spent three or four hours daily examining the blood of fever cases for the malarial parasite. He, during this time, examined one hundred and twenty cases. Seventy of these, regarding which he had taken copious

notes, are analyzed and presented in a series of tables in the *Gazette*. The class of cases examined corresponded to the following clinical types:

Quotidian	26	Cases in which Laveran's bodies were found	6 times
Double quotidian ..	2	.....	1 "
Tertian	13	.....	5 "
Double tertian	1	.....	0 "
Quartan	1	Doubtful case in an out-patient	0 "
Remittent	17	.....	5 "
Irregular	10	.....	1 "
Total	70	Total	18 times,
i.e., 25.7 per cent.			

As will be seen, the Laveran organisms are found in only twenty-five per cent. of the cases. The blood was nearly always examined between 10 A.M. and 1 P.M. Thirty-nine of the cases had not taken any quinine before examination. The technique of Dr. Maynard's method is given in full. He examined both fresh blood and specimens that were stained and dried, using a one-twelfth inch oil immersion. The methods which he followed correspond with those described and used in pathological laboratories here and in Europe and Dr. Maynard states that he has had the advantage of studying original specimens prepared by Marchiafava. Dr. Crombie, another Indian surgeon, in a discussion of Dr. Maynard's paper, said that he had been making similar examinations, and also had not, as a rule, found plasmodia.

These facts seem to deserve some attention from those who assert that the diagnosis of malaria can always be made by an examination of the blood. Either the examinations are not made correctly in India, or the blood is different, or the malaria is not due to the same kind of parasite as that which produces malaria in Europe and this country.

SHOULD DOCTORS WEAR BEARDS?

THIS important subject has been brought to the front again by Dr. F. A. Colby, of Berlin, N. H., in a letter to the *Boston Medical and Surgical Journal*. Dr. Colby admits that he wears a beard, and almost implies that he admires it. But he very candidly discusses the dangers and the propriety of continuing the practice. He cites a number of cases in which doctors, by reason of wearing beards, have carried the infection of diphtheria home, or have infected themselves, and he speaks also of the additional danger of carrying the scarlatinal infection when the physician wears a beard. The responsibility of the surgeon in this matter is particularly insisted upon. Some time ago the *MEDICAL RECORD* discussed this subject, as it thought, in a calm and dispassionate way, advising, not necessarily a total abolition of the beard, but restricting it to modest and sanitary limits. At that time, however, we received such severe criticisms from correspondents who had for years worn long and breezy whiskers, that it seemed wise that the subject be dropped. We shall follow with interest the progress of Dr. Colby's propaganda.

The Golden Jubilee of Dr. G. Lewin, the well-known dermatologist, was celebrated in Berlin recently under the auspices of the Dermatological Society.

CONFEDERATION OF STATE MEDICAL EXAMINING BOARDS.

IN the December number of the *Bulletin of the American Academy of Medicine* there is published the report of a committee appointed to arrange for the organization of the State medical examining and licensing boards of this country. The report is signed by Drs. McIntyre, Watson, Paine, and Potter. It states that since the system of State medical licensing had been adopted so extensively, and since it is probable that a similar system would soon be adopted in all the States of the Union, it is necessary that the examining boards of different States should take measures for approximating, as nearly as possible, uniformity as to rating and standards of acquirements. For this purpose a plan of organization is drawn up, consisting of a constitution, embodying nine articles. It is provided that the body shall be known as the National Confederation of State Medical Examining and Licensing Boards. The objects of this organization will be to have regular conferences of the members, the collection, compilation, and dissemination of information regarding State licenses, and, if desirable, the adoption of regulations for guiding the work of the confederated boards. The work of the confederated boards will be largely advisory, but such work will be much needed, and we trust that the proposed organization will be successfully accomplished.

News of the Week.

Obituary Notes.—Dr. M. A. Cremin, of New Haven, Conn., died December 28th, aged forty-three years. He was prominent in the municipal and educational circles of New Haven for many years. Dr. George H. Kirwan, aged forty-three years, died December 28th of appendicitis at his home in Wyoming Valley, Pa. Dr. W. H. Taylor, of Weldon, Ill., was shot and killed on December 28th by the postmaster of the town. Dr. Taylor had practised medicine in Weldon for twenty years, and had been identified somewhat with politics, being, at the time of his death, a member of the Illinois State Legislature. Dr. Thomas S. Powell died in Atlanta, December 30th. He was a native of Brunswick County, Va. He practised in Atlanta forty years, and founded the Southern Medical College of which he was President.

Hospital Sunday. The Hospital Association Work.—Last Sunday was Hospital Sunday. The contributions are reported to have been generous, but full returns of the amount received have not yet been published. The churches contributed last year to the Associated Hospitals \$23,100.69 of the \$58,208.29 collected for the Hospital Saturday and Sunday Association of New York. The denominations that contributed most largely to the fund were the Protestant Episcopal, which gave \$16,117.61; the Presbyterians, \$1,688; the Methodists, \$724.43; the synagogues, \$1,372.62, and the Reformed, \$959. The money collected for the Association is divided among the following thirty-eight hospitals: Mount Sinai, St. Luke's,

Ruptured and Crippled, German, Home for Incurables, St. Mary's, Eye and Ear Infirmary, Woman's, Infirmary for Women and Children, Ophthalmic, Ophthalmic and Aural, Orthopedic, Manhattan Eye and Ear, New York, Roosevelt, French Benevolent, Skin and Cancer College and Hospital for Women, Holy Comforter, Convalescent Home, Montefiore Home, Manhattan Dispensary and Hospital, Post-Graduate, Nursery and Child's, Colored Home and Hospital, Babies' Hospital, Cancer Hospital, St. Mark's Hospital, Mothers' Home of the Sisters of Misericordia, Flower Surgical Hospital, Isabella Heimath, Lying-In Hospital, St. Andrew's Infirmary, St. John's Guild Hospital, Beth Israel, and Lebanon. During last year these hospitals cared for 25,475 patients, of whom 19,535 were bed patients, and gave medical or surgical aid to more than 200,000 free dispensary patients. The total expenses for the year were \$1,046,109.25. They received from the city \$44,974.74 and got from paying patients \$270,752.10. The remainder they got from invested funds and contributions.

The Retirement of Dr. Geo. M. Gould from the editorship of the *Medical News* is a great loss to medical journalism in America. His sound judgment, impartial criticism, honesty of purpose, and scholarly attainments have won for him a reputation which has been well earned and is well deserved. In company with his host of friends we tender to him our best wishes for his future successes.

A Difference.—The Court of Common Pleas and the Superior Court are to be abolished—but the judges now presiding over them will become Supreme Court justices. They know how to do these things so much better in the law. When the hospital boards were abolished what were the old consultants made?

A Japanese Surgeon Honored by the Emperor of China.—The surgeon to the Mikado, who dressed the wound of Li-Hung-Chang after the attack made upon the Chinese plenipotentiary at Simonoseki, has at Li's request had the Order of the Double Dragon, Third Civil Class, conferred upon him by the Emperor of China.

The State Care of the City Insane.—Governor Morton, in his message of January 1st, recommends the formulation and passage of a law which shall give effect to measures for carrying out the plan of State care for the city insane. A bill to that effect was introduced by Senator Cantor and Assemblyman O'Grady at the first session of the Legislature.

Medical and Sanitary Legislation.—The following bills bearing on medical and sanitary matters were presented to the Senate during its first session, January 1st:

By Senator Brush—Providing for the abatement and prevention of nuisances in and about Newtown Creek in Brooklyn and Long Island City, and providing for sewers.

By Senator Lexow—Authorizing the Commissioners of the Sinking Fund of New York City to lease for ninety-nine years to the Hospital for Scarlet Fever and Diphtheria Patients land situated on the block

bounded by Avenue C, East River, Sixteenth and Seventeenth Streets.

A Cholera Conference.—It is reported that delegates have been appointed by the Italian and Austro-Hungarian governments, who will meet toward the end of the present month at Vienna for the purpose of discussing the sanitary measures to be adopted conjointly by both governments at the frontier, in case of an outbreak of cholera in either country.

For the Reinstatement of Retired Army Officers.—Under the bill of Congressman Shoup the Secretary of War is to appoint an Examining Board of five medical officers of the army to convene at Washington on January 1st and July 1st of each year to examine retired officers who apply for restoration to active service. If the report is favorable the President is authorized to restore any such officer "to the grade and rank he would have held" in his arm of the service had he not been retired, or "to appoint him to any other grade and rank" for whose duties he is thus found to be qualified. A bill for such restorations has also been introduced by Mr. McClellan into the House.

The Army Ration.—Secretary Lamont has appointed a Board to select an emergency ration for the army.

The Specialist in Female Diseases who has been sending his monthly reminders to physicians in New York and vicinity has disappeared under an indictment for committing abortion, and has forfeited his bail. Thus, for a time at least, our various office waste baskets will miss the savagely torn cards.

State Regulation of Medical Expert Testimony.—It is rumored that a bill has been prepared and will be introduced into the next New York Legislature aiming to change the present method of getting expert testimony. A "non-partisan board" is to be appointed by the Governor and confirmed by the Senate, and to this board all questions involving expert testimony will be referred. No one not a member of this board will be allowed to testify in any court except upon questions of simple fact. Regarding this plan the *Medical Age* says: "Regarding the bill which is to be presented to the New York Assembly, as now outlined it presents one very weak point. It is gotten up by a class of specialists, inasmuch as it is demanded the board shall be recruited from 'the ranks of expert alienists alone,' though the plea is added that these are to be 'men having a high ascertained qualification.' The qualifications of an expert, however, demand something more than mere ability to pass upon the sanity or insanity of an accused person. Alienists are no more competent to pass upon matters of expert pathology, microscopy, and chemistry than are other practitioners. Insanity is but one of the many pleas that require the careful attention of the court; further, the majority of so-called experts are men who have made their reputation on the basis of articles contributed to the medical press or to medical societies, and who consequently are likely to err in those points which are most familiar to the general practitioner."

An Opponent of Antitoxin.—An editorial appears in the *Journal of the American Medical Association* endorsing Mr. Lennox Brown's attitude of opposition to the use of antitoxin in the treatment of diphtheria.

Typhoid Fever is unusually prevalent in the State of Connecticut. Out of one hundred and sixty-eight towns in the State, the disease is reported in fifty.

Scarlet Fever has appeared in a somewhat epidemic form in the Mills Training School for Male Nurses.

Gray Hair and Cold Weather.—Dr. George W. Griffiths, in the *Journal of Cutaneous and Genito-Urinary Diseases*, reports the case of a man sixty-five years of age, who had had gray hair for eight years; for three years his hair had been perfectly white. He was exposed one night to severe cold and his eyebrows and whiskers got wet and were frozen stiff; it was found next day that his hair had turned black. The patient was shown to some medical men in Louisville. This beats the pilocarpine stories.

Kings County State Hospital.—Dr. Robert M. Elliott, of Rochester, has been appointed by the State Board in Lunacy Commissioners medical superintendent of the Kings County State Hospital for the Insane. Dr. Elliott was for five years assistant in the hospitals at Rochester. The State Commission first appointed Dr. T. E. Branford to this place, but he resigned.

Sir Henry Acland has been presented with a testimonial by the University of Oxford, in recognition of his services to medical science and hygiene. The memorial takes the form of a bust and of a fund of \$15,000.

The Chicago College of Physicians and Surgeons is making arrangements to amalgamate itself with the University of Illinois.

An American Missionary, Dr. A. J. Dyaz, says *The Independent*, has organized seven Red Cross hospitals in Cuba.

Prof. Pierre Ch. Fauvel, a distinguished French physician, died in Paris on December 17th, aged sixty-six years. He was especially well known for his writings upon diseases of the throat and nose.

Dr. Hugh B. Davis, of Wellsboro, Pa., died on December 19th, aged forty-five.

A Case of Acute Traumatic Tetanus was recently treated by antitoxin serum by Dr. Aldren Turner in the West London Hospital. The case recovered, and is reported in detail in *The Lancet* of December 7th.

Tubercular and Tuberculous.—*The Lancet* calls attention to the indiscriminate and incorrect way in which these two words are used. The adjective "tuberculous" should, it thinks, be applied only in connection with the specific infectious process known as "tuberculosis." The adjective "tubercular" has a purely anatomical meaning, and is to be used only as a means of anatomical description, and signifying "nodular." Our contemporary laments the fact that the two adjectives are used so indiscriminately, and

begs that writers will be more careful in the future. As a matter of fact, the word "tubercle" is rarely used now, except in connection with the specific infectious disease of tuberculosis, and practically it might be well to remember that the adjective "tuberculous" is the one that is almost always to be used.

Medical Club Practice in France.—The country doctors of France, who undertake club practice, have, it appears, the worst time of all. Some of them make an agreement with the village to attend its paupers for the sum of fifty francs a year.

M. Lannelongue, professor of surgery in the faculty of medicine in Paris, has been elected to the Académie des Sciences, in place of the late Professor Verneuil.

Thyreo-Antitoxin.—Dr. Fränkel has obtained from the thyroid glands a substance which he calls "thyreo-antitoxin," and to which he gives a special formula $C_6H_{11}N_2O_6$. The substance is inodorous and tasteless, and it is inferred that it contains the active principle of the thyroid, because it produces rapid emaciation.

Small-pox Hospitals as Nuisances.—The High Court of Justice, England, has just rendered a decision with regard to the question as to whether or not a small-pox hospital is a nuisance. Arrangements had been made to build a hospital upon a lot which was surrounded on all sides by a common on which cattle fed and children played. Although thus isolated, the neighbors brought an injunction against the hospital management, and tried to prevent the erection of the buildings, on the score that it would be a source of danger. The prosecution got a number of experts to testify that small-pox could be conveyed for long distances by air. But the judge refused to grant the injunction, and allowed the hospital to be built.

The Kinetograph and the Clinic of the Future.—A French journal suggests that by the use of the kinetograph the clinical work of the future can be very much simplified. Kinetograph illustrations of clinical cases may be prepared and distributed throughout the country by means of university extension organizations. In this simple way, post-graduate lecturers could talk at a kinetograph carefully prepared lectures, at the same time exhibiting patients to the revolving discs of the photographic machine; the results could be sold in regular lots at so many dollars per dozen.

New Journals.—Announcement is made of *The Journal of Experimental Medicine*, a periodical to be devoted to the recording of original investigations in physiology, pathology, bacteriology, pharmacology, physiological chemistry, hygiene, and practical medicine. The editor will be Dr. William H. Welch, professor of pathology in the Johns Hopkins University, who will be assisted by a board of twelve associate editors. Another new journal is *The State Hospitals Bulletin*, which will contain reports of clinical and pathological work in the New York State hos-

pitals for the insane and in the laboratories connected with them. All the articles in this periodical will bear some relation to hospital work, and, as far as possible, will be in the nature of a report of observations in the hospitals, with deductions based thereon; no essays upon general medical subjects, not specially related to insanity, will be admitted, although there will be no prohibition of free treatment of any subject reported upon. The same treatment can be accorded a subject that is given to any article prepared for other medical journals, provided only that the essay is based primarily upon observations and experiences connected with asylum work. *The Bulletin* will be edited by a staff of hospital superintendents, the editorial committee for the present year being Drs. P. M. Wise, C. W. Pilgrim, and S. H. Talcott.

The Northwestern Ohio Medical Association held its fifty-first semi-annual meeting at Findlay on December 12 and 13, 1895. The following officers were elected: *President*, Dr. Charles Graefe, of Sandusky; *Vice-Presidents*, Dr. Slocum, of Defiance; Dr. Philips, of Belle Centre; *Secretary*, Dr. J. B. Baker, of Findlay; *Assistant Secretary* and *Treasurer*, Dr. Gehrett, of Deshler. The next meeting will be held at Defiance.

The Marion County (Fla.) Medical Society held its annual meeting on December 9th, at Ocala. The following officers were elected for the ensuing year: *President*, Dr. W. V. Newsom; *Treasurer*, Dr. W. R. O. Veal; *Vice-President*, Dr. D. A. Smith; *Second Vice-President*, Dr. T. J. Myers; *Secretary*, Dr. R. P. Izlar. Various papers were read and discussed.

The Subathu Leper Asylum.—Dr. M. B. Carleton, Superintendent of the Leper Asylum at Subathu, North India, writes that two Europeans have recently been received into the asylum, one of them a lad of ten years. Three more applications have been made, but for want of room and funds they have been refused for the present. There is need of money for the erection of a cottage ward.

Supply of Sea-Water to London.—A company has been organized with the object of providing London with a supply of sea-water direct from the Channel. It is held that there would be a great economy in using this instead of fresh water to flush the sewers.

The Chalfont St. Peter Epileptic Colony.—A new home to accommodate eighteen men was recently added to the Chalfont Colony in England. This colony was opened in July, 1894, with nine colonists. In August, 1895, the committee were able to take thirty-six, and it is hoped that within a year the numbers will be doubled. The colonists have been employed mainly at market gardening, and a few of them at occupations, such as carpentering, which they followed before their admission. Lack of funds has up to the present hindered the provision of other employments such as basket-making, netting, rope-making, etc., which will provide more variety and allow more scope for differences of capacity on the part of individual colonists. Hitherto, strangely enough, there has been

no medical man resident at the colony, but the committee have now determined to erect a building for a resident medical officer.

Hospitality of New York and Paris Surgeons.—At the recent Congress of the French Surgical Society Dr. Bousquet, of Clermont-Ferrand, complained of the unsympathetic attitude of the Parisian hospital surgeons toward the members of the Congress, in that they were far from cordial in their invitation to strangers to attend their operations or visit their wards. The general secretary admitted that the complaint was fully justified, and said that he had done his best to remedy the defect, but, unfortunately, could not succeed. He compared this apparent churlishness with the reception of visiting surgeons in New York. When a visitor arrived in that city and manifested a desire to witness operations, the utmost *empressement* was exhibited to afford him every information by telegraph. No matter where he might be sojourning, every morning messages would arrive containing detailed statements of all the operations it was proposed to perform that day, together with time-tables and route instructions. It would be very easy for the Parisian surgeons to imitate their New York *confrères*, and thus remove the grievance to which Professor Bousquet alluded. All that was necessary was a little good-will, but, unfortunately, that was precisely what was not forthcoming. Possibly these gentlemen had very good reasons for their action, or inaction, but if so it was strange that similar reasons should be non-existent across the Atlantic.

Sir Joseph Lister has been elected President of the Royal Society, succeeding Lord Kelvin. The only other surgeon who ever held this office—an honor prized above all others by British scientists—was Sir Benjamin Brodie, who was elected about 1860, after having been a fellow of the Society for half a century.

Dr. Andrea Verga, for many years Professor of Medico-Psychology at the Ospedale Maggiore of Milan, died on November 21st. He was born on May 30, 1811, at Treviglio, and was educated at the University of Pavia.

Co-Education in Hungary.—The Emperor Francis Joseph has issued a decree which provides that women at the Hungarian universities may now be admitted to the medical and philosophic faculties, and thus enabled to become chemists, doctors, and professors. There is, however, a saving clause which renders it necessary that permission be first obtained from the Minister of Justice.

Professor Struthers has been elected President of the Royal College of Surgeons of Edinburgh.

How to be a Centenarian.—Sir Benjamin Ward Richardson still gives it as his fixed opinion that every man and every woman should attain the age of one hundred. According to Sir Benjamin, the would-be centenarian must have a blond complexion, with hazel eyes, light-brown hair, and reddish cheeks. He must never smoke nor drink, must eat very little meat, and he must not work by artificial light.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

General Meeting, December 19, 1895.

JOSEPH D. BRYANT, M.D., PRESIDENT.

"Vaginal Versus Abdominal Section."—DR. W. M. POLK read a paper with this title. He said that the advocacy of the vaginal method had been so persistent that it could not be ignored. Its cause had been, however, injured by the extravagant claims that had been made in its behalf. It was folly to talk of it driving abdominal section from the field, for there were certainly conditions which could be much better met by abdominal section. Even though vaginal section should diminish the frequency of abdominal section by as much as one-half or two-thirds, he still felt that it would ever remain subordinate to abdominal section. It was evident, therefore, that wherever the boundary line between these two methods should be eventually drawn, it must be made movable. Dr. Polk said that at present he believed that out of one hundred cases, about seventy-five would be found suitable for the vaginal operation. Excluding vaginal hysterectomies done previous to 1882, he had performed about seventy-two vaginal sections for every disorder for which it had been advocated.

The various conditions considered favorable for vaginal section were next taken up in order. Among these conditions were: explorations of the pelvis, operations on the displaced uterus with adherent uterus and appendages, intra-ligamentous cysts, small ovarian cysts, fibroid tumors, acute inflammations of the appendages associated with acute peritonitis with involvement of Douglas's pouch, extra-uterine pregnancy, pelvic hæmatocele, puerperal metritis, destructive diseases of the appendages from inflammatory, tuberculous, and cancerous processes, and so-called conservative operations on the appendages. Vaginal section was particularly applicable to collections of pus fixed by adhesions. All tumors which were small enough to be contained, wholly or in part, in the pelvis, were suitable for the vaginal operation. While it was true that many tumors wholly outside of the pelvis could be best treated by abdominal section, it was equally true that many of them could be reached by the vaginal route, provided it were proper to remove the uterus. Extra-uterine pregnancy, the author said, was a condition which prior to rupture one could always select to reach through the vagina. The tumor was reached in this way without difficulty, although sometimes it might become necessary to remove the uterus. After the placenta had been fully formed, and if the child was alive, the supra-pubic route was preferable, but where the child was dead, the vaginal method would meet every indication. The vaginal method offered the best means of checking the ravages of acute inflammation, and of doing plastic operations on the uterus and adnexa. It was the best operation for suppurative disease of the adnexa. All soft fibroid tumors situated below the level of the umbilicus can be removed by vaginal section, and likewise all hard fibroids situated largely in the pelvis, though extending considerably above the pelvic brim; but hard fibroids situated wholly above the pelvic brim, and so large as to forbid their removal by being drawn into the cavity of the pelvis, are difficult of extraction by the process of morcellation.

The conditions favorable for abdominal section are: Explorations in the false pelvis and above the false pelvis; visceral adhesions in the false pelvis or above; cysts with long pedicles or gelatinous contents situated wholly above the pelvic inlet; ruptured extra-uterine

pregnancy in which bleeding is active; extra-uterine pregnancy with the tumor wholly above the brim and the child alive; cancer of the ovaries; large and hard fibroids mainly filling up the abdominal cavity and extending above the line of the umbilicus.

The chief objections, the speaker said, that had been raised against the vaginal section were: (1) Removal of the uterus and appendages by vaginal section was more difficult; (2) vaginal section must depend to a certain extent on the size, shape, and condition of the pelvis; (3) the operation was liable to be incomplete; (4) the viscera were more likely to be injured; (5) sepsis was more difficult to prevent; (6) hernia would occur; (7) the sloughing incident to the use of the clamp. On the other hand, it was claimed that it was as safe as abdominal section, that recovery was more rapid, and there was less likelihood of hernia and intestinal adhesions.

DR. E. W. CUSHING, of Boston, said that there could no longer be any doubt that the resources of our art had been wonderfully augmented by the introduction of morcellation of the uterus. The method had extended in spite of strong opposition, and now numbered among its advocates some of those who had at first most bitterly opposed it. There was, of course, still considerable opposition, and there was a not inconsiderable number of surgeons in this country who still believed with one of our eminent surgeons that vaginal hysterectomy for pus tubes was "blind, ignorant, and cowardly." Indeed, the speaker said, he had felt at one time very much the same way himself, but a careful study in person of the work of eminent surgeons who were doing vaginal hysterectomy by morcellation had won him over to their ranks. As many of our surgeons were now thoroughly alive to the evil of leaving the uterus behind, the question at the present time was really between total abdominal and total vaginal removal of the uterus and appendages. By the introduction of morcellation the operation had become practically a new procedure. By splitting the uterus in half, and by successive divisions of these halves, the uterus gradually descended and rotated anteriorly, thus bringing into sight any adhesions that might exist. The vessels were controlled by powerful clamps, applied under the guidance of both sight and touch. In this way the uterus could be safely and speedily removed with a minimum of shock, and that, too, even when the organ was bound down by adhesions or was the seat of a myoma. By this method of operating, all fibroid tumors not larger than a cocoanut could be successfully removed with far less shock to the patient than from an abdominal section. The ease and safety with which the uterine appendages could be removed, or intestinal adhesions separated by the vaginal route, could hardly be credited by one who had not had the good fortune to witness the performance of the operation by a master hand. After the removal of the uterus, whatever part of the tube presented, could be brought down and enucleated under the guidance of vision. Dr. Cushing said that in his opinion the vaginal operation was to be preferred in cases of uterine myomata of moderate size; but a narrow outlet to the bony pelvis, or a tumor over five inches in diameter, constituted a serious contraindication. Unless expert in performing the vaginal operation, it should not be undertaken where there were many intestinal adhesions. He thought it was generally admitted that the vaginal operation was best in cases in which there were large collections of pus from tubo-ovarian abscesses or from suppurating hæmatocele where the pus was roofed over by dense adhesions of bowel and omentum, particularly if the patient were much exhausted. As the uterus was usually diseased in cases of pyosalpinx, it should be removed when this could be done without

adding to the risk. If, however, there was apparently no pus, and it was probable that the uterus was bound down by firm adhesions, he was not yet convinced of the superiority of the vaginal operation. The advantages of the vaginal operation were diminution of shock, freedom from abdominal wound and scar, and freedom from the liability to hernia.

Dr. Cushing then gave a demonstration, by means of lantern-slides, of the various steps in the modern vaginal operation.

DR. W. T. LUSK referred to the circumstances that had led to his conversion to the vaginal method. When it had been first proposed in Brussels, in 1892, there had been so many other important questions under consideration that he had received the suggestion with considerable impatience; but his attention having been attracted by the wonderful rapidity of recovery of cases operated upon by the vaginal method, he had given the subject more consideration, and finally availed himself of an opportunity to personally watch the work of such men as Péan, Pozzi, Ségond, and Jacobs. After seeing Ségond remove by morcellation a uterus as large as one at full term, he had become convinced of the advantages of the pelvic route and of its capabilities.

In removing fibroids by morcellation, he said, we found that, in spite of the length of time consumed in the operation, there was scarcely any appreciable effect upon the patient. The vaginal operation was certainly safer than the abdominal one in cases in which there was a double pyosalpinx and the tubes were removed after the uterus. The speaker said that he had hesitated longest about adopting the vaginal method in conservative operations on the tubes and ovaries, and he still felt that the abdominal route was the better one except where a large anterior incision is employed. In the latter case it was possible to operate by the vaginal method with no more shock than would be associated with an amputation of the cervix. Experience had shown that already the women themselves were insisting on the adoption of the vaginal method wherever possible. In making the change from the abdominal to the vaginal route the surgeon should go slowly, employing the vaginal method only in the simpler cases at first.

DR. BALDY, of Philadelphia, said that he was not in sympathy with the views that had been just advanced regarding the vaginal operation. In his opinion there was just as little shock from the abdominal as from the vaginal operation, and in a given class of cases the surgeon could do his work infinitely better and with less risk to the patient by the abdominal route. It had been argued that by the vaginal route the peritoneal cavity was not so frequently opened, but this was not in accordance with the facts, as there was hardly one case in a hundred in which the peritoneal cavity was not opened just as much by the vaginal as by the abdominal method. He also thought that by abdominal section and the use of the Trendelenburg position much better conservative surgery could be done on the ovaries and tubes than by the vaginal method in which the surgeon was deprived of the aid of vision and must rely almost entirely on the sense of touch. One of the great arguments advanced in favor of the vaginal operation was the diminution of shock, but in his experience shock was not a great element in pelvic surgery. The avoidance of hernia was another argument, but hernia was getting to be a rather rare complication of abdominal operations at the present time, and the vaginal operation was occasionally followed by this complication. If it should occur, it was evident to any surgeon that it was a much more difficult condition to treat than abdominal hernia. It should not be forgotten that comparatively few operations by the vaginal route had been done in

this country, and that, therefore, there could not be very many vaginal herniæ on record. The proportion of fistulæ that had been reported as following vaginal hysterectomies was truly alarming; there was hardly a vaginal hysterectomist who did not include fifteen or twenty fistulæ in his list of such operations, and some of them had commented on the difficulty of curing these fistulæ, and the necessity at times of resorting after all to abdominal section. It need hardly be said that a secondary operation was much more difficult and dangerous than a primary section. He did not believe that these fistulæ were as rare after the vaginal operations as had been asserted. Again, the ureter was very liable to be injured in the vaginal operation without the surgeon being cognizant of the fact. In his own experience he had wounded the ureter three times in the abdominal operation, and had discovered the injury only just in time to repair it before closing the abdomen. He had never had the fortune to see a vaginal hysterectomist do a complete operation, and moreover even an expert operator usually took nearly twice as long to do the operation that he would if he had adopted the abdominal method. This prolongation of the etherization was a serious matter. Lastly, it had been repeatedly urged that the vaginal operation was followed by a much more rapid and easy convalescence, but to this he must take exception. The abdominal operator believed that his patient was better off in bed for four weeks, irrespective of her recovery surgically, while the vaginal hysterectomist allowed his patient up as soon as she was surgically well. In view of the facts he had presented he felt that the comparison was in favor of abdominal operations, sentiment not considered.

DR. E. B. CRAGIN said that he thought all pelvic surgeons must have noticed depression after abdominal operations, and that this depression—call it "shock" or not—was not so great after vaginal operations. He could not agree with Dr. Baldy that the vaginal operation was not suitable for cases of large pelvic intra-peritoneal abscesses. Since last March he had done fifty-five vaginal cœliotomies, of which forty-two were for diseased appendages. He admitted that there was more danger of injuring the rectum in the vaginal than in the abdominal operation, but the latter was evidently free from danger, as Dr. Baldy confessed to having had three injuries to the ureter. He thought that the cases operated on by the vaginal method were better, not only immediately after the operation but six months later, and he was confident that vaginal hysterectomy was an operation that had a future.

DR. CHARLES P. NOBLE, of Philadelphia, said that the favorable points of the vaginal operation had been brought forward, but only in very general terms. There was but little doubt that the mortality was lower by the abdominal route, but it was so low by both methods, that this was no cause for a quarrel. Dr. Kelly had had one hundred and seven abdominal hysterectomies for inflammatory conditions without a death. His own experience did not bear out the allegation so frequently made, that there was much poor health following abdominal operations, for certainly five per cent. would cover this morbidity in his cases. Most vaginal operators reported about ten per cent. of incomplete operations, and this should be contrasted with the small number of infected pedicles after abdominal operations. Bowel and bladder fistulæ were apparently much less frequent in connection with abdominal operations, and the abdominal operator had a decided advantage over the vaginal operator in that he could at once close the rent.

The speaker said that he also felt that the rapidity of convalescence after vaginal hysterectomy had been greatly exaggerated. His own cases of this kind had

been as long in his hospital as those of abdominal hysterectomy—indeed, he thought that convalescence was much more rapid after the abdominal operation. Most of these patients were broken-down women in whom several weeks of rest proved a valuable factor in restoring their general health. Hence, the matter of the time spent in bed after the operation was in practice a trifling one. The abdominal route certainly offered superior facility for dealing with complications arising during the operation, and also for the control of hemorrhage. He had recently seen two cases in which appendicitis had developed shortly after labor. Had the operation been performed by the vaginal route it would have been necessary to remove the uterus before the true condition could have been properly treated. The great argument against the abdominal operation—the liability to hernia—seemed to him to have but little force, for he had recently reported two hundred cases in which by means of buried silkworm-gut sutures he had successfully treated this condition, with not a single relapse, so far as he had been able to ascertain.

He was prepared to believe that anterior colpotomy might be suitable for the extraction of small fibroids, but for larger tumors he would certainly prefer abdominal section to morcellation. He also believed that the abdominal route was preferable for cases of tubal pregnancy except in the few instances in which there was a suppurating hæmatocele. By operating from below one would be apt to sacrifice many ovaries unnecessarily.

In conclusion, the speaker expressed the opinion that operations through the vagina were chiefly applicable to large pelvic abscesses, and to cases in which, owing to excessive fat, it was objectionable to operate through the abdomen.

DR. H. J. BOLDT said that the remarks that he desired to make in connection with this discussion were based on a large experience with both the abdominal and vaginal methods. Ovarian tumors of considerable size could be removed per vaginam, provided the neoplasms were movable. The vaginal operation was applicable to cases of tubal pregnancy in which rupture has not occurred, or in which the hemorrhage has ceased after rupture. Fibroids which do not extend more than three or four fingers above the symphysis might be removed through the vagina. The submucous and interstitial tumors were most easily operated upon by this method. For other fibroid tumors, and the neoplasms occurring in virgins, abdominal hysterectomy was preferable. Complicated cases of pelvic abscess were rarely curable except by the removal of the pelvic organs, and the ultimate result was much better when this was done per vaginam. It was possible to do a complete operation in almost every instance by patient and careful work.

The speaker said that he could not but feel that a more satisfactory diagnosis could be made by a free abdominal incision than by the vaginal operation. The risk of injuring the ureters and intestine was about the same in both methods. He had never met with vaginal hernia in the large number of vaginal operations that he had done.

DR. H. N. VINEBERG said he believed that he was the first to introduce the operation of vaginal incision, which was the forerunner of vaginal section for conservative work. He considered the vaginal method particularly applicable to this class of cases, and as retroversion was liable to be associated with disease of the adnexa, the method was obviously desirable as it allowed of the retroversion being relieved at the same time by suture of the organ to the vaginal wall. He could not agree with Dr. Noble that, by the vaginal method, perineorrhaphy and other similar operations could not be performed at the same time. He

believed that in almost every case the peritoneal cavity was opened in vaginal operations.

DR. PAUL F. MUNDÉ said that he did not believe the majority of pelvic surgeons in New York City were in favor of the vaginal route. He had removed the uterus per vaginam for cancer in twenty-seven cases, with twenty-four recoveries, but as he had obtained equally good results more easily by the suprapubic method, this latter method he would employ in the future. There was certainly no more shock by the abdominal method. On comparing vaginal and abdominal hysterectomy for the removal of fibroids, and taking into consideration the number of instruments in the field of operation and the difficulty of controlling the hemorrhage, he was forced to the conclusion that the vaginal route was like night and the abdominal route like day. He had long maintained that the vaginal route was the best for the treatment of all fluid accumulations, and many were now coming to his way of thinking. He would not remove ovarian tumors or fibroids through the vagina unless they were small or unusually accessible by this route.

DR. E. E. TULL presented a specimen to illustrate the completeness that might be attained in the vaginal operation. He had done fifty vaginal operations with two deaths. Both deaths were entirely attributable to accidental causes, such as negligence of the nurse or disobedience of the patient. He saw no occasion to use many clamps or ligatures in this operation; he had recently extirpated a ten-pound tumor, using only one clamp and two ligatures.

DR. W. GILL WYLIE said that whereas he had done one thousand five hundred abdominal operations he had had only about one hundred vaginal operations. Of the vaginal operations only one had died, but he attributed this excellent result largely to the fact that the vaginal method had been used only in favorable cases.

DR. POLK, in closing the discussion, said that there appeared to be a pretty general agreement regarding the greater ease of operating by the abdominal route, but the easier operation is not always the better one for the patient. The peritoneal cavity was as likely to be entered from below as from above, and the apparent slowness of operating was not so marked as it at first seemed, because one must take into account the time consumed in suturing the abdomen. He was not thoroughly decided in his own mind regarding which was the better operation for cancer, but he was inclined to think that we should operate through the abdomen, and add to the operation of Freund the removal of the broad ligament and all infected glands.

Those who had taken part in this discussion had apparently failed to grasp the great underlying principle, viz., that pelvic disease usually begins in the bottom of the pelvis in close relation to the vagina, and that by incision of this structure one could safely operate at a very early stage, and so prevent much of the usual involvement of pelvic structures.

DR. J. BLAKE WHITE, in accordance with the by-laws, gave notice that at a future meeting of the Academy he would ask for the consideration of a series of resolutions deprecating the action of the Commissioners of Charities and Correction in regard to abolishing the consulting board of Charity Hospital and the consulting and visiting boards of the other city hospitals, and their new plan of making medical appointments to positions in these hospitals.

SECTION ON GENERAL MEDICINE.

Stated Meeting, December 17, 1895.

ADOLPH ZEH, M.D., IN THE CHAIR.

Case of Splenic Myelogenous Leukæmia, Not Cured by Bone Marrow.—In presenting the case DR. CHARLES E. NAMMACK read a paper which he had

published in the MEDICAL RECORD, December 14, 1895, p. 858.

In discussing the paper by Dr. Nammack DR. MAURICE MANGES said that he had had a case with splenic myelogenous leukæmia which when put on the treatment with bone marrow had grown worse. When the patient was put back on treatment with arsenic he improved, but grew worse again when returned to the treatment with bone marrow. The patient died in six months. Dr. Manges said he had used bone marrow in the treatment of a case of pernicious anæmia and it had done no good.

DR. THOMAS S. SOUTHWORTH exhibited stained specimens of leukæmic blood and also fresh specimens taken from the leukæmic patient during the evening.

Urinary Analysis.—E. E. SMITH, PH.D., read a paper entitled "Notes on Urinary Analysis. 1. Methods used by the writer for detecting traces of albumin in urine. 2. Standards in quantitative urine analysis" (see p. 13).

In discussing Dr. Smith's paper DR. MANGES said that in using Heller's test it was well to let the test-tube stand for four or five minutes, for the white band might not appear at once.

• DR. WOOD, of Boston, had called attention to the fact that by the use of a larger vessel, in which there was a larger surface contact of the nitric acid and the urine, a better effect was secured.

DR. STEWART, of Philadelphia, had called attention to the fact that, in using some forms of filter paper containing a certain amount of organic matter, enough albumin could be secured from the paper to respond to the test. Dr. Manges found trichloroacetic acid utterly useless for practical purposes, for it was too delicate a test for working routine. The tests by heat, hot nitric acid, and cold nitric acid were all easy and useful.

Case of Enlarged Spleen, etc.—DR. R. C. NEWTON presented the history of a patient as follows: Patient a native of Poland, laborer, married, and thirty years of age. He was admitted to Mountinside Hospital, Montclair, N. J., September 12, 1894, with a painful and indurated swelling in the left ischial region. The patient was in great pain. The mass was poulticed, and on September 21st this was opened by deep incision on both sides of the rectum. Large quantities of dark fetid and clotted blood were evacuated. The cavity was thoroughly washed, packed with iodoform gauze, and for three days a great deal of hemorrhage, mostly by oozing, came from the wound. All the tissues about the rectum were broken down, so that a large irregular cavity nearly surrounded the bowel. A large tumor was noticed on the left side occupying a considerable portion of the abdominal cavity. This proved to be the enlarged spleen. The patient was put on potassium iodide, but this had to be discontinued on account of gastric disturbance. Tonics, quinine, and supporting diet were then resorted to. Examination of the blood revealed the following: white corpuscles one hundred and seventy-five thousand, and red corpuscles between three and four millions per cubic millimetre. The urine was normal. The patient denied syphilis and intemperance. He gave an indefinite history of malaria, and at one time had had two abscesses near the axilla which yielded to surgical treatment. The peri-rectal lesion healed; another large hæmatoma appeared in the deep muscles of the right thigh, and the incision of this nearly led to a fatal hemorrhage. The patient improved, but though under observation for six months there was no diminution in the size of the spleen. Being anxious to return to his family in Poland he was discharged from the hospital and lost sight of.

Progress of Medical Science.

Mercury Oxycyanide as an Antiseptic.—According to Drs. Monod and Macaigne, laboratory experiments have shown that the antiseptic power of a 1:200 solution of mercury oxycyanide is equal to, if not greater than, that of a 1:1,000 solution of corrosive sublimate. From the results obtained in upward of four years of hospital and private practice, the authors have come to the conclusion that mercury oxycyanide may be advantageously substituted for mercuric chloride in surgical practice. In accord with Tarnier and Vignal, they have found that a 1:200 solution of mercury oxycyanide, fully as well as, if not better than, a 1:1,000 solution of mercuric chloride, prevents cultures from developing, kills the microbes already developed by cultures, and sterilizes an infected body. To strengthen the evidence, they have been careful not to employ in their experiments pure cultures of streptococci or staphylococci devoid of spores, and consequently presenting but a feeble resistance, but dust from hospital wards, containing various microbes, such as the bacillus pyocyaneus, streptococcus, bacillus coli communis, and particularly a microbe resembling the bacillus anthracis and provided with spores, which resists a temperature of 212° F. The authors claim to have never met with symptoms of serious intoxication from the solution referred to. It should, however, not be employed for irrigation when there is reason to fear that the injected liquid may be retained. The fact that mercury oxycyanide does not attack steel instruments is also of great practical importance, seeing that it thus becomes possible to employ a single antiseptic agent for all purposes in the course of an operation.—*La Semaine Médicale*.

The Occurrence of Secondary Rashes in Scarlet Fever.—Dr. A. Griffith, of the Bagthorpe Fever Hospital, Nottingham, remarks that, among scarlet-fever patients, during convalescence there seems to be a proneness to the return of a scarlatiniform rash when the temperature of the body rises from any cause. It frequently accompanies an acute amygdalitis or rhinitis, or the onset of acute nephritis, and this even in adult patients, so that the diagnosis of reinfection cannot be made from the rash alone, but it is necessary to have other evidence in favor of a scarlatinal origin (*New York Medical Journal*). When the rash is attended by all the symptoms of scarlet fever, and with no other possible explanation, we encounter a new difficulty in deciding whether the attack is primary or secondary, especially if we have not watched the patient from the beginning of the first illness. The absence of desquamation is not of much help, since, as is generally admitted, there are many cases of scarlet fever in which desquamation does not amount to more than a furfuraceous powdering, and unfortunately, if we wish to reconsider the first diagnosis after the lapse of three or four weeks, we find little else to base our conclusions upon. On the other hand, says the author, if at the end of four weeks we find abundant membranaceous peeling, we are justified in affirming that the first illness, at any rate, was scarlet fever, and we are in a position to consider whether the second is a return of the same. As far as his experience in the Nottingham Fever Hospital goes, he says, all the patients who have presented a scarlatiniform rash some days or weeks after admission to the wards may be arranged in three groups: 1. Those whose illness presented all the signs of moderate or severe scarlet fever, with a high temperature (103° F. or more), keeping up at nearly the same height for at least three evenings, and in whom there was no good evidence of a previous attack of that disease. 2. Those in whom the

illness resembled scarlet fever in nature, the rash lasting from twenty-four hours to four days, with sore throat and general constitutional disturbance, the rise of temperature being not so great as in group 1, but either high at the beginning, with a steady, gradual fall, or remaining at a lower level (100° or 101° F.) during the continuance of the rash and falling as the latter faded, and in whom there *was* clear evidence of genuineness of the first attack of scarlet fever. 3. This includes all those who had a rash lasting from twelve to twenty-four hours, in some accompanied by little constitutional disturbance and a high temperature for a few hours only; in others with the onset of an acute inflammation of throat, kidneys, or other organs; while in other cases the question of a relapse was entertained, the patients presenting some of the symptoms, but in a very mild form. Those in the first group, says Dr. Griffith, have been considered as primary attacks of scarlet fever; the second group are those discussed here as relapses, or second attacks; while the third are omitted as doubtful. Out of about two thousand patients admitted for scarlet fever, there were fourteen who had suffered from what may be considered as second attacks of the fever. In the first four cases there was good desquamation after the primary attack, and the second attack either was typical and severe or was followed by a second abundant desquamation. In the next four cases there was desquamation after the first attack, and the second was mild. In the next three the first attack was mild, and the second more severe, accompanied by good desquamation. In the last three both attacks were mild, and neither was followed by more than a powdering of the skin. If, he says, the evidence for these last is not all that could be wished, it may be noted, at any rate, that they were passed into the fever wards as genuine, and remained there for some weeks; that the later illnesses were mild, and the temperature charts did not resemble the usual type of mild scarlet fever. We cannot draw any inference, says the author, from so few cases as to the most frequent age or as to the interval elapsing before reinfection occurs, the only noteworthy point being that where the interval was short the first attack was of a mild character. There seems, he adds, to be a special liability to nephritis after a second attack, though not ensuing immediately. In one case, in which there had been acute nephritis with the first illness, the albuminuria, which had ceased for a week, again became serious with the second rash. Three of the patients were discharged within four weeks and three in five weeks after the onset of the second rash, with no ill effects to their friends, so that possibly the duration of infection is less than in a first attack. All were kept until the later desquamation was complete. It may be thought, says Dr. Griffith, that these cases bear some relationship to the so-called secondary sore throat of scarlet fever. His experience, however, is that the types of illness in the two are quite different. In the latter the throat affection is generally an acute quinsy, and the temperature corresponds to it and falls as it gets better. In the secondary rash cases there *is* a sore throat, but it is only a part of the illness, the temperature corresponding to the rash. If, he says, this argument is accepted, and these later rashes are to be explained as has been indicated (and the experience of other large isolation hospitals agrees, he thinks, with his), the question arises as to whether the illness is due to self-infection, being properly termed a relapse or recrudescence, or whether it depends on the presence of other patients in the same ward, some of whom may have fever of a more virulent character. The experience of medical men in private practice should help us, he thinks, as to the occurrence of relapses in scarlet-fever patients nursed singly at home.

Meanwhile, it is not difficult to imagine that, in a ward containing twelve or twenty patients, even with two thousand cubic feet of air space each, the amount of infection is very large, the virulence being possibly increased by aggregation as well as by the uniform temperature of about 60° F., or to suppose that those who have had mild attacks from a small dose of poison in the first place, rather than from their insusceptibility, may be insufficiently protected against a larger dose of a more virulent infection. If this is the correct explanation, says Dr. Griffith, it would point to the inadvisability of aggregating fever cases in large wards, and still more to the fault of the usual plan of placing mild and medium, if not severe, cases in the same wards and in the hands of the same nurses. It is to be hoped that as the experience of isolation hospitals becomes more complete, and the facts gained in them are collected and compared, we may be able to come to some conclusion on a point of such practical importance.

Iodine in Diseases of Children.—Dr. J. Comby asserts that iodism is of exceptional occurrence in children, and the younger the patient the less is the liability to this accident. The immunity is presumably dependent upon the rapid elimination by the kidneys, salivary glands, and all the emunctories. In children, as in adults, iodine and the iodides find their special application in syphilis. Hereditary syphilis in the newborn agrees with the acquired tertiary form in demanding the use of the alkaline iodides. The potassium salt is of value not only in undoubted syphilis, but in cases where a syphilitic basis may be suspected, as coryza, obscure lesions of the buttocks, pseudo-paralysis, etc. Furthermore, even in the absence of any eruption upon the skin or mucous membranes, if the babe is cachectic without reason, if it does not thrive, Potain advises that it should be treated as a syphilitic. When a child is born before term and the mother has had one or more abortions, has lost one or more children at a tender age, it is prudent to adopt antisyphilitic treatment. Convulsions without apparent cause, meningeal manifestations, etc., indicate the administration of potassium iodide. At a later period, children with subcutaneous gummata, osseous tumors, or perforation of the soft palate improve upon the use of the same remedy. Dr. Comby has found iodine efficacious in several cases of paroxysmal hæmoglobinuria occurring among children. Potassium iodide is indicated in diseases allied more or less indirectly to syphilis (the parasymphilitic affections of Fournier), in hydrocephalus, for example; in cerebral tumors, chronic meningoencephalitis, partial epilepsy, etc. In grave cases it is well to associate the mercuric iodide, as in syrup Gibert. If the success of iodine medication be particularly brilliant in syphilitic cases the same method is of undoubted service in many other affections to which children are subject. Among lymphatic, scrofulous, and anæmic children who suffer from glandular engorgements, tonsil hypertrophy, and pharyngeal granulations, the internal and external use of iodine is beneficial. The potassium or sodium iodide should be given in small doses, and not freely, as in syphilis. Iodine is indicated in the subacute, rebellious, or chronic form of rheumatism, and particularly in nodose rheumatism, which has been observed in young children. The conjoined local use of iodine is here of service. Jules Simon prefers to alternate the iodine with colchicum, prescribing for fifteen days from five to ten drops of the tincture of colchicum and, for the remainder of the month, fifteen centigrams (about two and one-half grains) of potassium iodide. The asthma of juvenile patients is favorably influenced by the same salt. Severe paroxysms of this disease may oc-

cur in very young infants. All pulmonary affections attended by spasmodic attacks, as emphysema, bronchitis, whooping-cough, tracheo-bronchial adenopathy, etc., are benefited by administration of the same remedy. The most tender age is no bar to its employment. Iodine is of service in the obesity of children and endemic goitre. In the latter disease the tincture has been injected with good results. In chronic renal and cardiac diseases (nephritis, chronic endocarditis at the period of compensation) it is also of advantage. Certain tumors, abscesses, and empyemas are due to actinomycosis, and in such cases potassium iodide is the main reliance. The field of usefulness of iodine is large; its contraindications are few. It should not be given internally in pulmonary tuberculosis, especially when acute or febrile. In emaciated and cachectic infants, when the cachexia does not depend upon syphilis, iodine and its compounds should be avoided, and also, according to Comby, in pruriginous affections of the skin. The external use of iodine is a valuable revulsive measure. Potain does not fear the danger of its producing albuminuria, as was observed by Jules Simon in a number of cases.—*Bulletin Médical*.

Mental Symptoms Occurring in Bodily Disease.—

According to Dr. Reynolds, mental symptoms occurring in bodily disease may be divided into those slight mental changes in the feelings and emotions not amounting to actual certifiable insanity, and actual insanity. The slight mental states may be roughly subdivided into pleasurable feelings, depressed feelings, conditions of mental dulness, abnormal irritability of temper, and feelings of terror. He concludes that (*British Medical Journal*): 1. It is a comparatively rare occurrence for actual insanity to develop during the course of bodily disease. 2. In general hospitals mental disease most commonly occurs after fevers, poisons, injuries, operations, and heart disease (in about this order of frequency). 3. In the early stages of fevers and after injuries and operations, mania is the commonest form of insanity; but in other conditions depression is more common; but the commonest form is an insanity with marked delusions of persecution (often associated with hallucinations of hearing), such as one sees in phthisis and heart disease, and after typhoid fever. 4. There is no form of insanity connected with special bodily disease, so that it is impossible to diagnose the bodily disease from the mental symptoms present (except the peculiar state of alcoholic paralysis). 5. Insanity occurs with unusual frequency in bodily disease associated with peripheral neuritis, as poisoning by alcohol, carbon bisulphide, and lead; pellagra, typhoid, typhus, scarlet, and rheumatic fevers, influenza, pneumonia, phthisis, syphilis, septicæmia, rheumatism, gout, and diabetes. Is it possible that in these conditions the factor which causes the changes in the peripheral nerves causes also similar changes in the multitudinous internuncial fibres in the brain, and so produces disturbances in the normal cerebral reactions which go to make up a healthy mind? 6. When the cause is not continuous—such as the poisons, the fevers, and the traumata—the mental symptoms in the great majority of cases disappear; in heart disease and phthisis they may disappear and reappear from time to time, but in some cases, such as insanity connected with gouty kidney, they only disappear with death.

The Treatment of Uterine Hemorrhage during the Last Two Months of Pregnancy.—Dr. W. J. Smyly calls attention to the fact that uterine hemorrhage, occurring during the last two months of pregnancy may result from a wound or disease. In the majority of cases it is due to premature separation of the placenta.

Those placental hemorrhages which proceed from the normal site are distinguished as accidental, and those from an abnormal site as unavoidable. All cases in which the placenta dips down below the contraction ring should be considered anatomically as examples of placenta prævia. Clinically, the majority of them cannot be diagnosed as such, and are therefore classed among accidental hemorrhages. The diagnosis of placenta prævia depends upon hemorrhage occurring toward the end of pregnancy or the commencement of labor, and feeling the placenta through the cervix or os uteri. It is difficult to account for the hemorrhages which occur before labor begins. They may possibly be due to a disproportion between the placental site and the placental area. When commencing with labor, they are due to the physiological process by which the ovum is separated from the lower part of the uterus. The lower uterine segment is hemispherical at the commencement of labor, and is occupied by the presenting part of the fœtus through which it directly receives the uterine pressure, and over which it is directly drawn upward, being converted, as the os dilates, into a cylinder equal in circumference to the presenting part of the child. The bag of water is, at the same time, pressed down into the cervical canal, which it dilates, as it does also the external orifice. So long as the membranes remain intact, the ovum is driven down by the uterine contractions, the lower segment being drawn upward at the same time. A separation takes place between the two, and the lower pole of the ovum is cast free from its uterine connections. This separation begins at the os internum and gradually extends upward toward the contraction ring. When the membranes rupture, however, the fœtus only is driven downward, the membranes being drawn upward, with the uterine wall to which they are attached. If the placenta, which is a specially modified portion of the fœtal envelopes, should be developed at the lower pole of the ovum, it will be separated with the latter and hemorrhage occurs. More vessels are opened as the detachment extends, but as the detachment may cease with the rupture of the membranes, so may also the bleeding. Smyly sums up the treatment of accidental hemorrhages as follows: 1. When the os is small and labor-pains weak or absent, preserve the membranes intact as long as possible; in external hemorrhage plug the vagina. 2. If labor be well advanced rupture the membranes, and if hemorrhage continue, deliver by the safest method available. 3. For internal concealed hemorrhage, and in some cases of external hemorrhage, if a vital necessity, deliver by accouchement forcé or Porro's method. In all cases the ruling principle should be to proceed with as little force and precipitation as possible.—*British Medical Journal*.

Treatment of Lupus.—Dr. Schutz advises the following treatment of lupus (*The British Medical Journal*): After chloroformization all the friable tissue is scraped away with the sharp spoon; then the floor of the wound and the borders to a distance of one centimetre are scarified. When bleeding has been stopped, the wound is dabbed over several times with a cold saturated alcoholic solution of zinc chloride, to which a little hydrochloric acid has been added. During the ensuing six hours sharp pain is felt which may be mitigated by iced compresses. Before twelve hours have passed, local swelling comes on, more or less pronounced, of the neighboring parts. Boric-acid compresses disperse this œdema in thirty-six hours and cleanse the wound. For four days afterward a dressing of pyrogallol acid (1 in 4) in vaseline is applied thrice daily; then boric-acid compresses, frequently changed, are substituted. After five days of these compresses, pyrogallol acid in vaseline is again used and continued

for four days; then boric compresses are applied again for three days. A final application of pyrogallie acid in vaseline is made for two or three days. Cicatrization is rapidly obtained by iodoform in powder or boracic acid in vaseline. Duration of treatment is from two and one-half to three months. An excellent-looking scar is the result. Recurrence may take place at one or two points. If so, the nodules must be scraped away with the sharp spoon and zinc chloride applied. The author claims that the results of this treatment are more satisfactory than those of any other plan known to him. The treatment is applicable to skin lupus. For mucous membrane in readily accessible situations, such as the gums and the uvula, Schutz recommends applications of a watery solution (twenty to thirty per cent.) of zinc chloride.

Alterations of the Urine in Malaria.—At a recent meeting of the Vienna Medical Society, Dr. von Limbeck related the results of researches which he had made in two cases of malaria. In these cases the elimination of nitrogen was in relation with the elevation of temperature; the proportion of urea and the total quantity of nitrogen were not modified; the elimination of ammonia also was in direct relation to the elevation of temperature; the quantity of urea was augmented, but the relation between the ammonia and the total quantity of nitrogen was normal. During the febrile accession the quantity of phosphates was found diminished; they did not increase until after the access. Freund had also found a retention of phosphates during the febrile stage in some other infectious diseases. The elimination of chlorides, contrary to what occurs in other infectious diseases, is enormously increased during the malarial paroxysms; this fact is so characteristic that the author thinks it may be accorded a real diagnostic value.—*La Semaine Médicale*.

Tumor of the Corpora Quadrigemina.—Drs. Guthrie and Turner report the case of a piano-maker who, three years previous to observation, was affected with earache and slight discharge. Complaining of frontal headache and vertigo he was admitted to the hospital. Examination: Patient much emaciated; semi-conscious: expression dull and listless, though not indicative of pain; some tenderness in the occipital region and in right side of neck; head retracted and turned to right. Raised to a sitting posture he would fall heavily back; placed on his feet he was unable to stand because of inclination backward. Could walk in short steps when strongly supported; gait not ataxic. Paresis of right external rectus; spasm of both internal recti (marked convergent strabismus); pupils moderately dilated; right reacted moderately to accommodation, doubtful to light; reaction to both was doubtful in left; no ptosis; most intense bilateral optic neuritis. Beyond the paresis of the right external rectus there was no paralysis of any part of the muscular system, though there was some tremulousness of the right arm and hand. Some incontinence of urine and constipation. Complete absence of knee-jerk on both sides. Superficial reflexes, cremasteric, abdominal, and plantar, exaggerated. A diagnosis of cerebellar tumor or abscess—probably the latter—was made and the patient trephined with negative results. The patient died a week after the operation. The necropsy revealed slight milkiness of the cortical pia arachnoid with increase of the cerebro-spinal fluid and matting of the membranes over the base; considerable dilatation of both lateral ventricles and excess of the ventricular fluid. A hard, somewhat nodular swelling occupied the position of the quadrigeminal bodies and extended into the left optic thalamus. Microscopical examina-

tion showed the tumor to extend from the junction of the posterior and middle thirds of the left optic thalamus as far back as the posterior border of the testes. It involved the posterior part of the left optic thalamus and merely pressed upon without implicating the right thalamus. It destroyed both the anterior and posterior quadrigeminal bodies, the right being less implicated than the left. It invaded the gray matter around the Sylvian aqueduct, and passed up to and involved the dorso-mesial part of the subthalamie region on the left side only. The tegmentum pontis et cruris was unaffected. The left lateral fillet, in its course to the left testis, was involved. Histologically the tumor was an angio-sarcoma. Attention is called to the two prominent symptoms of tumor of the corpora quadrigemina—unsteady gait and oculo-motor paralysis—and in addition to the fact that vision is not materially altered, except by the condition of the optic neuritis, a constant feature of such cases.—*University Medical Magazine*.

Various Immunity of the Fœtus from the Mother.—At a recent meeting of the Paris Academy of Medicine M. Hervieux read the report of the following case by Dr. Annet, a military surgeon: A young woman of twenty-four was revaccinated successfully in the fifth month of her first pregnancy; her child was vaccinated at three and at six months, the latter only being successful. "So far," says Dr. Annet, "nothing is unusual, for we know that immunity transmitted from the mother rarely persists beyond five or six months." But the patient became pregnant again in 1894, four years after, and this second child was inoculated at the second, seventh, and eleventh months; all attempts failed, though the vaccine matter had been used in several other children and always with success. M. Annet expressed the opinion that this immunity could only have been conferred by the blood of the mother. M. Hervieux, in discussing the case, said we do not recognize this transmission of immunity as one of the possibilities. A more acceptable supposition is that the second child was refractory, not from maternal immunity, but by reason of its individual constitution. We see persons who are repeatedly vaccinated with the greatest precautions, with irreproachable vaccine matter, and always unsuccessfully. But suppose they were inoculated ten times without success; nothing enables us to state that the next time would fail also. So, for the child mentioned by Dr. Annet, a fourth vaccination might have succeeded. M. Hervieux might have materially fortified his position, had it been necessary, by a reference to that wonderful storehouse of facts and philosophical deductions, "Original Investigations on the Natural History (Symptoms and Pathology) of Yellow Fever," 1854-1894, by Dr. Joseph Jones, of New Orleans. In his second chapter, on the "Communication of Yellow Fever Through the Mother to the Fœtus in Utero," he has brought together a number of important observations, covering a period of more than a hundred years, bearing upon the transmission of the poison of small-pox through systems "themselves entirely protected from its influence, and demonstrating the existing of the poison in a potential active state, as shown by the excitation of genuine small-pox in the fœtus in the womb of the mother protected by previous inoculation, vaccination, and small-pox." The conclusion is unavoidable that no degree of immunity is conferred upon the fœtus through any variolous or vaccinal experience of the mother, and the lesson of Dr. Annet's case, for the sanitarian and health officer, is to repeat vaccination whenever there is exposure to the small-pox contagion, and often enough to demonstrate insusceptibility.—*Journal of the American Medical Association*.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BRADSHAW LECTURE—THE GENERAL MEDICAL COUNCIL—THE SPECIAL DISCUSSION AT THE MEDICO-CHIRURGICAL SOCIETY—BRITISH MEDICAL ASSOCIATION—CANON WILBERFORCE'S ACCUSATION OF HOSPITALS—ROYAL SOCIETY—LISTER—ACLAND—THE ADJOURNED DEBATE ON LATENCY IN DISEASE AND IN GERMS—THE PROPOSED NEW HOSPITAL—DR. ANDERSON'S CASE—THE ASYLUM BOARD.

LONDON, December 6, 1895.

YESTERDAY the Bradshaw lecture was delivered at the Royal College of Surgeons by Mr. Macnamara. He took as his subject infective and tubercular osteitis as causes of arthritis in childhood. He advocated early surgical treatment and particularly the use of the trephine.

The General Medical Council which was left sitting when I wrote last week continued its discussions over the following Monday. The application of the Dublin Apothecaries' Hall to the Council, to appoint examiners in surgery under the act, was after long discussion refused, and it is understood that the Hall will now apply to the Privy Council for assistance. What that august body may do it is not possible to foresee. There is a pretty general feeling that the Hall has been rather scurvily treated. Not that its disappearance from the too long list of qualifying bodies would be a calamity. On the contrary, it could be well spared, as indeed several others; but there is a proverb, "fair play is a jewel," and to get rid of a legally constituted corporation by a side-wind can scarcely be called fair play. Besides it is quite possible the Privy Council may determine in favor of the Hall, and then our General Council will be seen to have acted from prejudice—though, to be sure, that will be nothing new.

There was the usual tedious talk on the perennial education question, and the diplomas issued in sanitary science were duly considered. These latter certificates have been sufficiently bepraised, though it is not so easy to see why their multiplicity is beneficial. We have fifteen different diplomas in public health, all of which have grown up under the fostering care of the Council and put money in the coffers of the corporations.

One resolution of the Council is likely to give lively satisfaction to many practitioners. It was determined to put in force the act against the false assumption of medical titles. This in the fifty-first session of the Council! Surely it was time for this body to exercise the power conferred upon it by Parliament and to do its duty in protecting the public and the profession. The penal clause has been left dormant through fifty sessions.

The first evening of the second fixed debate at the Medico-Chirurgical Society seems to have afforded satisfaction. The subject selected was the possibilities as to the latency of parasitic germs or specific poisons in animal tissues. This was introduced by the president, Mr. Hutchinson, who restricted the term latency to periods when no vital activity of the organisms was going on, but did not include the period of incubation, and *a fortiori* excluded that of prodromal symptoms. He illustrated his meaning by the example of a field in which poppy-seed had remained quiescent for eight years and then grown, and asked what evidence there is that micro-organisms can exist in such a quiescent state, and if so what are the limits of such latency and what the conditions which govern or determine it? Latency has a bearing on infection,

as it is easy to perceive that what looks like a fresh infection might be due to the termination of the latent period. We may suppose that various changes in the tissues may excite the latent germs into activity, and such an event may account for cases which have been supposed to be due to accidental infection in vaccination. Is it possible that latent germs may be transmitted from parent to offspring? Such a hypothesis would explain many things. Tuberculosis, erysipelas, hydrophobia, leprosy, and other diseases afford abundant material for speculations of this kind. Recurrence of lupus after many years of freedom may possibly be due to latent germs, and not to reinfection.

Dr. Washbourn addressed himself to the bacteriological aspect of these problems. The life history of bacteria in reference to latency, as he remarked, offers interesting points. The growth of bacteria in broth offers an analogy with the incubation of specific diseases. In favorable conditions they grow at once and soon reach a maximum. In unfavorable conditions the growth is deferred and resistant forms appear. Spores are examples, but even sporeless bacteria may produce resistant forms, *e.g.*, pneumo-coccus. Latent bacteria may then exist in the body in such a phase of development, and Dr. Washbourn thinks some of the clubbed shapes assumed by the bacillus diphtheriæ represent such resistant forms. In animals immunized to diphtheria (and tetanus) the antitoxins in the body antagonize the toxins but do not kill the bacteria, and this explains why the bacilli may remain in the throat without producing disease. The body is poison-proof but not sufficiently bactericidal. In septic diseases there is sometimes increase of bactericidal properties without a corresponding increase in antitoxic effects. Other organisms afford examples of latency. Pneumococci, streptococci, gonococci, and tubercle bacilli have been found on mucous membranes without setting up disease, and other examples have been recorded, some in which the latency has extended over long periods.

Dr. J. Kingston Fowler then stated the evidence for the belief that it is possible for the specific poison of tuberculosis to remain latent in animal tissues. It may be argued: (1) That the disease, having been arrested, may, after a period of quiescence, again become active, reinfection from within taking place. (2) That tuberculosis may be produced by the inoculation of an animal with material taken post mortem from an old tuberculous lesion. (3) That the virus may pass directly from parent to offspring and set up the disease in the child. A number of facts bearing on these propositions were stated, being drawn for the most part from cases of pulmonary tuberculosis. The evidence for a long period of latency in a child infected by the mother is far from conclusive, but Dr. Fowler seems to think it will in future be found more common than is supposed. But he by no means indorses the opinion of Baumgarten that this is a very common occurrence, nor that the latency may pass over a generation and the virus become active in the grandchild. Latency is not arrest in which the virus may be dead.

The debate was adjourned until next week.

Carlisle has come to the rescue of the British Medical Association, and the invitation will no doubt be gladly accepted. So next year the meeting is likely to be in that interesting town.

Canon Wilberforce has been ranting in the *Times* on vivisection and exposed himself to ridicule and worse. Professing to supply proof that our hospitals are used for shocking experiments on patients, he has been given the "lie direct." What a pity that a church dignitary should justly incur such a sentence!

The Royal Society had its annual meeting last Saturday. Sir Joseph Lister was elected president.

Sir H. Acland received a very handsome testimonial last Wednesday, a sum of £3,000, which will be employed by the Acland Nursing Institute. His bust is to be placed in the museum of the Oxford University where he has worked so long.

LONDON, December 13, 1895.

THE debate on Latency was resumed on Tuesday, though in a somewhat languid manner, the original papers having pretty well exhausted the subject.

Drs. Squire and Fowler drew a distinction between latency of the germ and latency of the disease which was not observed by all speakers. Dr. Sibley looked upon latency as a sort of hibernation of the germs. He had found tubercle bacilli would not grow in snakes at their ordinary temperature, but when the infected creatures were placed in an incubator tuberculosis supervened and on removing them the process became stationary. Perhaps it would do so in hibernating animals.

Dr. Abraham spoke of leprosy—but he admitted we do not know of any definite period of incubation and cannot clinically determine the date of entry of the microbe. It would seem, therefore, we must look to gentlemen practising where the disease is rife, for the opportunities of seeing it in this country are happily few and the opinions of English practitioners of little interest. Mr. Ernest Lane spoke of the way in which latency may occur in syphilis. This was also alluded to by Mr. Spencer Watson, who said glandular enlargements were to be found in quiescent periods and showed the need of treatment.

Dr. Lazarus-Barlow thought the question whether a given microbe remained latent depended on its environment, and instanced the pébrine of silkworm disease and other examples of this. Sir William Broadbent thought the introductory papers left little or no room for criticism. He remarked that latency was foreseen clinically before it was proved experimentally, and the experimental explanation was of great interest to clinical observers.

Dr. Manson said the causes of latency were various even for the same microbe. Malarial germs were not killed by quinine but merely rendered latent, and these germs may also be made latent by improved health in the host, and this was true in other cases, some of which he instanced. Dr. Ogilvie spoke of the difference between latency and immunity, and criticised the president's distinction between true and apparent latency in syphilis. He thought the duration had been unduly extended by crediting syphilis with non-specific diseases which occurred in infected subjects. The so-called syphilitic nervous diseases he found did not differ from other forms. Any irritation might bring out manifestations of latent taint. The president replied that in real latency there is complete quiescence. If the germ be in any degree active there is only apparent latency. If a man passed through the secondary stage of syphilis without any manifestation but then had tertiary symptoms, the latency was only apparent, for the poison had been at work, and it was possible that very careful investigation might have found some indication of this, *e.g.*, a slight rise of temperature.

The proposal to build a new hospital for South London is exciting some serious opposition, and this is natural enough when both Guy's and St. Thomas's have empty wards. Would it not be better to find funds to fill them than to spend money in brick and mortar and the other costs that would accrue?

Dr. Anderson's case is being well managed by the Civil Rights Defence Association and it is hoped that it may be carried to the House of Lords or that he may be compensated by Parliament.

The position of the Asylums Board is most unsatisfactory. Their hospitals are crowded and they cannot

receive all the cases, so complaints are numerous, but the difficulty of obtaining sites continues and the cost is ever increasing. No doubt many now avail themselves of these hospitals who could very well be isolated and treated at home. But the profession cried out for isolation, and is reaping the reward of its disinterestedness in decreased incomes.

OUR PARIS LETTER.

THE PRACTICE OF MEDICINE IN PARIS—EFFORTS TO EXCLUDE FOREIGN DOCTORS AND TO DISCOURAGE STUDENTS FROM COMING TO FRANCE—STRINGENT NEW LAWS—RED TAPE—AN OVERCROWDED PROFESSION—REGISTRATION ACT, ETC.

PARIS, December 15.

THE increase of foreign doctors practising in Paris or desiring to do so has been so great during the last few years, that steps have been taken by the Chamber of Deputies and the Senate, doubtless at the instigation of the Academy of Medicine, prompted in turn by the profession at large, to put a check upon this steady influx of physicians from abroad, to which the United States has contributed its share.

During the second Empire matters became very facile in this respect, either because the Emperor Napoleon III. did not consider them of sufficient importance to the State to merit any serious action, or because he thought it best that they should remain as they were and thus keep the foreign relations of France upon a more amicable basis. This applied chiefly to those who were already doctors of other than French schools and only wanted permission to practise in Paris. This brought younger men to the capital, men who were just beginning their studies and many of whom went through the full four or five years' course, passed all the examinations, and took the degree of Doctor of Medicine of the Faculty of Paris, which was then, as it is now, considered by all Frenchmen, and many other nationalities as well, to be the first in the world. It is not at all improbable that the Minister of the Interior, by whom Napoleon was greatly influenced, also thought that the foreign doctors and students, who then began to come to Paris by thousands, would be a good thing for trade, and make taxes easier to be collected and levied; for example, that upon practitioners for the right to exercise their profession, over and above the ordinary taxes. This tax or patent has been increased within a year or two, since the new law regulating the practice of medicine came into force. Thus it was that everything went on with loose reins for many years; it only being necessary very often to use a little influence with the American Minister, who would apply through the Minister of Foreign Affairs to the Minister of Public Instruction or to the latter directly, for permission to practise medicine in Paris—permission rarely if ever refused in those days and under those circumstances, for the applicant was of course always a distinguished practitioner or had done original work, or was prominent and influential at home, either socially or politically, etc. Sometimes he had all these desiderata. Permission could be given to practise anywhere on French territory or only in the department of the Seine, of which Paris is the principal city; in many instances it was accorded without thesis or examination of any kind, in others a thesis or clinical examination was considered essential, the examination being conducted in one of the larger hospitals, where a medical and then a surgical case were given by the board of examiners to the candidate, who, being a practitioner of some experience at least, found little or no difficulty in making a tolerably correct diagnosis and outlining a treatment. In 1888 the first signs

of a serious reaction began to manifest themselves, and as late as 1890 Professor Brouardel, the Dean of the Faculty of Medicine, informed us that the number of applications from foreign doctors to practise medicine in Paris averaged two hundred and fifty a year. It was not long after this that he published statistics showing that when the number of practising physicians in France was more than one for every twelve hundred inhabitants it was impossible for the physician to live, and that ratio has been attained; moreover, France has become protectionist. Projects of law were now sent to the Chamber of Deputies, and after many preliminaries, committee meetings, and revisions, the law of 1892 was adopted and passed. The law of the year XI. that came down to us from Napoleon I. has been abolished and the power of granting permission to foreigners to practise medicine in Paris has been forever taken away from the Government. The obnoxious article ran thus: "In virtue of article 4 of the law of the 19th Ventôse, 11th year, the government may accord to a foreign doctor the authorization to practise in France. This authorization may be conferred for the whole of France, or only for a province, or even for a city; it is always revocable." Such was the qualification given sometimes to those quite unqualified for Paris practice, and it was rarely if ever revoked.

The second part of the law has been retained in a more modified and much more stringent sense. It was as follows: "Foreign doctors desiring to acquire the French diploma may be dispensed in certain cases with passing a part of the examinations for the doctorate." And we have seen how they were often dispensed with, in the foregoing portion of this letter. To the old law is added that "in no case shall the dispensation exceed three examinations." The examinations are scheduled as five, but they in reality amount to ten, as several of them are divided into two or three parts, which must be passed at intervals of several weeks and separately, as if they were not parts of a whole; after which a thesis must be written and publicly sustained. There is a tendency to do away with any dispensation whatever, and a decree has just been made public by the conseil supérieur, that no foreign students will in future be permitted to study in Paris, but they may receive permission very exceptionally to study in a school of medicine in one of the provinces. The pressure is so great against admitting foreigners to the study and practice of medicine in Paris, that at no very distant day no one will be allowed to practise medicine in France who is not a born or naturalized Frenchman. That is what in our opinion we are coming to and that is what actually exists in the legal profession. The difficulties of complying with the already existing regulations are great enough, to say nothing of applications to the minister or ambassador of the country to which the postulant belongs, and the immense amount of red tape to be gone through with, even if he gets the Sorbonne to accept his college degree and other evidences of preliminary education as equivalent to theirs.

The matter is finally submitted to the Academy of Medicine, which decides under exactly what legal circumstances the reception, if accorded, shall take place. At any rate the applicant is sure of eighteen months' hard work at least and large expenses for back inscriptions—library, examinations, etc., if he already be a doctor in medicine of standing and from a first-class foreign medical school. If a student only, he may count upon from four to five years, if allowed to enter a French school of medicine at all, of which there are about half a dozen in different cities of France and which form parts of one composite whole, the University of France. If the examinations are successfully passed—and they are very searching—and all the other requirements strictly fulfilled, the Fac-

ulty of Medicine then requests the government to issue the diploma, which is done by the Minister of Public Instruction. He, the Director of Superior Instruction, and the vice-rector of the Academy, are the only signers except the candidate himself.

But few of the old foreign doctors who received permission in Napoleon III.'s time to practise, are still living. The three oldest American physicians now practising in Paris are mentioned in chronological order: Dr. R. K. Good, Dr. Halsted Boyland, and Dr. A. S. Clarke. Dr. Good and Dr. Halsted Boyland have been identified with Paris since 1870, when both took part on the surgical staff of the French Army in the last Franco-German war. Dr. Clarke is inscribed on the official lists since 1874. All three gentlemen are regular graduates of the University of France. Dr. Good is the consulting physician, Dr. Halsted Boyland gives more especial attention to internal medicine and diseases of the nervous system. Dr. Clarke is the leading general practitioner and a brilliant surgeon.

It goes without saying that all the examinations are conducted in French, a thorough knowledge of which is absolutely necessary. Every medical diploma must be registered at the Prefecture of Police and with the registrar at the Palace of Justice, otherwise the holder will be prosecuted for the illegal practice of medicine.

The question, whether the French are acting wisely in thus trying to exclude, and as a matter of fact excluding, all foreigners from the practice of a liberal profession in their territory, is one belonging rather to political economy than to legal medicine, and we leave it there.

OUR CANADIAN LETTER.

(From our Special Correspondent.)

SIR WILLIAM HINGSTON HONORED—INTER-PROVINCIAL REGISTRATION—NEW PRINCIPAL FOR MCGILL COLLEGE—THE QUESTION OF LODGE PRACTICE IN CANADA—THE DISPENSARY EVIL—SPURIOUS MEDICAL JOURNALISM.

ONE who has long been regarded as one of the most distinguished members of the medical profession in Canada, has recently had conferred upon him by Her Majesty, Queen Victoria, the honor of knighthood. The new medical knight is Sir William Hingston, the well-known Montreal surgeon. A banquet has been tendered him by the medical profession and a perfect shower of congratulations has attested the popularity of the well-merited distinction. Sir William Hingston is the first medical man in Canada who has ever received the honor of knighthood solely on his merits as a surgeon. In fact it is only in the arena of professional work that he seems to achieve success, for but a few days ago he suffered defeat in an election for the House of Commons, although every one concedes to him a first place in the ranks of the profession he has long and faithfully adorned. To such men are often denied the honors arising from political warfare, but it is satisfactory to note that Her Majesty has in this instance honored the rolls of knighthood by inscribing thereon the name of a Canadian surgeon who holds such a high place in the esteem of the profession.

Inter-provincial registration has long been a vexed question with the profession in Canada. It may seem very peculiar to our American friends to know that in each of the eight provinces of the Canadian Dominion there is a separate and distinct medical council, and that no matter what the qualifications of a medical man may be, he is not permitted to remove to another province and practise his profession without first passing the prescribed examinations legalized by

the medical council of that province. Recently, through the efforts of the Canadian Medical Association, some advancement has been made and there is ground for hope that before long we shall have in Canada a uniform standard of matriculation, a uniform standard of medical education, and a uniform method of examination for the whole dominion. In order to secure this oft-desired consummation each provincial council will probably be compelled to submit to some modifications; for example, in Ontario, where a five-years' course of study with attendance on lectures for six months in each year is demanded, a change may be made to a four-years' course of nine months each. The committee appointed by the Canadian Medical Association is fortunately a representative one and is composed of medical men from the different provinces who understand the importance of the matter committed to their care, and from their efforts we are hopeful of an early delivery from the anomalous condition in which medical registration is at present. While the medical councils in the different provinces provide the very best protection possible to the profession, the proposed inter-provincial registration will not only permit the holders of dominion licenses to practise in any Canadian province, but will also enable them to register with the British Medical Council and enjoy all the privileges accorded to members of that body.

McGill University, Montreal, has lately welcomed a new principal in the person of Dr. Peterson, who comes to Canada from Dundee, Scotland, where his brilliant career as a university administrator won for him such distinction as to bring his name prominently before the governors of McGill when a successor to the late Sir William Dawson became necessary. The good work achieved by the latter will long be remembered, and if the new principal proves as successful in directing and giving special tone to the education of the English-speaking inhabitants in the Province of Quebec, McGill may well be proud of the selection made. The excellent work being done in the biological and pathological departments of McGill amply justifies the princely beneficence which has so richly endowed and supplied the men and the material to achieve such pleasing and satisfactory results.

The question of lodge practice has been much discussed in medical associations in Canada during the last few years, and the product of this discussion has been a growing feeling that all contract practice is derogatory to the interests of both the profession and the public. The medical men of the city of London, Ontario, have recently come to an agreement that, commencing with January, 1896, all lodge and contract practice shall be discontinued, and through the exertions of a live medical association a document has been drawn pledging each practitioner to decline every offer of such work. The feeling is that if this effort to stamp out what has long been regarded as a most obnoxious evil is successful in London, it will not be long until lodge practice, now admitted after patient experience to be an offspring of quackery, shall be abandoned in Canada.

Another evil, which it is admitted has a marked tendency to pauperize the medical profession, is the dispensary system. In several of our larger cities where medical colleges exist and where clinical material has to be provided, a great injustice is done to the general profession by the existence of these dispensaries. The students' fees in most cases pay the professor very fairly for his lectures, and in the great desire to secure material no questions are asked, so that the public gradually find out that they may thus avoid consulting the medical man, who is forced to look on and see all the interesting cases drift to the dispensary. The public are found quite willing to

assist in this work of commercialization of the profession, and are indeed glad to see the same methods, such as bargain counters, etc., which they have found so convenient in dry-goods and groceries gradually being not only established but well patronized in regard to their medical requirements. The cities of Toronto and Montreal have become quite notorious in Canada for thus propagating and encouraging the dispensary evil, and all in the name of what is so absurdly designated as charity.

Medical journalism in Canada is to be congratulated on the recent disappearance of a journal which, although issued once a month and sent to every practitioner gratis, was, nevertheless, a purely advertising journal. The members of the profession have in many instances refused to be parties to what is now shown to have been a most questionable undertaking. The scheme was to publish two editions of a medical journal, one on superior paper and with better finish than the other. The former was sent only to the advertiser, with the assurance that a copy of that journal went into the hands of every practitioner in Canada, whereas the edition which really went to the members of the profession was an inferior cheap one, filled three-fourths part with advertisements. The grocer, the butcher, the baker, and even the candlestick-maker each had his advertisement sandwiched in with the reading matter, and the whole was sent out as a model of Canadian medical journalism. Fortunately the profession saw through the dodge, and even the much-fooled advertisers are seeing the deception practised upon them. It is safe to predict that these spurious attempts to secure the sympathy of the profession with bogus journalism will only more firmly establish those journals which exist on reputable foundations.

OUR PHILADELPHIA LETTER.

PHILADELPHIA AND WEEKLY JOURNALISM—DR. GEO. M. GOULD—AMERICAN PHYSIOLOGICAL SOCIETY—SOCIETY OF NATURALISTS—PSYCHOLOGICAL ASSOCIATION—UNIVERSITY OF PENNSYLVANIA—ANTITOXIN—FUMIGATION OF CAR CUSHIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The medical profession of our easy-going city was a short time ago disturbed by the rumor that its most esteemed medical journal was about to be transferred to new and more active surroundings, and with the first of the year the *Medical News* will be a New York publication. "Business reasons" constitute the motive given for the change. Philadelphia has been the mother of much of which the American medical profession may be proud, and this present loss is felt most keenly—not that we shall be left without medical journals, but of these it were charitable to be silent. We have still with us the *American Journal of the Medical Sciences*, which yet holds a dignified place in current medical literature. There has naturally been some talk of the publication of a new weekly, but thus far nothing has materialized.

The migration of the *News* carries with it the retirement of its editor for the past five years, of whom the least that can be said is that he has devoted his best energies to the advancement of the medical profession and the maintenance of a high standard of professional ethics. In these efforts he has partly succeeded. That he has not more largely done so is principally due to the spirit and tendencies of the times and not to a want of zeal or activity on his part. He has been particularly severe in his denunciation of sectarianism, quackery, and charlatanism of all kinds, both without and within the profession, and we can imagine some places where his deposition will be hailed with delight.

Ordinarily dull at this holiday season, Philadelphia is this year enlivened by the simultaneous meeting of seven learned bodies. The Geological Society of America, the American Society of Naturalists, the American Morphological Society, and the American Folklore Society began their sessions on Thursday, the 26th instant, and the American Physiological Society, the Association of American Anatomists, and the American Psychological Association theirs on Friday, the 27th instant. Most of the meetings were held in the halls of the University of Pennsylvania, and the sessions were interspersed with the usual receptions and dinners.

The Society of Naturalists agreed to oppose any action looking to the abolition of vivisection, and the following were appointed members of a committee having that end in view: Dr. William Patton, of Dartmouth, Dr. W. T. Sedgwick, of Boston, and Dr. Charles W. Stiles, of Washington.

Among the papers read before the Psychological Association was one by Dr. George S. Fullerton, of the University of Pennsylvania, entitled "Psychology and Physiology," in which an attempt was made to draw the line in experimental researches which the investigator in either field should not cross. From this proposition, however, there was some dissent. Dr. Livingston Farrand read a "Description of a Series of Physical and Mental Tests on the Students of Columbia College." Mr. Oliver Cornman detailed an "Experimental Investigation of the Processes of Ideation." Prof. J. McKeen Cattell spoke in defence of experimental psychology. Papers were also read by Dr. Arthur MacDonald on "Psycho-neural Data," by Prof. Charles A. Strong on "Consciousness and Time," and by Brother Chrysostom on "Some Conditions of Will-Development."

Ex-Mayor Edwin H. Fitler, who was for a time President of the Board of Trustees of Jefferson Medical College, has made a Christmas gift of \$10,000 to the University of Pennsylvania "for a special purpose," with the provision that the Trustees of the University raise the remainder of the sum required.

Although the utility of antitoxin in the treatment of diphtheria seems practically established and almost universally admitted, the remedy is being used in our Municipal Hospital in only a half-hearted way and the results are correspondingly discouraging. Few institutions afford a better field for the employ of the now no longer new or untried remedy, the use of which elsewhere has done so much to reduce the mortality of diphtheria.

During our recent street-car strike and tie-up, driving was for a number of reasons safer for individuals who were fortunate enough to be possessed of horse and carriage, while those who were not thus provided and who owned bicycles found much convenience and comfort in these vehicles, which are rapidly growing in favor with medical men and women, and not only the younger element but the more mature as well.

A correspondent of the Board of Health has suggested the fumigation of the cushions of the street-cars that were used during the strike as beds for imported conductors and motormen, but the communication was ignored as unworthy of serious consideration. Systematic disinfection of street-cars and railway-cars would probably be a means of averting much disease and saving many lives.

Dr. Albert E. Protsman, a young physician, was killed by a trolley-car in dismounting from his carriage.

The Charity Hospital of New Orleans has recently had added to it an amphitheatre, known as the "A. B. Myles amphitheatre." It was opened with elaborate ceremonies on October 16th.

THE REASON WHY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Not long since I chanced to overhear a part of a conversation between two gentlemen, in regard to a premature birth which had happened in the family of an acquaintance. In brief, the occurrence took place two months ahead of schedule time. In commenting on this, the narrator expressed the belief that, being a "seven-months" child, it stood a better chance of living and thriving than it would had it spent another month in utero. This appeared to me so evidently irrational, that I classed it, without much further thought, with the many strange beliefs current among the laity, until I happened on the following explanation:

"Now, that a childe borne in the seuenth moneth may liue, both Astrologers and Phisicians doe affirme," but in the 8. they deny it; and these are their reasons: The Astrologers hold, that the childe in the mother's wombe, is successively gouerned every moneth, by the seven Planets, beginning at Saturne: after which reckoning, he returning to his rule the 8. moneth, by his dreery influence, infortunateth any birth that shall then casually befall: whereas his aucceeder Iupeter, by a better disposition worketh a more beneficial effect.

"The Phisicians deliuer," that in the seuenth moneth, the childe, by course of nature, turneth it self in the mother's belly; wherefore, at that time, it is readier (as halfe loosed) to take issue by any outward chance. Mary, in the eighth, when it beginneth to settle againe, and as yet retayneth some weaknes of the former sturring, it requireth a more forcible occasion, & that induceth a slaughtering violence. Or if these coniecturall reasons suffice not to warrant a probability of the truth, Plynies' authority in a stranger case, shall presse them farther: for hee writeth, that a woman brought a bed of one childe in the seuenth moneth, in the moneth following, was also deliuered of twinnie."

S. AUSTIN DAVIS, M.D.

BAYONNE, N. J.

IN REPLY TO THE STATE COMMISSIONER IN LUNACY.

TO THE EDITOR OF THE MEDICAL RECORD.

IN a previous issue of the RECORD appears a letter from Dr. Carlos F. MacDonald defending his action in going upon the witness-stand as an expert witness, in which he attempts to justify himself by partially quoting the law of this State, and is careful to omit the reference to his own duty in the matter. As this is the gist of your editorial, I may be pardoned for quoting Section 33, Chapter 446, of the Revised Statutes of New York, 1889, and have italicized the words which he does not deem it worth while to include in his explanation.

"When any person confined under the indictments of arson, murder, or attempt to murder, or highway robbery, or who has been acquitted thereof on the ground of insanity, and has been committed to some State lunatic hospital, . . . shall be restored to his right mind, *it shall be the duty of the superintendent of such asylum to give notice thereof to the State Commissioner of Lunacy, who shall thereupon inquire into the truth of the fact, and if the same shall be proved to his satisfaction he shall issue certificate, dated under his official hand and seal, to a Justice of the Supreme Court of the district in which such asylum is situated, who shall thereupon and upon such other facts as may be*

¹ Carew's "Survey of Cornwall," 1769.

² Gellius, li., cap. 16, Schonerus.

³ Leninus Lemnius ocul. nat. miraculis.

⁴ Lib. 7, cap. 11.

proven before him, determine whether it is safe, legal, and right that such party in confinement as aforesaid, shall be discharged."

Neither the criminal code nor the amendment of 1890 relieves the medical commissioner from responsibility, because the duties of the old office are shifted upon the shoulders of the commission as a whole, for as a member of that commission his duty is clear.

Very truly yours,

ALLAN McLANE HAMILTON, M.D.

NEW YORK, December 17, 1895.

ASPHYXIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was much interested in the carefully prepared article, "A Contribution to the Study of the Nature, etc., of Suspended Animation in the New-born," by Dr. Bissell, in the MEDICAL RECORD of November 30, 1895.

He treated cases of asphyxia by inversion, and elaborated a theory, when the condition of inversion, by causing the expulsion of mucus and blood from the air-passages, would seem a palpable reason for his success in three cases.

It must be admitted that the ultimate cause of death from asphyxia in the new-born is a lack of oxygen, due either to obstruction in the air-passages, or to blood too rich in venous elements for passage through the minute and hitherto almost dormant capillaries in the lungs.

Hence it would seem to be a serious omission of obstetric writers when they fail to direct that the new-born should always be laid upon the right side to assist in the closure of the foramen ovale.

I would submit that Dr. Bissell's first case was symptomatic of an open foramen, and the child would have inevitably died if left on its back.

Apropos of inversion, Dr. Hunter McGuire lately made the suggestion in my presence to try anæsthesia with inversion with the hope of avoiding tracheotomy for foreign bodies.

Relaxation, gravitation, and I would add succussion, with pressure below the diaphragm and over the lower ribs, perhaps conjoined with the use of apomorphine, would seem hopeful. For quite often after the patient is anæsthetized and the incision is completed he coughs and dislodges the foreign body.

Here irritation and atmospheric pressure come into play, but without the relaxing effect of the anæsthetic the body might be retained by the same spasmodic contraction which had hitherto prevented its being coughed up.

Chloroform in these cases has several advantages over ether. When practised early and in cases of smooth substances, this procedure is most hopeful.

THOS. R. EVANS, M.D.

Mt. Carbon, W. Va.

THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue for November 23, 1895, Dr. E. V. Brendon cites two instances which undoubtedly justify the unfavorable criticism he makes respecting the methods employed by the New York Board of Health, in its superintendence of cases of diphtheria; and he closes with an expression of scepticism in regard to the reliability of bacteriological diagnosis. Now, in view of the attack thus made by him (and his medical neighbors) on this method of diagnosis; and since, on several occasions, I have expressed my satisfaction with the work done by the bacteriological department of the Board of Health of the city of Boston, having

in every instance received an unerring diagnosis (as proven by subsequent events) expressed in a straightforward manner without the slightest evidence of an attempt at equivocation, I feel it my duty to contribute the little testimony in my possession on behalf of the reliability of the bacteriological diagnosis. I trust nothing will occur to do away with a custom upon which I have learned to lean, as upon a good substantial support, in those times of perplexity which must come to all concerned in the diagnosis of these cases. I do not know Dr. H. C. Ernst personally, but I have long wanted to express my admiration for the faithfulness and efficiency of his service, and I embrace this opportunity to do so; and in doing it I voice the sentiments of all the physicians with whom I have conversed upon the subject. Yours truly,

L. N. DAMON, M.D.

DORCHESTER, MASS.

THE MORPHINE HABIT AND UNTRUTHFULNESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In many parts of the country courts look with distrust upon the so-called "expert testimony" of physicians. I cannot but think opinions like that expressed by Dr. Walker in your issue of November 16th entitled "Some Remarks on the Morphine Habit," are largely responsible therefor. I should not like such an article to go out as the views of the profession. Certainly he has grossly exaggerated the moral perversion of morphine users. Morphine, like alcohol, when used greatly in excess, may, and unfortunately does, make physical and mental wrecks of its victims. Dr. Walker plainly states without qualification, "I would not believe a man addicted to the use of morphine on oath." A man who has used morphine until his whole mental and moral attributes were wrecked, I presume would lie, just as he might do any other depraved thing, but that the moderate use of morphine overwhelms the "truth centre" of a man is to me an absurdity. I think most medical men can recall to mind some one at least who has used morphine for a long time who in every other respect is a gentleman. At what time would the doctor consider a morphine user unreliable? Not the first day or the first week surely. Would he consider the physician who used half a grain each morning that meanest of all mean things, a liar?

What quantity shall a man use daily before his testimony shall be rejected by a court of justice? The fathers used to state that a confirmed opium-user would stoop to any deception when deprived of his drug to obtain his usual supply—a greatly different position from Dr. Walker's. To repeat, I believe that it is just such articles as Dr. Walker's that have made the opinions of the medical profession of but little weight in the courts. I hope you will allow other physicians to give expression to their opinions in your valuable journal. I believe the subject is important enough to justify it. At any rate I want to enter my protest against any such views. H.

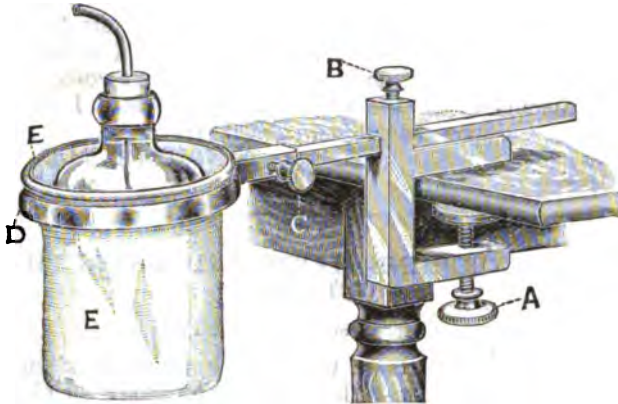
The Curative Treatment of Habitual Drunkards is likely to be taken up by the Government in Austria. It is proposed to establish retreats, where inmates shall be received for two years. They may enter of their own accord or be placed there under compulsion. If under compulsion a legal trial must be previously held. The period of retention may be curtailed to one year, the patient being released on a system resembling that of ticket-of-leave. If a patient is shown to be incurable he may be retained for life.

New Instruments.

A NEW ANÆSTHETIC HOLDER.

BY DICKSON L. MOORE, M.D.,
COLUMBUS, OHIO.

ACCOMPANYING is a diagram of an arrangement I have devised for holding the ether bottle or can during an operation, which will perhaps be of interest to anæsthetizers.



It may be attached to any operating-table by the side of the anæsthetizer, and serves to keep the anæsthetic out of harm's way from any movements of the patient.

The horizontal bar may be lengthened at will from *B* and affords a convenient place for hanging face towels. The ring *D* is made in two sizes (attachable at *C*), one for an ether bottle or can and one smaller for a chloroform bottle. A muslin stocking *E* is sewed to a wire ring, which, being slightly larger than the ring *D*, is thus prevented from being pushed through.

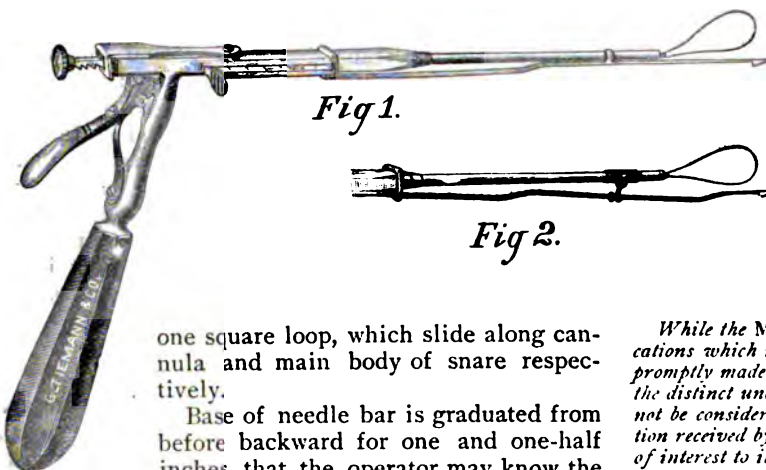
It has been made for me by Mr. Autenrieth, of Cincinnati.

AN IMPROVEMENT OF WRIGHT'S SNARE.¹

BY E. G. BOYD, M.D.,
LEADVILLE, COL.

THE improvement consists of a barbed needle, extending from spring catch of snare to within one-quarter of an inch of the end of cannula.

The needle is attached to snare by one round and



one square loop, which slide along cannula and main body of snare respectively.

Base of needle bar is graduated from before backward for one and one-half inches, that the operator may know the extent of its introduction, and it is provided with a push-button.

On using the instrument, it is well to bend the wire loop upward to a right angle to cannula, retract it for introduction, and when the stylet is again pushed for-

¹ Read before the Colorado State Medical Society.

ward the loop will be at an angle of about forty-five degrees from the end of cannula.

In this way the growth may be seized well at its base and the loop escape engaging the needle, a complication to be guarded against.

I have found this instrument to be of special service in the removal of turbinal varix and other forms of posterior hypertrophy, in which cases I use it as a transfixion needle.

I wish to thank Messrs. George Tiemann & Co., of New York, not for carefully following my directions, but for so modifying them as to give me a neater and more efficient instrument.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 28, 1895:

	Cases.	Deaths.
Tuberculosis.....	99	109
Typhoid fever.....	19	8
Scarlet fever.....	124	10
Cerebro-spinal meningitis.....	3	3
Measles.....	253	18
Diphtheria.....	265	36
Small-pox.....	3	0

The Value of a Human Life.—Previous to the adoption of the present Constitution of New York State the maximum value of a human life had been placed at \$5,000, and no larger sum than this could be collected by the heirs in case a person was killed through the negligence of some person or corporation. The new Constitution, Article 1, Section 18, provides that the amount recoverable for the loss of life shall not be subject to any statutory limitation. The first case to take advantage of this change is that of a Brooklyn man, who brought action against a trolley company to recover damages for injuries which caused the death of his wife. The jury awarded him the sum of \$7,500.

The Chicago Diphtheria Emergency Corps.—The Health Department of Chicago has organized an emergency corps, for the purpose of fighting the spread of diphtheria. The corps consists of fifteen physicians, with a chief, and the plan is to treat the disease as an epidemic and try and stamp it out. All the physicians are required to use the antitoxin treatment, as well as to do intubation and tracheotomy.

Diphtheria is unusually prevalent in London.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

A HANDBOOK OF OBSTETRIC NURSING: For Nurses, Students, and Mothers. By Dr. Anna M. Fullerton. Fourth Revised Edition. Illustrated. 12mo, 253 pages. Price, \$1.00. Published by P. Blakiston, Son & Co., Philadelphia, Pa.

AN ATLAS OF OPHTHALMOSCOPY. With an Introduction to the Use of the Ophthalmoscope. By Dr. O. Haab. Translated and Edited by Dr. Ernest Clarke. Illustrated. 12mo. Price, \$3.50. Published by William Wood & Company, New York.

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Original Articles.

THYREOANTITOXIN, THE ACTIVE PRINCIPLE OF THE THYROID GLAND.¹

By SIGMUND FRÄNKEL, M.D.,
VIENNA.

AMONG the many therapeutic experiments of recent years one is especially noticeable, that, namely, which has to do with the treatment of various diseases by parts of the animal body or by extracts derived therefrom. We have been accustomed to give exact quantities of known chemical bodies, having known physiological properties, and we have been able to determine the effects of them upon the human body. Now, however, we find a number of remedies of which we do not know the active principles, or how many active principles they contain;* we only know that in many diseases without common pathological basis we are able to obtain very favorable results. There is here a very attractive problem to be solved, namely, whether these substances contain any chemically defined bodies which produce the physiological and therapeutical effects noted. English and American physicians have used with success, besides the thyroid gland, the supra-renal capsules, the pancreas, the pituitary gland, the kidneys, the testicles, and bone marrow.

Although many investigators have experimented in order to determine the physiological action of the thyroid gland, no one has yet discovered its active principle. Many have thought that it is either a ferment, an enzyme, a globulin, or an albuminoid substance, but no one has yet isolated it. Last year Schäffer, in London, and Roos, in Freiburg, demonstrated that the therapeutical and physiological effects of the thyroid gland are not injured by boiling it, or by the action of ten-per-cent. solution of hydrochloric acid or of caustic soda; we know also that the effect obtained is the same whether the thyroid extract is injected or whether it or the thyroid gland be given by the mouth, which shows that the active principle is not destroyed by the pepsin and trypsin ferments.

The only way to solve this problem is to find the active principle by exact chemical methods, and then to study the body so found; but this is a very difficult thing for the chemist, as we have no chemical reaction for the active principle, and no analogies to guide us. The only way left is to test experimentally every substance found, and this I have done with success.

I prepared cold or warm extracts of known quantities of dried sheep's thyroid. The albuminous bodies were precipitated by acetic acid. It was then necessary to determine whether the precipitated bodies (albumin and nucleo-albumin) or their filtrates were the active agents. This I did by feeding the first, well washed, to two corpulent men and a fat dog. Notwithstanding that I fed the albuminous bodies from the extract of seven sheep's thyroids every day for ten

consecutive days to each man and to the dog, they showed no change in weight. The filtrate, however, was active. I, myself, drank daily the neutralized filtrate, and lost three hundred grammes in weight each day for six days, in addition to which I noted a marked acceleration of pulse. The same result was obtained in another person, thereby proving the important fact that the active principle does not reside in the albuminous bodies, but in the filtrate.

I began now the chemical examination of the filtrate free from albumin. By evaporation a syrup was obtained, which became gelatinous on cooling, showing that gelatin from the connective tissue of the thyroid was present; experiments made with this gelatin showed that it was inactive. I could now proceed in a shorter way by precipitating together the inactive albuminous and gelatinous bodies. These substances were precipitated from the maceration or decoction of the gland with neutral sugar of lead, the precipitate was filtered, and the lead was removed from the filtrate by sulphuretted hydrogen. The syrup was now dissolved in alcohol, and by ether or acetone one could precipitate a large quantity, which, when cleaned and crystallized, showed the following physical and chemical peculiarities: It is very hygroscopic, and the crystals are permanent only in the dried part; it dissolves in water and alcohol, but not in acetone or ether. The watery solution has a neutral or weakly alkaline reaction; it is precipitated neither by sugar of lead nor by sub-acetate of lead, but, on the other hand, precipitation occurs with the reagents of the alkaloids, potassium iodide of mercury, potassium iodide of bismuth, phosphotungstic acid, and phosphomolybdic acid; by decomposition of the precipitates of both the latter acids with barium hydrate the free base can be obtained in the form of a markedly hygroscopic syrup. Iodo-potassium iodide and tannin give no precipitate. The chlorides of gold, platinum, and mercury give a slowly falling precipitate in a watery solution. The addition of an alcohol sublimate solution to the alcoholic solution of this body produces an intense white precipitate. With Millon's reagent the substance gives a precipitate, but there is no red color when it is boiled for a long time. There is no precipitate with picric acid. When it is shaken with a solution of caustic soda and benzoyl chloride, we obtain a benzoyl derivative, soluble in ether. Bromine water gives a white precipitate, but no precipitate is formed with an ammoniacal silver solution. Nitrate of silver gives a precipitate which dissolves again in ammonia or on boiling. The substance gives no reaction with the nitrocyanide of sodium; there are no reaction of Weidel with chlorine water, no reaction by evaporating with nitric acid and afterward adding caustic soda, and no reduction by copper oxide in an alkaline solution. There is a precipitate when boiled with acetate of copper, and a precipitation also occurs with salts of copper oxide, by adding to the watery solution a mixture of copper sulphate and bisulphide of sodium.

The elementary analysis of the acetic salt gave: C, 35.64 per cent.; H, 5.56 per cent.; N, 20.5 per cent. This led to the empirical formula, $C_6H_{11}N_3O_8$. Aliphatic bases of this constitution with N₃ have until now been described only as derivatives of guanidin or

¹ Preliminary report read before the Society of Physicians of Vienna, November 22, 1895.

succinic acid. Theoretically both deductions were possible. Against the hypothesis that the body in this case was a guanidin derivative is the fact that it did not precipitate with an ammoniacal silver solution. On the other hand, what speaks for its being a guanidin derivative is the occurrence of its bromide, which is insoluble in water, and also the fact that it is precipitated with acetate of copper or with oxide of copper. The study of the salts and the composition of the substance found will determine the question in regard to its constitution, and it may be possible to make the substance by synthesis.

I have provisionally named this pure substance, according to its physiological action, thyreoantitoxin, until such time as I can give it its proper chemical name.

Although there was no doubt in my mind that this pure body really was the active principle, since in my whole investigation I have found this substance only, and in considerable quantity, in the active filtrate, I have endeavored to prove experimentally the identity of this substance with the active principle.

There were three ways in which these bodies might be tested. They might first be proved clinically, but this method was too slow, and, furthermore, I had no material. Such experiments are, however, now being made. The other methods are purely experimental. Schäffer, of London, has found a remarkable fall of blood pressure following intravenous injection of thyroid extract, and Haskovetz, of Prague, also noted this fall of blood pressure and acceleration of the pulse. But I have found, either with the cold aqueous extract of dried sheep's thyroid or with my pure substance, no fall of blood pressure, though I did find an acceleration of the pulse. I do not know what is the explanation of this difference, but shall make further investigations to determine. In a morphinized dog, an increase was noted in the pulse-rate from 56 to 80, 120, or even 140 per minute, from which it can be seen that the pure substance produced the same effect as the fresh extract in the experiments of Haskovetz.

Some experiments made upon the hearts of frogs, poisoned with muscarine, in which pulsation had ceased, showed that a few drops of the watery solution of thyreoantitoxin caused them to beat again. Another method which I have employed is the following: As kittens are the animals most affected by removal of the thyroid gland, I chose them for experiment, removing from a number both thyroid glands. As soon as the animals began to have severe cramps, I injected subcutaneously a one-per-cent. watery solution of thyreoantitoxin. The result was in some cases most striking. In a few minutes the whole appearance was changed; the kittens, which had been lying with irregular respiration and with reflexes abolished, began again to breathe rapidly, the reflexes returned, the rigidity of the extremities disappeared, and the animals quickly recovered. In some cases the cramps did not return; in some they did, but ceased after a second injection. In some cases I made an injection of the solution immediately after the thyroidectomy; these animals did not suffer from cramps. These experiments agree with those made by Gley in Paris. He could not, of course, prevent death, in animals deprived of the thyroid, by means of the injection of thyroid juice; neither could I by injections of the pure substance. He obtained the following results: If an injection of thyroid juice into the jugular were made after the operation, there were no convulsions, although the animals died. Rabbits are an exception to this rule, for in them the cramps are noticed even after the injection. In a number of cases Gley made the injection only after the appearance of severe convulsions; in these cases the convulsions ceased ten minutes later and the respiration resumed

its normal rhythm, but all the animals died. In a number of cases there was no result observed after injection, and the same is true of healthy animals operated upon, except that in one instance the injections caused a trophic affection of the skin.

This demonstrates the fact that the active substance of thyroid gland is a pure chemical body, of well-defined chemical properties, present in considerable quantity in the gland substance; and it will prove to be the body which contains all the therapeutic properties of the thyroid gland, the more so as its action on the circulation is sufficient to explain all its other action as regards resorption and metabolism.

We are now able to give therapeutically in exact doses a pure chemical body, instead of the thyroid gland or its extracts, the composition and the quantity of the active principle of which we do not know. We are furthermore not sure that these crude preparations are free from ptomaines; only recently a case of malignant oedema following thyroid feeding has been reported. The active principle is odorless, and its taste is like that of an extract of beef. The clinician can now experiment with this pure substance, and exclude many of the cases where either no action at all or some injury has been produced. It must furthermore be remembered that many of the thyroid preparations on the market are inert, in consequence of faulty methods of preparation.

The result of this investigation shows that chemical analysis only, combined with clinical experiment, can explain the physiological and therapeutical actions of the organic extracts. There is no doubt that chemical investigation of other organs and of blood serum will show that there are still many unrecognized chemical bodies present in small amount in the organism which exert a powerful influence in the way of protection against infection, a fact which has already been proved with regard to antitoxic serum.

The time is not far off when a chemist can make these pure substances and afterward prove them experimentally, perhaps make them synthetically, and so give to the physician many new drugs in a pure form and one that will permit of exact dosage.

PROLAPSUS OF THE RECTUM WITH SPECIAL REFERENCE TO ITS OBSCURE FORMS AND SOME OF THEIR REFLEX PHENOMENA.¹

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PROLAPSE of the rectum is a disorder so familiar to the profession in its more frequent manifestations, that it would be presumption for me to take up the time of this Society with a paper devoted to the general condition.

I shall endeavor, however, to emphasize the importance of one of the varieties which is not generally recognized, and which many believe to be of little consequence.

We may divide the subject of prolapsus into the complete and incomplete. The incomplete involves the prolapse of only the mucous membrane of the rectum (Fig. 1). It is simply an exaggeration of a physiological process which takes place at every defecation.

As will be apparent to every one familiar with the anatomy of the rectum, it can only extend to a certain degree without involving the other coats of the bowel, because its attachments to the muscular layer are at most very short, one and one-half inches to two and

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one-half inches being about the limit of such prolapsus. It may be due to polypi, hemorrhoids, adenomata, or other neoplasms of the rectum. It is sometimes due to phimosis, stricture, stone, cystitis, enlarged prostate, or anything which produces severe spasm of the sphincter muscles, or bearing-down strain.



FIG. 1.—Incomplete Prolapse.

It is also sometimes due to ulceration, fissure, and other inflammatory diseases, and may be produced by chronic constipation or severe diarrhoeal disease, either of which involves long sitting at stool. Its diagnosis is very simple. It always occurs gradually, never suddenly, is of a bright red, or sometimes dark congested hue, and surrounds the anus with mucous folds radiating toward the centre. It may, if it has existed for any length of time, have more or less excoriation or ulceration upon its surface; indeed, the inflammation in it has at times been so great as to produce sloughing of the whole membrane. There are generally no constitutional symptoms associated with it, except where severe inflammation complicates the disorder. The pain is very slight, and unless hemorrhoids are associated with it there is seldom any bleeding.

The prolapse is generally reduced automatically after stool, or at least can be reduced by the patient himself with little difficulty. It is rarely found in adults, but frequently seen in young children and very old people. In the latter it sometimes becomes permanent, rarely irreducible, but recurring in a few moments after it has been replaced. Its treatment consists, first, in the removal of the cause.

Hemorrhoids, neoplasms, ulcerations, stone, phimosis, fissure, stricture, and cystitis should be treated when any of these conditions exist, and in the majority of cases their cure will be followed by the relief of the prolapsus of the rectum. Where it is due to catarrhal disease of the rectum, irrigation of that organ with local applications, suitable to the particular form of catarrhal disorder, and treatment directed toward regulating the intestinal functions should be carried out. At the same time cold applications should be made to the parts two or three times a day, especially after the bowels move. A small compress should be applied over the anus and the buttocks strapped together with an adhesive strap. Move bowels in the recumbent posture. In the majority of cases these procedures will result in a cure. When, however, the condition has become chronic and there is more or less hypertrophy of the submucosa, something more radical needs to be done. The hypodermic injection of various therapeutic agents has been recommended from time to time, among them nux vomica, strychnine, ergot, and carbolic acid. My own experience is confined to the use of carbolic acid. I have used this agent in a number of cases in the form of the modified Shuford's solution, and have met with the most gratifying results in all of them. I introduce the needle at the muco-cutaneous border and carry it up as high as the point at which the prolapse begins, and withdrawing it I inject minute quantities of the fluid all along its track. This procedure is repeated at four points about the anus. It is necessary to add that the utmost antiseptic precautions should be taken in doing this, as any septic material surrounding the anus may be carried in upon the point of the needle, and thus infect the injected area. Again, comparatively small quantities of the fluid should be injected; five minims is the limit of what should be introduced at one point, and where the procidentia is only slight, two or three minims will always suffice. Where the

condition is uncomplicated I have not found any more radical measure necessary in these cases; but where neoplasms, or hemorrhoids, or deep ulcerations are associated with the disease, one or the other of the surgical procedures for its relief are advisable. With hemorrhoidal complication, any of the three popular methods, the clamp and cautery, the ligature, or the so-called Whitehead operation, will eradicate the prolapsus at the same time it cures the hemorrhoids. Personally, I prefer the clamp and cautery in this condition, but have seen excellent results from both of the other methods.

Where there are no hemorrhoids, and where the condition is associated with hypertrophy and relaxation of the sphincter, the clamp and cautery, applied to several folds of the prolapse, are in my judgment the most successful as well as the most scientific method of treatment for this the incomplete form of prolapsus.

Complete Prolapsus.—The complete form of this disorder involves the prolapse of the rectum in all its tunics, and may or may not protrude through the anus. There are three degrees of this condition, as shown in the figures here presented, and numbered accordingly.

1st. Prolapse beginning at the margin of the anus in which the external surface of the prolapse is continuous with the external tunic of the anal orifice (Fig. 2).

2d. Prolapse beginning at a point more or less removed from the anus and protruding through that orifice (Fig. 3).

3d. Prolapse beginning at a point more or less remote from the anus, the prolapsed portion of the gut occupying the ampulla of the rectum, but not protruding through the anus.

The first degree of this variety is due to the same causes as the incomplete prolapsus; indeed it is frequently a sequence to the latter and comes on after it has existed for some length of time. Its diagnosis is simple. The mucous folds, which in the incomplete variety run up and down, radiating toward the centre, now become circular and surround the prolapsing organ in crescentic folds. Its color, when at first protruded, is a bright arterial red, but after it has been down for a short time it assumes the dull purplish hue associated with venous turgescence.

Percussion will be dull, unless the prolapse is of considerable extent and a hernia exists. The orifice



FIG. 2.—Complete Prolapse, 1st degree.

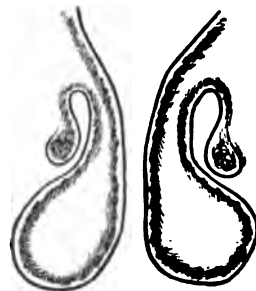


FIG. 3.—Complete Prolapse, 2d degree.

of the prolapsed gut will point straight downward until a sufficient length has come down to cause dragging on the meso-rectum, when the orifice will begin to point backward toward the sacrum.

Where the disease is associated with new growths, the prolapse will only extend to such a degree as to bring the attachments of these growths to its most dependent margin. Excoriation, ulceration, acute inflammation are frequent complications of this and the following variety of the disease. There is generally a mucous discharge, which irritates the surrounding

- parts, and there may be more or less superficial bleeding. The treatment for this degree and the succeeding one is identical, and therefore we will consider it under that heading.

Second degree: Where the prolapse begins at a point more or less removed from the anus, and the rectum protrudes through that orifice, there will exist, between the margin of the anus and the protruding gut, a sulcus, or space, into which can be introduced a probe or sometimes even the finger to the height at which the prolapse begins.

This variety of the disorder may appear gradually, but in the majority of cases it is of sudden occurrence, due to some violent strain, crushing accident, fall, or other injury. Its extent is limited only by the length of the colon itself, or even of the small intestine. When the protrusion first appears at the anus its orifice points straight downward, but soon traction upon the meso-rectum begins to draw it backward, and as the prolapse increases, the meso-sigmoid and meso-colon each in its turn drawing upon the prolapsed organ, twist it in a sort of corkscrew shape, sometimes making as high as two or three complete circles. The general appearance and symptoms are the same as those of the first degree, and it is unnecessary to repeat them here. The complications of this variety are numerous and serious. Archocoele or rectal hernia is a frequent occurrence and is diagnosed by its resonance upon percussion, the gurgling sound upon palpation, and its disappearance when the patient is put in the knee-breast posture. Strangulation, ulceration, and gangrene are frequent complications where this condition is not properly treated. Catarrhal inflammation with its consequent excoriation and superficial ulceration is one of the most trying complications of this disorder. The mucous discharge irritates the external parts, and these parts rub upon the prolapse until inflammatory hypertrophy supervenes, replacement of the prolapse becomes impossible, and the patient is miserable indeed. Rupture of the rectal wall and protrusion of the coils of small intestine through the rent have not infrequently been seen.

One of the conditions connected with this complication is that wherever it has been seen to occur, the prolapse of the rectum is immediately automatically reduced. No explanation for this strange condition has yet been given.

Sometimes this form of prolapse takes on an appearance resembling carcinoma of the rectum, and so much like it does it appear that sometimes only microscopic examination will determine its real character.

The diagnosis of prolapse of the rectum in any of the degrees in which the organ protrudes from the anal aperture is dependent upon a simple ocular and manual examination, and while it may be due to piles, tumors, etc., it is still prolapsus of the rectum and should be treated accordingly.

The operative treatment of these conditions will be discussed under the next variety, but it is well to say here that no operation should ever be undertaken in acute or moderate, reducible cases until the adhesive-strap method revived by Dr. Powell, of this city, has been given a fair trial. By proper attention to the inducing and predisposing causes, in order to prevent recurrence, and to the general health and muscular tonicity of the parts, the large majority of these simple cases may be cured without operation. The strap method, however, is useless in the obscure following variety:

Third degree: Prolapse of the rectum where it does not protrude through the anal aperture has been denied by some writers, belittled by many, and acknowledged as a disorder of any importance by only one author, so far as I am aware.

Dr. Cripps, in his excellent work upon disease of the rectum, describes in a short paragraph this disorder as he has observed it, and clearly indicates the importance which he attaches to it. It is to this paragraph that I am indebted for whatever interest I have taken in this form of the disease, and I gladly accord to its author any credit which may accrue from these studies.

As will be seen from the description, this degree of the disorder may be called an intussusception of the sigmoid or upper portion of the rectum into the lower. Indeed, it may be the commencement of the second degree; but the symptoms which indicate its existence belong essentially to it alone.

It consists in the dragging down or procidentia of the sigmoid flexure or upper portion of the rectum into the lower portion to greater or less extent. There is no external appearance of the intestine at the anal aperture. The patient has no sensation of a foreign body in the anus, no unusual protrusion of the mucous membrane at stool, and, indeed, no indication that the rectum is in any way displaced. The symptoms of which he complains are purely subjective, and in many cases have no reference whatever to the lower end of the colon. He may suffer from diarrhoea or constipation; but with whatever condition, he will give the same account, that, when at stool, he never feels as though he were finished, but that there appears to be always something more to come away. This feeling of "unfinished business" is the most common symptom of the disease and of the utmost importance in diagnosis. Enemas are essential to a movement of the bowels, and act more by raising the fallen gut than by stimulating peristalsis.

Pains in the sacral region, and radiating down the thighs, are frequently the chief complaints of these patients. At other times, there is aching of the perineum, with disorders of micturition and sexual functions. In a number of cases I have elicited a dragging in the lower abdominal region, which more than once has been attributed to ovarian or tubal disease. These are all symptoms located in and about the parts affected, but there are others which are more remote and of deeper interest to the general practitioner. Flatulence, symptoms of chronic enterocolitis, and indigestion are frequently associated with this disorder, and cured, or at least greatly benefited, by its relief. In fact, I have yet to see one that has not complained of indigestion of some form and a feeling of fulness in the abdomen, generally in the region of the descending colon.

Periodic discharge of mucus with the stools, associated with more or less exhaustion and sometimes severe abdominal pains after stool, are some other reflex manifestations of this degree of prolapsus.

I will not occupy your time by detailing any series of cases, but recall only one marked example of this condition.

Mr. T—, a merchant, thirty-two years of age, has suffered with digestive troubles for the past five years. He has been alternately constipated and affected with diarrhoea. After eating he has an immediate desire to go to stool, yet frequently without any result. His bowels have been constantly distended with gases, and frequently at defecation he passes large quantities of mucus. Has never noticed any blood. For the past two years he has suffered constantly from pain in the lumbar and sacral regions. Recently these pains have extended down his legs. For the last six months



FIG. 4.—Complete Prolapse, 3d degree.

he has noticed an increasing sexual weakness associated with some difficulty or delay in micturition. All treatment directed to his stomach, kidneys, and other internal organs has been of no avail. Even when he has suffered from diarrhoea he has felt a desire to remain at stool just as much as when he was constipated, feeling always the sensation of something yet to come.

Careful examination failed to reveal any organic disease in his heart, lungs, stomach, or kidneys.

Examination of the rectum showed nothing abnormal about the anus or within the first inch and a half of the organ. About this point, however, the finger came upon loose, flabby folds of mucous membrane crowded down into the rectal ampulla, through which it was very difficult to find the lumen of the intestine with the finger.

Placing the patient in a squatting position, and asking him to strain, the finger introduced into his rectum felt the upper portion of that organ distinctly to descend and impinge upon its end, like the soft dilated cervix of the uterus.

A rectal bougie of moderate size (No. 7) could be introduced about six inches before it came in contact with an absolute obstruction. By gentle pressure on the bougie, and a stream of water carried through it with the aid of a Davidson syringe, the instrument was eventually introduced to its full length, and examination of the rectum with the finger after this, revealed an enormously dilated ampulla, large enough to contain the head of a six-months foetus. A larger bougie (No. 9) was arrested at eight inches from the anus, and it was impossible, without undue force, to push it past this point.

Twenty-four hours later, under chloroform, the sphincters were dilated, and the hand introduced in the rectum, where the whole upper portion or sigmoid flexure was found prolapsed into the ampulla.

The lower entrance of the sigmoid flexure was distinctly contracted, so that it was with difficulty I could introduce two fingers through its lumen. Having done this, however, I could drag down the organ to the very margin of the anus without any force.

Introducing one finger after the other through this stricture at the lower end of the sigmoid, I dilated it as far as safety would permit and then easily introduced a No. 12 bougie to its full length. This was clearly a case of complete prolapsus of the rectum of the third degree, associated with or due to stricture of the sigmoid flexure. The treatment, which I will detail shortly, was followed by complete relief of all the patient's symptoms, and to-day he is perfectly well. This is but one of a number of such cases, many of them having more or less contraction at the lower end of the sigmoid, at the location of the so-called third sphincter. Indeed, I have rarely failed to find a slight narrowing of the lumen at this point. Other more remote and properly reflex symptoms, may be mentioned in this connection. I have seen neuralgia of the testis relieved by the restoration of this third degree of prolapse. One patient whom I might mention, without detailing history, was unable to urinate while he was at stool, notwithstanding the extreme desire to do so. It was necessary for him to urinate before defecation in order to have any comfort in the latter act. This inconvenience was also relieved by the restoration of a prolapsing rectum. Vague and indefinite pains in the loins, abdomen, and sometimes as high up as the transverse colon and scapula, have been complained of by patients suffering with this disorder, and have been relieved after treatment for it, although I am not prepared to say that they were all due to the condition itself.

The facts that in all the cases which I have treated there has been carried out dietary and anti-dyspeptic

regimen, and that their digestions have all been greatly benefited, either by the treatment of the rectum or by that directed to this condition, leave an uncertain inference as to how much influence the reposition of the rectum had upon the digestive functions. All that I can say upon this point is that treatment directed to the digestive organs previously had failed. What I desire is not to exploit any remarkable results, but rather to call attention to the frequency of this form of procidentia, and to emphasize the positive as associated with the vague and reflex symptoms of the disease. Constipation, periodical discharge of mucus, sensation of incompleting defecation, weight and aching in the sacral region, dilated rectal ampulla, and the other physical evidences elicited by digital examination are the cardinal points in diagnosis, and, while many of them belong to other conditions, when associated as a group they point unerringly to this obscure form of prolapsus recti.

The older treatments for the first and second degrees of complete prolapsus are so thoroughly detailed in the treatises upon surgery and rectal diseases that it would be a sacrifice of your time for me to attempt to describe them in detail. In order, however, to understand the basis upon which the new methods rest, it may be well for us to refer to the conditions upon which the disorder depends. The rectum is maintained in its position by two varieties of supports, the passive and the active. The passive are formed by connective-tissue fibres, scattered or in bundles, and elastic-tissue fibres, formed by the peritoneal folds, and also by the blood-vessels which supply the organ. The active supports are composed of striated and smooth muscular fibres. The striated fibres are found in the longitudinal and circular muscles of the rectum itself, the smooth in the sphincters and levator ani. Nosologically, prolapse of the rectum is akin to hernia, and, like this disorder, cannot occur without some weakening of its supports or destruction of its means of fixation, as well as some determining force capable of dislodging from its normal position an organ loosened and relaxed in its attachments. The weakening or destruction of each of these two classes of supports has a different source and distinct significance. The passive supports lose their efficiency through being elongated or broken; the muscular supports lose theirs through atrophy, or partial or complete paralysis. It is rare that all of the supports should yield at once; but in view of the number of cases in which prolapsus has followed a severe strain or a crushing accident, without any previous symptoms of such a condition having existed, we cannot deny that occasionally they do. But the history of the cases will nearly always clearly indicate whether they be due to relaxation of the superior passive supports, originally, or to relaxation and atrophy of the active or muscular supports. Having determined which of these causes is responsible for the condition, we should direct our treatment to the restoration of the parts originally offending, and treat the others as simple participants.

Paralysis of the intestinal wall itself bears in its train constipation, fecal retention, and dilatation, so that the organ is elongated, or actually hypertrophied in length, and we may have a simple prolapse of the rectum of unusual extent in which the sigmoid and the upper colon are in no wise involved.

Exposure of the mucous membrane and its consequent friction set up a catarrhal inflammation or recto-colitis, with its consequent tenesmus, diarrhoea, and efforts at expulsion which tend to reproduce the disorder when it has been reduced, and militate greatly against any effectual treatment; yet sometimes this very condition of catarrhal inflammation of the

rectum is the exciting cause and not the result of pro-cidentia. This is an element to be taken into consideration in our treatment of these cases. The principles in the modern treatment of this condition are: First, to remove, if possible, any pathological causes. Second, to re-establish the supports which have been elongated or destroyed. Third, to control, or cause to cease, the efforts that force the organ outside.

The accomplishment of these ends is by no means easy, and I question if it will ever be fully done. Nevertheless, I believe we are advancing toward that point. But so far, I believe, we have paid too little attention to those causes which tend to reproduce the disorder where once it has been reduced.

In prolapse of the first degree, where the lower segment of the rectum descends first, and the upper segments follow, the elongation of the latter is clearly due to traction upon them by the weight of the rectum loosened from its lower attachments. In these cases, our aim should be to re-establish the normal condition of the parts which first gave way, and trust, for the time, to the restorative power of nature for the retraction and shortening of the elongated upper supports. When the adhesive strap has failed we have an efficient means of doing this in the Van Buren operation, which, as you know, consists in linear cauterization of the rectum with the actual cautery. I have seen it stated in certain well-known books that the Paquelin cautery is not suitable for this operation. I have used it many times for this purpose, and find it to fulfil every requirement. The injection of the therapeutic agents mentioned for the incomplete prolapsus I have never used in this condition, but I cannot see why they may not be as efficient as is claimed by Vidal, Kelsey, and others.

Dr. Allingham's method of applying fuming nitric acid to the whole circumference of the prolapsing organ has seemed to me a rash procedure, for we cannot limit the depth to which the acid burns or check its extent to the muco-cutaneous surface, where it produces great inflammation and severe pain.

In several cases, I have used this agent, applying it in lines up and down the prolapsus, at four or five points about the circumference. These cases have all been in children, and the results have been entirely satisfactory.

These same procedures are applicable to the second degree of prolapsus, but an added precaution is necessary when the prolapse contains a hernia, or is of sufficient extent to involve any degree of the peritoneal cul-de-sac. In such conditions, cauterizing too deeply may produce peritonitis, or if the hernia should be present in the sac at the time, inflammation and gangrene of the intestine itself. No cautery or hypodermic injection for the cure of this disorder should ever be used until it is ascertained that the prolapse can be fully and completely reduced. Partial reduction is not sufficient, and may involve the most serious consequences. The methods of reducing these prolapses are numerous. The simplest and most efficient which I have ever used consists in wrapping a piece of tissue paper around the point of a small Wales bougie, introducing this into the orifice of the prolapse and gently pressing it upward, while a stream of water is carried through it, the prolapse itself having been previously well lubricated with vaseline or other agent. After the parts have been restored in this manner, gently twisting the bougie will loosen it from its paper wrapping and it can be withdrawn. The finger may supply the place of the bougie in cases of slight prolapsus. The hips should be elevated, the knee-breast posture being the most efficient in this procedure.

It is not necessary to state that these methods often fail to effect a cure, and that much more radical meas-

ures are sometimes necessary to obtain even comparative comfort for our patients, not to say radical cure.

Amputation or resection of the organ has been done, and the several different methods, which go by the names of their originators, are described in the works upon this subject. Various plastic operations, such as the Roberts-Dieffenbach method, which consists in removing a V-shaped piece from the posterior wall of the rectum and from the ano-coccygeal space and suturing the parts together, have been performed with more or less success.

Rectopexie, which consists in suturing the rectum to the sacral surface, has been attempted several times by Verneuil and other surgeons; but with only comparative success. The operation of Mikulicz,¹ variously modified by Lange, Keene, Brandt, Nélaton, and others, has, until recent years, been considered the last resource in grave and rebellious cases.

Since, however, aseptic surgery has rendered the invasion of the peritoneum so free from danger, the operation of resection by one of these various methods has become a less formidable one, and it may be undertaken with comparative assurance of success in patients of operable age.

The techniques of these different operations are fully described in the works upon surgery and diseases of the rectum, and I shall not detail them here.

It must not be presumed that end-to-end suturing of a diseased intestine within the peritoneal area can be attempted without great danger to the patient, and if any procedure could be devised which would accomplish the desired end without opening the intestine it would be most desirable.

In obstinate and serious cases heretofore, having little control over the elementary lesions, and being unable to shorten the superior supports or to reanimate the muscular fibres, we have been forced to deal with their symptoms or results by operative means, often quite insufficient or of a passing efficacy.

I am confident that many of our failures have been due to the neglect of the proper measures against constipation, laborious and repeated efforts at defecation, proctitis, diarrhoea, and the other disorders which create and continue peristaltic action and desire to go to stool.

With proper attention to these conditions, I believe that the majority of cases of the first and second degrees of prolapse would be relieved by the simpler methods which I have detailed.

Within the last five years, however, the study and practice of a new method for overcoming this disorder have been carried out by a number of surgeons, apparently independent of each other.

In 1888, I began a series of experiments upon the cadaver to determine whether or not the meso-rectum could be drawn up and sutured to the abdominal wall in sufficient extent to produce an adhesion between the peritoneal surfaces strong enough to maintain the organ in its position. I have examined twenty-five cases and have found that in eighty per cent. the meso-rectum can be drawn up and sutured to the abdominal wall to the extent of about two inches. I have had a number of cases of prolapsus in the mean time, but only one of them was sufficiently severe to justify me in recommending such a serious operation. The results from this have been all that could be desired, there having been no recurrence in nearly two years.

In 1890, Dr. Jaennel, of Toulouse, devised the operation of colopexie, and Dr. Verneuil, of Paris, was the first to carry it into execution. The method consists in suturing the colon into the inguinal wound, having drawn it up so far from the pelvis that it supports the prolapsus. The first case was successful.

¹ Langenbeck's Archiv, 1885.

In the second case, without any reason given in the paper,¹ he modified the operation, doing what he terms colopexotomy, which consists simply in dragging the colon up to such an extent that it supports the prolapsing rectum, and making an inguinal anus, thus affording physiological rest to the diseased organ. By this method he reports complete success, and believes that it will be the future operation in grave and obstinate cases. The objection to this operation lies in the difficulty of closing the artificial anus.

In 1894, Dr. Joseph Bryant, of this city, performed an ordinary inguinal colotomy on a patient suffering from extreme prolapsus, with the simple view of giving the parts complete rest, and was surprised to find that the prolapsus was apparently cured after a short period. I have heard indirectly that it has since recurred, but am unable to state this positively.

John Berg, of Stockholm, operated by suturing the meso-rectum to the abdominal wall in 1892. He describes this method as that of Jaennel. It is not, however, the same, being nothing more or less than the method which I have experimented upon since 1888.

Up to the time of writing his paper Berg's case has remained perfectly cured.

In 1893, Dr. Blank, of Melbourne, operated upon two cases according to this method, with excellent results.

Within the past year four cases have been operated on by this method in New York, but as they have not been published, I have no authority to repeat them here. I have had the good fortune to see one of these cases, in which the condition had recurred, re-operated upon. It was associated with an adhesion between the rectum and a hypertrophied prolapsing uterus. The weight of the uterus had elongated the meso-rectum and its adhesions to the abdominal wall, but had not torn them loose, and I am sure that had the uterine condition been normal the prolapsus would never have occurred. This case suggests the advisability of abdominal fixation of the uterus at the same time the colopexie is done. The technique of this operation consists in the ordinary preparation of the patient for colotomy, and an incision about two inches internal to that for inguinal colotomy. The meso-rectum is then caught and dragged upward until the prolapsus is completely reduced. It is slightly scarified and sutured to the peritoneum at the external margin of the wound to the extent of about two linear inches. The sutures should run parallel with the blood-vessel, but it must not be forgotten that at this point the blood supply of the rectum comes from the inferior mesenteric artery. It runs close to the intestine, in the fold of the meso-rectum, and parallel with the longitudinal axis of the gut.

The colon should fall inward from the sutured area. The wound should then be closed as in ordinary abdominal section. The bowels should be moved only by enemata for the following three weeks, and the patient kept absolutely in bed.

Further observations are necessary to draw any definite conclusions from this operation, but as it relieves all tension upon the superior supports, and takes away pressure from the sphincter muscles, it would seem that it is based upon scientific and mechanical reasons, and is destined to do much for the obstinate cases of this disorder. It should at the same time be supplemented by remedies and methods directed toward restoring the tone of the muscular supports and overcoming any disease or condition which leads to reproduction of the disorder. The operation, however, should never be advised except in grave and rebellious cases. It is inapplicable to recent, irreducible, adherent or strangulated cases, or to those where the wall of the gut is so weakened by disease that it might be torn by our efforts at retraction.

¹ Gazette Hebdom. d. Méd., Paris, 2 s., 1890, xxvii., p. 246.

Little attention has so far been paid to the treatment of the third degree of complete prolapsus. Its symptoms are usually not severe enough to call for such radical operations, but its victims suffer from vague and indescribable pains and discomforts and demand more careful consideration than they generally receive. In the past five years I have seen a comparatively large number of these cases, over fifty, and have found that by removing, if possible, the exciting cause, regulating the functional action of the bowels, properly treating any catarrhal or inflammatory condition that exists in the rectum, and persistently replacing the prolapsed portion of the gut, temporary cure at least may be obtained. Dr. Cripps advises the Van Buren operation in these cases, but I have found it very seldom necessary. The method which I have employed consists in reducing the prolapsus by the introduction of a full-sized Wales bougie, according to the method described above. As soon as the bougie has been passed to its full extent, the colon is flushed with a twenty-five-per-cent. saturated solution of boric acid, about a quart of the fluid being used. This flushing is followed by an immediate action of the bowels, after which the bougie is re-introduced and one ounce of a two-per-cent. mixture of aristol in almond oil is injected into the colon. Boric acid and salol, five grains each, are administered after each meal, two drachms of phosphate of soda are given in hot water before breakfast each morning, and careful attention to the diet and digestive functions is enjoined. These methods, though extremely simple, require care, and sometimes the greatest patience must be exercised before the bougie can be introduced or the prolapsus restored.

Nevertheless, with such care and patience, I have obtained the most excellent results.

It may be asked, what is to prevent the prolapse from immediately recurring, after it has been thus reduced? Nothing, I would answer, if the rectum were a straight tube, from the promontory of the sacrum to the anus, as is described in most anatomies, and the sigmoid flexure an abdominal organ as is generally assumed; but a large number of examinations have proved to my mind that the major portion, in fact three-fourths, of the sigmoid flexure lies in the pelvic cavity and passes off from the rectum, transversely, at an acute angle, and if it has been once reduced, the force of gravity does not tend to carry it down through the rectal lumen, but rather beside that organ, and only when peristaltic action and straining have been resumed will the prolapsus recur. Therefore the measures directed toward soothing the irritations in the colon and rectum, and quieting all tendency toward tenesmus and straining, are of the utmost importance.

Many of these cases are associated with fissures and rectal ulcerations, and the proper treatment of these conditions should be carried out at the same time that our attention is directed to the prolapsus.

I am convinced that this condition of the third degree of prolapsus is far more frequent and of much greater importance than is usually recognized by the profession, and a more careful analysis of symptoms and more regular local examination will reveal it to be the cause of many of the vague symptoms and indescribable discomforts of our chronic cases, and also that the patient and persistent application of the simple method here detailed will add much to the alleviation of symptoms, even though it may not effect a permanent cure.

Many of my patients consider themselves well, their symptoms having been relieved, and have removed from my observation; others I have kept track of, and find that after one to two years the prolapse has not recurred.

TETANY, WITH REPORT OF FIVE CASES.

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TETANY, or bilateral tonic spasms usually of the extremities without loss of consciousness, is an affection extremely rare not only in America but also in England, Germany, Italy, and Spain. Gowers, of London, with a plethora of nervous cases at his command, was able to report only 8 personal cases and collected but 142 cases from various sources; Ewald, of Berlin, out of 8,000 cases entering the Kaiserin-Augusta Hospital detected but 2 cases of tetany; Bernhardt, of Berlin, regards it as one of the rarest of nervous affections, he having seen but 3 cases. In France it has been reported as occurring epidemically among young girls, 30 having been seized in one school. Epidemics have also broken out in Belgian prisons, suggesting a tendency undoubtedly to some obscure epidemic influence. In Austria and Bohemia, on the other hand, it is of common occurrence in the larger cities, especially Prague and Vienna. Frankl-Hochwart, of Vienna, reported recently 70 cases, nearly all of which were observed in the Nothnagel Clinic. Schlesinger, of Vienna, and v. Jaksch, of Prague, each have made careful observations based on a large number of personal cases, showing its undoubted prevalence in these countries.

In view of these facts showing such rare occurrence of this malady, with the exception of the Austrian empire, it is interesting to note that in the private practice of Dr. Albert H. Briggs, ex-health commissioner of Buffalo, five cases occurred within a period of three months, one of which was kindly referred to me for special treatment. Before reporting this case and the other four cases as reported to me by Dr. Briggs, a glance at the symptomatology of tetany may not be amiss.

The spasms are sometimes ushered in by sensations of numbness, pain, or formication in the extremities, followed by a sudden contraction, especially of the flexor muscles of the upper and lower extremities, without the least impairment of consciousness. The hands are more often affected than the feet, and the spasmodic contraction of the interossei and of the adductor pollicis gives the hand a peculiar appearance quite characteristic of this disease (Fig. 1). The

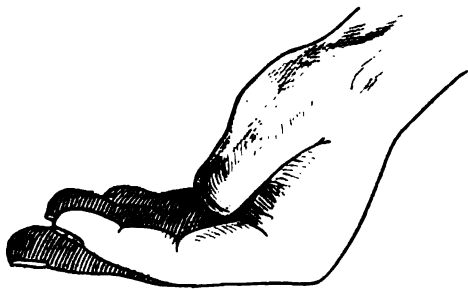


FIG. 1.—Position of Hand in Tetany.

hand is generally flexed upon the forearm and at times the arm is flexed at the elbow. In the foot the same general condition is observed: the toes are strongly flexed and the foot is brought into the position of equino-varus (Fig. 2). Occasionally and in very severe cases the diaphragm, tongue, larynx, and respiratory muscles may become involved and in rare cases even the ocular muscles, producing a temporary strabismus.

The spasms which are always bilateral vary in duration from a few minutes to hours, days, and even weeks according to the severity of the disease, while

the interval between succeeding spasms may range from minutes to weeks or there may be no distinct interval between the attacks (continuous type), the spasm presenting periods of relaxation and exacerbations.

With the exception of the pain due to the forcible contractions and a feeling of exhaustion in the extremities after a spasm, no constant subjective symp-



FIG. 2.—Position of Foot in Tetany.

toms are reported. The hands and feet are swollen, puffy, sometimes oedematous, covered with profuse perspiration, and respond as a rule to all tests of normal sensation. The tendon reflexes are sometimes normal, sometimes exaggerated or diminished, hence are valueless as diagnostic factors.

Besides these symptoms tetany offers a few phenomena which are commonly accepted as part and parcel of the disease, most prominent of which is Trousseau's sign. This consists in evoking an attack of tetany by applying pressure over the large nerve trunks or blood-vessels, the spasm continuing as long as pressure is exerted. In no other affection of the nervous system is this phenomenon observed, hence it is regarded as pathognomonic.

Chvostek's sign consists of an increased mechanical irritability of the motor nerves, especially well marked in the facial nerve. Slight pressure or friction over the trunk of this nerve at the ear will call forth active contractions of the facial muscles.

Erb found that an increased electrical reaction of the motor nerves was quite constant in all cases of tetany, especially when brought under the influence of the galvanic current.

Hoffman noted an increased electrical and mechanical reaction of the sensory nerves.

CASE I.—Alfred, the little son of Mrs. B—, had been up to his sixth month the type of perfect health, never having caused his parents the least anxiety or apprehension. The mother left the child on April 14, 1895, in its usual good health to make a short call on some neighbors, and found on returning home that hardly had she left when the child began to cry, the arms and legs became stiffened, swollen, and covered with perspiration. On trying to quiet the child by giving it playthings, she saw that the thumbs were pressed into the palms immovably, and on trying to move them caused the little one great pain. The feet and toes especially were also contracted and this condition lasted until April 19th, when the spasms disappeared. Four days later they reappeared, only in a more severe form, the child was moaning and crying day and night; the bowels, at first constipated, had be-

come loose and offensive, and the life of the baby was thought in danger.

On April 26, 1895, I was requested to see the case with the family physician, Dr. Briggs, and found the following condition:

The patient, a big, bouncing, healthy-looking boy, was sitting on his mother's lap crying piteously, with body bent forward, head reclining on the chest, arms flexed at the elbow, and legs drawn up. It was impossible to keep it in any position any length of time without seemingly great discomfort and pain. The child's face was swollen and the muscles of the lower part of the face were contracted, resembling the risus sardonius as seen in paralysis agitans. The arms lay heavily at the sides, flexed at the elbow and wrist joints, the fingers flexed at the metacarpo-phalangeal joints and extended at the others. The thumbs were adducted and flexed beneath the fingers with such force that the palms were sore from the long-continued pressure. It was impossible to move the thumbs or fingers without calling forth pain and cries from the child. This position of the hands has been called by Trousseau the "accoucheur's hand" and is quite characteristic of tetany. The feet were extended at the ankle joints, the plantar surfaces inverted, forming a talipes equino-varus. The big toe was turned under the second and third toes, which in turn with the other toes were strongly flexed. The knees were extended and immobile, while the thighs were flexed on the pelvis.

The hands and feet were greatly swollen, but did not pit on pressure and were continuously covered with perspiration. The respiration was jerky and irregular, indicating involvement of the diaphragm. This was the condition of the child from April 26th to May 8th, the spasms being continuous without any appreciable intermission. At times it would laugh and play, would sleep well at night but very restless during the day, and ate sparingly of artificial foods. On several occasions much alarm was felt, especially at night when attacks of dyspnoea would set in; these occurred usually when the bowels had not moved during the day or when the movement was offensive. Pressure applied over the brachial and ulnar nerves would invariably produce an exacerbation of the spasm and was vigorously objected to by the mother. From May 8, 1895, improvement began and continued until the contractions entirely disappeared, about May 20, 1895, and the child made a perfect recovery.

The treatment consisted of warm baths every four hours, and the administration of chloral and elixir of valerian.

The case is interesting not only as belonging to the continuous variety of tetany but because of its long duration and the severity of the contractions. These prevented me from examining for the phenomena of Chvostek, Erb, and Hoffman. These symptoms are most generally sought for in deciding a case of doubtful tetany but were uncalled for in this case.

The cause of the tetany was undoubtedly the intestinal derangements with the disturbances of dentition perhaps as an aggravating concomitant.

CASE II.—Child of George K——, male, aged eighteen months; was first seen February 4, 1895, suffering with bronchitis and considerable gastric disturbance along with diarrhoea. On February 5th the hands and feet became "cramped," assuming the position described in Case I., for a few minutes, then they would relax. The interval lasted from one-half to two hours. The attacks would almost invariably set in when the bowels were about to move or when the child was picked up and its position changed. (Perhaps, in handling the child, pressure was applied over the nerve trunks in the arms.) This condition of things lasted one week and there has been no recurrence.

CASE III.—Child of Charles J. F——, male, aged thirteen months; was first seen February 25, 1895, suffering as in the second case with bronchitis and stomach and bowel disturbance. Along with these disorders the hands and feet would "occasionally" contract spasmodically, remain so for five to ten minutes, then relax, without the patient losing consciousness. These spasms continued several times daily for six days. One slight attack was noticed about ten days after the disease was thought to have been cured.

CASE IV.—Child of John A——, female, aged nine months, was first seen March 15, 1895, suffering with a severe bronchitis and tetanic spasms of both hands and feet. The attacks were of longer duration than in Cases II. and III., more severe, and the intervals shorter. This condition continued for three weeks when the child was discharged as cured. Four weeks afterward an acute meningitis set in and the patient died in six days. No recurrence of the tetany was reported during the meningeal disturbance.

CASE V.—Child of R. S——, female, aged eleven months, was first seen April 16, 1895. This child was likewise suffering with a bronchitis (capillary), with severe gastro-intestinal disturbance, and had much difficulty with dentition. The tetanic spasms of the hands were of great severity, the thumbs were drawn forcibly into the palms, the index finger was extended, while the other fingers were firmly flexed over the thumb. The feet were not affected to the same degree, although the toes were partly flexed and the feet drawn into the equino-varus position. These spasms would never cease entirely but would pass into a state of greater contraction; then after an hour, relax somewhat. This child made a perfect recovery after two weeks' illness.

Dr. Briggs states that the sanitary surroundings were excellent in all cases except Case III. Cases I. and III. were nursed by the mothers who were healthy women, while Cases II., IV., and V. were bottle babies; Case II. being fed on cow's milk, Case IV. on goat's milk, and Case V. on some prepared food.

Dr. Briggs followed closely with me the course of Case I., and being an unusually acute observer and thorough clinician declares that Cases II. to V. were exactly similar to Case I., consequently I have no misgivings in believing that they were all cases of true tetany.

In a series of cases like this, some light is apt to be thrown upon the etiology and as they all occurred between February 4 and April 18, 1895, the natural inference would be that it was an epidemic. Such, however, is not the case, as they were separated by considerable distance and all existed prior to the doctor's first visit, except Case II., which was the first case observed. The bronchial disturbance was present in all cases, associated with some gastro-intestinal disorder and complicated with difficult dentition in Cases I. and V. As bronchial affections are of extremely frequent occurrence in Buffalo during the early spring and summer months owing to the cold, raw, icy winds from the lakes and the great amount of humidity in the atmosphere, this factor may be complacently set aside in the consideration of the causation of tetany, and there remains only the gastro-intestinal affection. That these disturbances do produce tetany is attested by all observers who have seen cases of infantile and even adult tetany. Whether these spasms are produced through reflex irritation or the absorption of ptomaines and central irritation will be difficult to decide. Cases are on record in which the attacks subsided after the expulsion of intestinal entozoa; also in which tetanic convulsions followed after the introduction of stomach tubes but where gastric disorders had previously existed. In children especially, tetany is frequently observed along with bowel

trouble and diarrhoea, particularly if they be also rachitic, and the affection is hardly ever observed in healthy children.

Besides gastro-intestinal disturbances there are many other recognized causative factors which favor the occurrence of tetany, such as the zymotic infectious diseases; certain toxic agents as alcohol, ergotin, chloroform; certain seasons as the months of February, March, April, and May; certain occupations, especially those of cobblers and tailors, and after thyroidectomy.

The symptoms and special phenomena of tetany along with the etiological factors would indicate an affection of no one particular part of the nervous system, but a process, toxæmic in character, affecting the whole nervous system, the cerebro-spinal as well as the ganglionic system. Just what the nature and specific character of this process is, must be for the present left open for speculation and for future theories until such time when by means of improved methods of examination its precise pathology can be determined.

INFECTIOUS VULVO-VAGINITIS IN CHILDREN.*

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THOSE of my readers who with preference give up the greater part of their time to the study of pediatrics, and who have opportunities for dispensary practice to any extent, will bear me out when I say that the condition considered in this paper is met with to-day in no less frequency than formerly, and if we are to be guided by the opinion of such men as Thomas,¹ Pozzi,² and other eminent gynecologists, vulvo-vaginitis at any age must be a disease of vastly greater transcendental importance than is generally believed.

This paper is based on clinical observations made upon thirty-two consecutive cases which occurred in my class at Bellevue Hospital Dispensary from March, 1894, to September, 1895. The greater number were in the summer months, and the ages ranged from five months to ten and a half years.

Etiology.—In view of the fact that the greatest men in the knowledge of venereal diseases are, at this late date, still at loggerheads regarding the specific virulence of the gonorrhœal pus, that the same state of affairs, difference of opinion, exists as to the identity of the gonococcus, and convinced that all kinds of pus are infective if not infectious, I have seldom lost time in a fruitless endeavor to find the source of infection in a given case in direct contact with a gonorrhœal male; yet, knowing that there is prevailing among the lower classes a belief to the effect that copulation or attempted coitus with a virgin child or young girl is a sure cure for all urethral inflammatory processes, I cannot but feel that the majority of cases not directly traceable to other active causes have been the victims of this infamous belief. On the other hand, we know that the healthy adult male organ, by repeated friction, may produce such an inflammation about the genitals of an otherwise healthy child as to later on superinduce a typical vulvo-vaginitis with all its accompanying symptoms; and this possibility we think ought to be borne in mind when dealing with medico-legal questions, as, for instance, when a child with severe vulvo-vaginitis justly accuses a man who on examination presents a perfectly healthy organ. There is a possible source of infection in the cloth-

ing, bedding, towels, etc., used by a gonorrhœic member of the family.³

Aside from the probable contact with a male, whether intromission takes place or not, among the frequent causes of vaginitis in children is the presence of oxyuris or even lumbricoides, or the introduction into the vagina of foreign bodies which becoming lodged in the pouch behind the hymen will induce repeated attacks of the acute condition without apparent cause; in this connection may be mentioned the accumulation of filth which is sometimes found in children of the poorer classes, who creep along the ground in the summer time, often without the proper covering to the parts.

Intertrigo and eczema induce scratching often so severe as to produce a vulvitis which easily extends to the vagina; the same may be said of the irritating secretions often met with in marasmic and badly nourished children, and also of the hyperacid urine which occurs in the sthenic fevers.

In children with enuresis, we have sometimes met a most aggravating condition, the result of the rubbing of the parts with the clothing saturated with the inevitably decomposing urine.

Besides the above, a short attack of vulvo-vaginitis has been known to occur as a sequel to the eruptive fevers.

In three remittent cases of vulvitis without apparent cause, we have found adherence of the nymphæ to the glans clitoridis and separated them with subsequent good results; but whether the pre-existing condition, by retaining smegma and secretions and thus irritating the parts, was the direct cause of the local inflammation I am not prepared to affirm on so limited an experience.

Pathology and Clinical Features.—As the title of this paper implies, it is not within its scope to treat of the simple form of catarrh of the vagina, which is always but a pathognomonic sign of great anæmia or other equally debilitating condition requiring no local treatment. It deals only with that state where there is an actual inflammation of the vulvo-vaginal tract with the production of abnormal discharges.

The gonococcus of Neisser has been found in company with other diplococci, in the discharges of infectious vulvo-vaginitis, for the differentiation of which great credit is undoubtedly due to the experiments of Dr. Henry Heiman,⁴ which most conclusively contradict the assertion made by Martin⁵ to the effect that it was impossible to separate them. On the other hand we find Neisser⁶ who says that vaginal flux is due to the gonococcus and that the usual vaginal secretions may contain all forms of bacteria except the gonococcus.

Certain conditions are always met with in vulvo-vaginitis, whether of gonorrhœal origin or not; such are the pronounced pyorrhœa consisting of desquamated epithelium and pus cells, large number of bacteria, strepto- and staphylococci, diplococci, etc., with its attendant mucus. Gonococci are absent in many cases. The external genitals are red, and on separating the œdematous labiæ, they may be seen covered with a foul-smelling discharge of greater or lesser consistency.

Abrasions and excoriations of the parts are common,⁷ and this, in connection with a stretching or tearing of the hymen, always makes us think that an attempt at coitus or actual masturbation has taken place. The inflammation of the external mucous membrane will extend for a longer or shorter distance into the vaginal canal, and in the great majority of cases will involve the urethra near the meatus. But few of such patients under our observation have failed to complain of pain on micturition, while only in two of them has the disease been allowed, through the evident in-

* Read before the Society for Medical Progress of the West Side German Dispensary, December 14, 1895.

difference and carelessness of the parents, to extend and involve the bladder walls.

Constitutional symptoms seldom accompany the above prominent local signs, and although a febrile movement may have been present in some of the cases I am inclined to think it more a sign of other inflammatory processes elsewhere, such as mild acute bronchitis, tonsillitis, indigestion, etc., so often present in children without any complaint being made to direct the mind of the attendant to them.

Treatment.—We believe that the number of remedies, external as well as internal, recommended for the relief of this condition is as great and heterogeneous as that put forth as valuable specifics in urethritis of the adult; like them, they have one after the other dropped into most righteous disuse; they have proved themselves useless, when not actually harmful, which they were in the majority of cases. Here we may mention solutions of acetate of zinc, nitrate of silver, bichloride of mercury, white oak bark, resorcin, red wine, matico, bismuth, grindelia, suppositories, etc., which have been used locally, and benzoic acid, bromide of potassium, pareira, etc., as internal medication; they are mentioned here only to most emphatically condemn them. The administration of drugs should be undertaken under absolutely no circumstances except it be directed to alkalinize the urine or rather lessen its acidity, which is very desirable where the urethra is involved or in cases of cystitis. Otherwise no medicine by the mouth may be expected to do any good, and when required as above suggested, only a mild diuretic like the citrate of potash should be used; almost any other remedy will only serve to derange the tender digestive apparatus and to throw further obstacles in the way of a rapid and permanent cure.

It is hardly necessary to say that in those cases where the vulvo-vaginitis is due to a remote cause or to a constitutional dyscrasia, treatment toward removing that cause or restoring the systemic tone must not be overlooked, as it will prove a most powerful ally in obtaining the final results.

Where there is rachitis, phosphorus and cod-liver oil are indicated; where eczema of the parts is present, it is always difficult to tell which of the two conditions was the cause and which the result, because if it is true that eczema by inducing scratching may finally cause a vaginitis, it is none the less a fact that this condition is seldom unaccompanied by an eczema in the neighborhood of the genitals as a result of the irritating discharges from the latter.

Enuresis, which I place among the more frequent etiological factors in the production of vulvo-vaginitis, must be treated *per se*, which treatment we need not consider here. In all cases I would recommend a close scrutiny of the vulva, and where adhesions of the nymphæ to the clitoris exist they should always be torn and the parts kept well covered with vaseline for a few days after. It is a matter of common sense to remove any foreign body that may be present and to advise the most scrupulous cleanliness in all cases.

Whether the urethra be involved or not, my routine treatment has been directed to the vaginal canal and the external parts only; this consisted simply of flushing with a solution of permanganate of zinc or potassium (preferably of zinc), to the strength of 1-3,000.

The mother was instructed (the first time, practically taught) to insert into the vaginal canal, for a distance of one or two inches, accordingly a soft rubber tube of a thickness appropriate to the age of the child, the other end being connected with a fountain syringe or by siphon with an ordinary bottle; the reservoir being lifted one foot or eighteen inches only above the level of the table, the fluid is allowed to flow into the canal. The vulvar os is compressed at

short intervals to produce a distention of the vaginal walls and thereby allow the liquid to come in contact with every portion of the inflamed area, which it would not do otherwise, on account of the natural rugæ, more numerous and prominent in children than adults.

The reservoir is raised only to a height of one or two feet (higher as the child happen to be older), because in that way we obviate the possibility of forcing any of the solution into the cervical canal, while at the same time it is quite sufficient to produce enough pressure to distend any ordinary child's vagina to the required degree.

The soft rubber tube may be used with impunity on the most irascible child, and I have as yet to see any case where it has ruptured the hymen. An ordinary piece of soft drainage tubing should always be used, and never the closed end of a rubber catheter where the holes are placed on the sides. The two cases which came under our care with the complicating cystitis I did not trust to the parents for intravesical medication, but personally irrigated their bladders with a 1-6,000 solution of the same drug.

Were I to exclude from my statistics the two cases above mentioned which took respectively five weeks and two months to recover completely, the average length of time which the other consecutive thirty cases required was only of 12 $\frac{1}{2}$ days from the time of the onset, which in some few cases was even two weeks before treatment was applied for.

In conclusion I will say that, (I.) although vulvo-vaginitis, where other causes are not evident, is in many cases the result of direct contact with a gonorrhœic, it may also be the outcome of attempts at intercourse by a healthy male or masturbation; (II.) that in the majority of cases which come under observation there is no reason to suspect any immoral origin of the disease, while it may still be due to an innocent infection; (III.) that the local treatment of all cases should be as above described; the method is so simple and requires so little apparatus that it is within the reach of the most indigent as well as the most ignorant and stupid of parents; (IV.) that it should always be aided by constitutional treatment where the cause is not purely local; and finally (V.) that I feel convinced that, wherever tried, it will produce most satisfactory permanent results.

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Syphilitic Iritis.—Tuberculosis has its seat of predilection toward the adherent margin of the iris, is yellow, at times of rose tint, by reason of the development of a fine vascular network upon its surface; the condyloma, on the other hand, appears generally toward the free border, has a velvety appearance, and is brownish. Specific condylomata may, however, occur near either margin, may go through their evolution in a painless manner, may be accompanied by hypopyon, and may have a yellowish color at first, which afterward becomes brown. Treatment is begun by the subconjunctival injection of one division of the Pravaz syringe containing a 1 to 1,000 solution of sublimate.—DE SPÉVILLE, *Le Mercredi Méd.*, December 11, 1895.

AN EASY METHOD FOR REDUCING DISLOCATION OF THE HUMERUS IN ANY VARIETY OF THAT DISLOCATION.

BY J. M. WARD, M.D.,

CORNELL, MO.

EVERY physician and surgeon is aware of the usual manipulations for reducing this dislocation. The books figure the heel in the axilla and extension, the knee in the axilla, and some substitute a ball of yarn. Then there is the method by adduction, rotation outward, carrying the elbow on to the chest and the hand on the sound shoulder. All of them are painful and often fail, so that it is by repeated effort that success is gained. And finally there are the pulleys that look like a relic of the Inquisition. Forty years ago I adopted a new method that I have never seen de-

Progress of Medical Science.

The Aseptic Treatment of Abscesses and Suppurating Wounds.—The pendulum continues to swing backward, and antiseptics continue to be discarded on every hand. First the spray was abandoned; then the instruments were not immersed in antiseptic fluids; at about the same time antiseptic dressings began to be discarded; and, finally, antiseptic irrigations are being dispensed with. The past five years have seen antiseptics give place largely to asepsis. The question, Shall fresh wounds be treated with antiseptics? has been pretty generally answered, No; and a question which may now very properly be asked is, Shall infected wounds be disinfected? Zeidler, in making a negative reply to this question, calls attention to the work of Schimmelbusch, which proves



scribed. A boy in the year 1856 was thrown from a horse and suffered a dislocation of the humerus. I laid him on the floor, carried his arm up by the side of his head, held the scapula down with one hand, and pushed the head of the humerus into its place, which was easily done and with little pain. The movement of the arm completely surprised the muscles of the shoulder so that there was no contraction, and it lifted the head of the bone from its new locality. With that accomplished the reduction follows with hardly any of the audible snap that attends the common method. After reduction the arm is brought down to the side, and the head of the bone supported till the arm is at rest. I have treated every dislocation of the shoulder in the same way since that time. Persons standing around always remark as to how readily the reduction is effected. After carrying the arm up by the side of the head I sometimes give the hand to an assistant, then fix the scapula and draw it down with one hand, and elevate the head of the humerus with the other; chloroform is never needed.

that the value of disinfection is at least very questionable. Reichel and Hänel have arrived at the same conclusion, while, on the other hand, Henle and Messner found otherwise. More recent experiments seem to show that almost every sort of wound disinfection is contraindicated. Reichel made a number of experiments upon animals and found that he could best check extensive phlegmonous processes by free incision into the infiltrated tissue, and that a disinfection of the wound was of absolutely no advantage. During the course of the past two years he has treated a large number of cases of suppuration without any disinfection of the pus cavity. The pus was liberated by free incision, the cavity sponged out, and tightly tamponed with iodoform gauze. His results have been excellent. The aseptic treatment of suppuration is not new. The practice here, as is often the case, precedes the experiments. Säger, in 1888, limited antiseptics to simple suppurating wounds. In 1889, Zeidler wrote upon the treatment of suppurating wounds without the use of antiseptics. At that time he reported a hundred cases of all sorts of sup-

uration; and in 1892 he reported several hundred cases of suppuration, from granulating surfaces to extensive phlegmons, treated without antiseptics. In the same year Helferich appeared with a report of cases of phlegmon treated in the same way. In the recent handbooks of Schimmelbusch, Braatz, and Jaffé, irrigation with carbolic and bichloride solutions in suppurative processes is regarded as superfluous and harmful. Theoretically, it seems also to be recognized that not only in aseptic but also in infected wounds antisepsis is being replaced by asepsis. In practice this feeling is not entirely dominant. Many disciples of asepsis for clean operation wounds disinfect their suppurating wounds with antiseptic agents. For the benefit of these, Zeidler's experience and observation in a large number of cases may be briefly mentioned. In the Obuchoff Hospital in St. Petersburg, in the year 1892, 956 operations were done for abscesses, suppurative lymphadenitis, suppurative bursitis and tendosynovitis, parotitis, carbuncles, etc. In 1893, 1,165 similar operations were done; and in 1894, even more than this, including osteomyelitis, suppurative peritonitis, perityphlitis, and empyema. In these cases antiseptics were not employed. The operations were done in the following general way: The field of operation was prepared after the usual rules. During and after the operation the wound was simply sponged out with sterilized gauze. As a rule, irrigation was not used. When irrigation was resorted to, normal salt solution (0.6 per cent.) was employed. The wound was then very carefully and tightly packed with sterile gauze. Over this was placed a layer of gauze and then sterile wood-wool, moss, or other absorbent material. At dressings, the skin around the wound was cleaned with ether or benzin and the granulating wound irrigated with salt solution, dried, and dressed with sterile gauze. In most cases a dry gauze dressing is preferable. In some wounds of course a wet dressing is indicated. When this is necessary the gauze and cotton covering are simply moistened with salt solution. A large experience with parallel experiments has convinced Zeidler that it is the moisture of the dressing that is of benefit and not the antiseptic, as Reichel assumed. Zeidler has not been able to discover any difference between moist carbolic, bichloride, and salt dressings. There seemed to be some slight effect from the dressing of clay soaked with acetic acid, but this was probably due to the astringent effect of the same. He has never seen any advantage derived from dressing suppurating wounds with iodoform gauze. Numerous bacteriological investigations of suppurating wounds immediately after their disinfection have always shown pus cocci. With some few exceptions, Zeidler's experience with antiseptic dressings has been the same as that of Schlange. He has never seen an antiseptic dressing have any retarding or disinfecting effect upon the bacterial development. His results in the aseptic treatment of suppuration are throughout satisfactory, much better than are obtained with the energetic use of antiseptics; and his clinical observations corroborate the experiments made by Reichel upon animals. The local progress of the wound is better; the amount of secretion is less; and the development of granulations goes on normally, and the granulations do not become excessive or show the tendency to bleed that we are accustomed to see in wounds treated with iodoform gauze. Even when the dressing is not frequently changed—often being left on eight days—no strong odor is observed or any decomposition of the secretions. So long as a free escape of matter is provided for, the healing of the wound goes on normally; and it is claimed that there is much less reaction in the wound treated aseptically than when antiseptics are used. The important indi-

cations in the treatment of suppuration are free opening and free drainage; and in the opinion of Zeidler a disinfection of the wound is not only not indicated, but is dangerous. These observations from other sources suffice to illustrate the aseptic treatment of suppuration. In the treatment of the superficial suppurations of certain mucous surfaces the value of antiseptics seems to have been pretty well demonstrated. The resisting capacity of epithelial cells against chemical irritants is much greater than that of connective-tissue cells; and it is perfectly possible to apply to a mucous surface germ-destroying solutions which do not impair the vitality of the native cells. The conditions which exist here are so very different from those existing in a wound or abscess that these remarks have been confined to connective-tissue suppurations. By the antiseptic treatment we understand the use of antiseptics as they are ordinarily employed. The cauterization of wounds either by actual heat or by strong and corrosive chemicals is often a valuable surgical measure, but cannot in the usual sense of the word be included in antiseptic treatment. Nor should wounds which have recently been infected by rabies or anthrax or other virulent organisms be regarded in the same light as the ordinary suppurating wound. Suppuration is not a necessary symptom of the first class; and the latter must have needs been implanted many hours before suppuration is observed. It would seem that the ultimate use of antiseptics is to be confined largely to the destruction of bacteria outside of the animal body in order to prevent their admission therein. In the animal tissue bacteria are living cells lying against living animal cells of a very similar degree of vitality. Foreign agents which destroy one destroy the other; and it is very questionable whether an agent will ever be found capable of exercising a selective action upon the parasitic cells. In general therapeutics as well as in surgery there is a growing tendency to give the natural vital forces a chance to do what they can—a growing faith in the *vis medicatrix nature*.—*Annals of Surgery*.

The Pathology and Treatment of Gout.—While the clinical picture of gout in its varied manifestations has been clearly made out and its treatment has been placed upon a fairly secure basis, a good deal of doubt and uncertainty surround its intimate pathology, and this the near future promises soon to dispel. In an address delivered recently before the Berlin Society for Internal Medicine, Klemperer reviewed the main phases through which this subject has passed, and presented evidence showing that none of the views hitherto propounded is entirely adequate or satisfactory. In addition he recited the results of some original investigations which, while not solving the problem, bring it closer to a solution and shed new light on an obscure subject. Garrod maintained that gout is due to increased formation and diminished elimination of uric acid; when an excess has accumulated in the blood it is deposited in the tissues, in which it gives rise to inflammation and necrosis. Recent investigations have, however, thrown doubt upon the accuracy of the results of Garrod's analyses. Nevertheless Ebstein admits the probability of an excessive production of uric acid, with accumulation in the blood; the circulating fluid, thus surcharged, causes local inflammation followed by necrosis, and in the necrotic tissues uric acid is deposited. v. Noorden has arrived at the conclusion that the gouty condition is independent of the presence of uric acid in the blood; the tissue-necrosis that occurs he ascribes to the activity of a hypothetical ferment, and he believes that the uric acid deposited locally is formed at the necrotic focus. To determine the relation between the presence of uric acid in the blood

and tissue-necrosis, Klemperer made a study of a number of individuals, including three persons in health, a case of leukæmia, one of pneumonia, two of interstitial nephritis (one compensated and one uræmic), and four of gout (three during a paroxysm and one uræmic). In all of the cases of gout, as well as in the case of leukæmia, and in both cases of nephritis comparatively large quantities of uric acid were found in the blood. To ascertain whether this result is due to increased production or to diminished elimination, the urine was studied in eight cases of gout, placed under like conditions. In two the daily amount of uric acid found in the urine was between 0.4 and 0.5 gram; in five between 0.5 and 1 gram; and in one between 1 and 1.2 grams. No relation existed between the amount of uric acid present in the urine and the character of the disease. It has been shown that the ingestion of thymus gland of the calf by healthy persons is followed by increased excretion of uric acid, and a similar increase was also found to take place in gouty persons. From all the facts it appears that there is no retention of uric acid in gout as long as the function of the kidneys is not materially interfered with, and that the presence of considerable amounts of this substance in the blood cannot be attributed to diminished elimination, but must be ascribed to increased production. The presence of similar amounts of uric acid in the blood of others than gouty patients, however, shows that this factor does not constitute the essential element in the causation of the gouty condition. Klemperer has found further that slight and insignificant differences exist in the solubility of uric acid in the blood-serum of gouty patients as compared with that of other patients and also of healthy persons, the solvent power of the serum in all being considerable—in fact, more than sufficient to dispose of the large amounts of uric acid present. He is, therefore, forced to the conclusion that the deposit of uric acid in the necrotic areas of gouty persons is not due to its insolubility in the blood, but is to be explained by the fact that such tissues possess a greater chemic affinity for uric acid than does the blood. Experimental observations showed also that while the blood underwent some diminution of alkalinity during the gouty paroxysm, this was not more than occurs under other conditions, and certainly not sufficient to account for the crystallizing out of uric acid. In view of all the evidence, the conclusion is reached that in the gouty certain unknown substances lead to inflammatory and necrotic processes in various tissues, and the necrotic tissues possess the property of attracting from the blood uric acid when present in considerable amount. These substances frequently develop from hereditary influences; sedentary pursuits and high living favor their formation; and two poisons in particular—alcohol and lead—predispose to their activity. It has hitherto been supposed that intoxication with lead paves the way for the development of gout by lessening the excretion of uric acid, but it has been shown that lead-poisoning does not have this effect; it may be that the lead present in the blood enhances the necrotic effect of the gouty poison. The practical deduction from what has gone before is that successful treatment must depend not upon increased solvent power of the blood upon uric acid, but upon the correction and the prevention of the necrotic process by increased oxidation and increased elimination. The attainment of these ends is largely reached through the employment of established measures whose use is sanctioned by the empiricism of centuries. These include increased physical activity, warm or hot baths, free ingestion of milk and of water, preferably alkaline, the avoidance of meat in excess, particularly red meat, and of fats, alcohol, and other carbohydrates. Finally, thy-

mus gland may be administered to increase elimination of uric acid.

Poisoning by Stale Eggs.—Dr. Cameron has reported the occurrence of vomiting and purging in seventy-four nuns and girl-pupils in the boarding-school attached to a convent in Limerick, following a dinner at which mutton and a custard composed of eggs, milk, corn-flour, and sugar were eaten. The corn-flour was suspected to contain arsenic, but analysis showed it to be free from poison of any kind, and to be of good quality. The sugar also proved to be pure. No other constituents of the meal could be obtained. The vomit and the stools were intensely green from the presence of biliary matter, but careful analysis failed to disclose the presence of ordinary poison. The viscera of two patients who had succumbed were also examined, but no poison was found. Ptomaines were found present, but in small quantity. The milk used had been boiled, and the meat was above suspicion. The eggs, however, were not fresh, and one presented a reddish-brown color and was thought to be bad. Some of the custard, given to pigs, induced severe diarrhœa.—*Dublin Medical Journal*.

Electric Currents of Extreme Frequency.—Drs. Apostoli and Berlioz report therapeutical effects of electric currents of extreme frequency, obtained by means of solenoids entirely surrounding the patient. Two series of experiments were made. The patients of the first series were hysterical subjects with various manifestations, persons suffering from neuralgia, etc. No result was obtained from electrization in such cases. In the second series of experiments, on the other hand, in cases of gout, arthritism, rheumatism, and glycosuria, the effect was remarkable. The condition of the patient was the first to be influenced. In addition, oxidation was invariably increased, as urinalysis showed. In three diabetic patients the glycosuria completely disappeared after twenty electrizations. Currents of extreme frequency are destined to become a powerful adjunct in the treatment of diseases due to impaired nutrition.—*Medical Standard*.

Tar Vapor-Bath in Psoriasis.—Dr. Wolf reports a case of generalized psoriasis of three years' duration in a twenty-year-old girl. The lesions generally were discrete, but on the buttocks, extensor surfaces of the upper and lower extremities they were confluent. The general outline was circular; there were no chains or gyrate figures. The whole vulva and the adjacent surfaces of the thighs were involved in one large scale area. There were small spots on the scalp, covered with white shining, papery scales. He put the girl immediately on Fowler's solution gtt. iij., to be gradually increased, for internal treatment, and for local use he ordered her to take daily a vapor-bath of tar. A bath cabinet, of which there are a number on the market, and any will do, was procured; the patient sat on a stool within it, and under the stool was placed an alcohol lamp, with one ounce of *pix liquida* and four ounces of water in the small tin boiler with which the lamp was provided. Enough alcohol (one ounce) was put in the lamp to last fifteen minutes. The lamp being lit, the rubber flaps were tucked under the patient's throat and only the head allowed to protrude from the opening at the top of the cabinet, and the whole body was subjected for a quarter of an hour to the influence of the vapor. After coming out, the whole body was wiped dry of moisture and a little alcohol in the form of spirit of lavender rubbed in with the hands. The skin, very dry and harsh at first, now perspires readily, and is much softer and more pliant, and the patient is vastly benefited. Some of the patches have disappeared entirely, and the

large ones are looking much better. Of course, this method of treatment need find place only when the disease is so generalized as to put it beyond the rational employment of very stimulating applications in the form of ointments and pastes; and is not necessary in cases in which the patches are few and of small extent. Dr. Wolf has seen one death from pyrogallol in disseminated psoriasis, and much pain and misery caused by injudicious use of chrysarobin.—*Medical Standard*.

The Treatment of Pneumonia with Inhalations of Large Doses of Amyl Nitrite.—Dr. Hayem reports the employment of amyl nitrite in large doses by inhalation in the treatment of both pneumonia and pulmonary tuberculosis. The results were more favorable in the former than in the latter condition. Tuberculous patients can inhale the vapor from a suitable receptacle. Pneumonia patients used compresses upon which fifteen drops of the pure drug were dropped and the compress held close to the nose and mouth, deep inspirations being made the while. When this quantity has evaporated the amount is repeated again, and perhaps twice or even thrice. In this way fifty drops may be employed in the course of five hours. The physiologic phenomena of flushing, pulsation, pressure, respiratory and circulatory acceleration, cough, dyspnoea, etc., soon disappear and leave no bad effects. The treatment is continuous throughout the illness and for a few days beyond defervescence. The dosage must depend upon individual tolerance. Other therapeutic measures are not contraindicated. It is not contended that amyl nitrite thus used shortens the duration of the disease or affects the temperature curve, although it mitigates the symptoms referable to the lungs. The effect is attributed to an influence upon the pulmonary circulation.—*Medical News*.

Insufflation of Sodium Chloride into the Nasal Cavity for Relief of Pain.—Dr. Capp recommends the insufflation, through an ordinary insufflator or other appropriate tube, of from two to four grains of pulverized table-salt, as a measure tending to give immediate relief in facial pain or headaches arising from trifacial irritation from decayed teeth, eye-strain, or from other causes such as ear affections, hysteria, or uterine reflexes. The measure was first applied, according to the author, by Leslie, and published in the *Edinburgh Medical Journal*, January, 1890; the latter had successfully employed it in the treatment of obstinate and long-standing cases, as well as acute neuralgia, headache, faceache, earache, toothache, and bronchial asthma. The application causes about the same temporary discomfort as would a pinch of snuff, but is not followed by bad results, and is usually successful.—*Texas Medical Journal*.

Hot Water Enemata for Periuterine Disease.—Dr. Reclus, of Paris, believes (*The Medical Week*) that the time is now past when apparently well-informed surgeons proposed and practised extirpation of the adnexa for the relief of pain on pressure in the vaginal culs-de-sac, ill-defined infiltration of the region, menstrual troubles, and a sensation of weight in the lumbar region. More than this is now required to justify laparotomy. To quote: "For my own part, I never operate in the presence of these affections of the true pelvis, before I have had recourse to a medical treatment in which hot-water enemata constitute the principal factor. The results obtained in this way are so satisfactory that in my wards at the Pitié Hospital we only operate on the average on one out of three patients admitted for undoubted oöphoro-salpingitis. Following the example of many of my col-

leagues, I begin by disinfecting the vagina and uterus, followed by dilatation of the cervix and prolonged drainage of the uterus, packing and, if necessary, curetting the uterine cavity, the walls of which I treat repeatedly with topical applications, such as tincture of iodine, creosote, and graduated solutions of zinc chloride. These manœuvres have been so often described that there is no necessity for repeating the description, except in so far as my method differs from that of other surgeons. Though it is not unusual to employ hot water, this water is not, as a rule, hot enough, the temperature ordinarily being from 40° to 45° C., whereas I use water of at least 50°, and still more frequently 55° C. The principal difference, however, is that, while other surgeons have recourse to vaginal irrigations, I employ enemata for this purpose. Not that I entirely disavise vaginal injections, were it only for cleansing the vagina, a result which is by no means to be despised; but it must be remembered that this is about all the benefit to be derived from such injections, which have little, if any, modifying effect on congestion of the uterus and its appendages. Their use rests on an anatomical error, for, if it is desired to reach the uterus, ovaries, and oviducts, the operations must be carried out through the rectum. An enema results in the accumulation of hot water in the ampulla of the rectum, into which the internal genital organs project. Enemata must, therefore, be resorted to under these conditions. It is better to take them in the morning, about half an hour before rising. The irrigator, filled with water at a minimum temperature of 55° C., is placed on the night-table, the cannula is introduced above the sphincter, and the tap is slowly opened, so that only a small quantity of liquid passes into the intestine, the slowness of the process preventing contraction of the muscular coat. In this manner, therefore, a much larger quantity of water can be introduced than if a strong jet be turned on at once. Should, nevertheless, a desire to defecate manifest itself, the water is shut off until this desire has passed, after which the tap is again slowly opened. The patient should retain the enema for half an hour if possible. Then she is allowed to evacuate the liquid, repeating the operation the next morning. By this antiseptic treatment, drainage of the uterus, and hot enemata, I have succeeded in relieving, and even curing, a large number of cases of perimetro-salpingitis. The infiltration of the culs-de-sac disappears, the peristaltic movements of the intestine break down the adhesions, and, instead of large masses filling up the true pelvis, the exudations and purulent collections are absorbed, the vaginal culs-de-sac become supple, the uterus movable, and the region in question resumes almost its normal condition, especially after judicious and moderate application of massage. I have on many occasions seen the tumor entirely disappear, and this result was in a large measure attributable to the use of hot water, which, as I have shown, is of the greatest value in surgery."

Osteomyelitis may be due to infection by the bacterium coli commune. Injected into the veins of the rabbit it produces inflammatory lesions of the osseous system resembling those produced by the usual organisms of suppuration. The lesions are usually multiple and most frequent near the epiphyses of long bones, especially at the lower extremity of the femur and upper portion of the tibia.—*Archives de Méd. Expér.*, May, 1895.

Hypertrophic Cirrhosis in children may not infrequently be associated with hypertrophy of the last phalanx of the fingers and deformity of the nail which is incurved and altered in structure.—GILBERT, *Sem. Méd.*

Therapeutic Hints.

Locomotor Ataxia.—"The early ocular palsies are of the greatest importance. A squint, ptosis, or Argyll-Robertson pupil may be the first symptom, and may exist with the loss only of the knee-jerk."—OSLER.

Neuralgia.—All cases of "neuralgia" of one side of the head, accompanied by inflammation of the eye, must be regarded with extreme suspicion; they are usually cases of iritis or glaucoma.

Favus.—

R Floris sulphuris	15 grms.
Sodii carbonatis	4 "
Picis liquida	50 "
Tinctura iodi	50 "
Adipis	100 "

—*Rev. de Thérapie.*

Examination of Urine.—The addition, too, of a mineral acid to these acid specimens is a delicate matter; frequently, if more than a trace of nitric acid be added, we fail by producing too high a degree of artificial acidity to obtain the reaction; while other specimens require to produce precipitation the addition of an amount of nitric acid that is surprising and that would never be persevered in by an inexperienced person.—BRUNS.

Pulmonary Tuberculosis.—

R Calcium phosphate,	
Menthol	55 gr. iv.
Sodium bicarbonate	gr. iij.
Powder of nux vomica,	
Iron lactate	55 gr. ¼

M. To be taken four times a day with food.

—MARAGLIANO.

Sleep.—The chief advantage of sulfonal over trional is that the effect of a full dose continues longer and that it will produce sleep on the second night, and in a few cases even the third.

Chronic Diarrhoea and Dysentery.—

R Cupri sulphat.,	
Morphinae sulphat	55 gr. i.
Quininae sulphat	gr. xxiv.

M. ft. pil. No. xii. Sig. One pill three times a day.

Granular Conjunctivitis.—

R Mercuric oxide	gr. iij.
Zinci,	
Thymol,	
Muriate of cocaine	55 gr. iss.
Camphor	gr. ss.
Vaseline	3 i.

M. ft. ung.

Drugs in Children.—In giving very active drugs to very young children it is generally best to write out the name and amount of the drug fully and not in figures, and to state at the top of the prescription that it is for a very young child and that the drops should be counted.—DANCHEZ.

Typhoid Fever.—Diarrhoea is treated by withholding excessive quantities of food, and by the use of such remedies as bismuth salicylate, opium, etc. Overfeeding is largely responsible for tympanites. Oil of turpentine and oil of anise will usually relieve the distention.—KING.

Alcohol in Children.—The risk of alcoholism must always be considered in ordering alcohol for children, and where there is a history of alcoholism in a child's antecedents it is best to avoid it altogether. Dipsomania, generally hereditary, occurs both in boys and in girls, in the latter especially about the time of the first menstruation. Delirium tremens has been seen at five years old and cirrhosis of the liver, with definite history of abuse of alcohol, at three and one-half.—MOREAU.

Chilblains.—

R Resorcin	1 part.
Ichthyol	1 "
Tannic acid	1 "
Water	5 parts.

Externally!

The affected parts are painted with this liquid every evening, shaking the bottle well before using. When applied to the skin in this way, it is transformed in a few minutes into a dry layer of varnish. Under the influence of the resorcin, the skin shrivels up, and the chilblains rapidly disappear.—BOECK.

Morphinism.—Morphinism in the old is less disastrous than in early life. First, because the old seldom take the drug to excess—lessened care and work make it less necessary; second, and I take this to be the most important, the moderate use of opium after the age of threescore and five, is, in my opinion, salutary, distinctly conducive to length of days.—MAT-TISON.

Cardiac Disease.—For years past Glax has been accustomed to treat patients suffering from chronic diseases of the heart by diminishing the allowance of fluids, often to a considerable extent, and his results have been excellent. He gives the histories of a few such cases.—*Exchange.*

Exudative Erythema.—By exudative erythema is understood a disease of unknown etiology with polymorphic skin lesions—hyperæmia, œdema, and hemorrhage—arthritis occasionally, and a variable number of visceral manifestations, of which the most important are gastro-intestinal crises, endocarditis, pericarditis, acute nephritis, and hemorrhage from the mucous surfaces.—OSLER.

Goitre.—In my experience removal of a patient with a growing or intractable goitre to a part of the country where the disease is less common has been followed by complete disappearance of the tumor, and some of my correspondents have had similar experience.—DOCK.

Nocturnal Enuresis.—Treat nocturnal enuresis by depressing the head and elevating the hips of the sleeping child. I have employed the method in some twelve cases in individuals of various ages and of both sexes with the best results.—STUMPF.

For the Relief of Stings of Insects.—

R Solution of ammonia	7 parts.
Collodion	3 "
Salicylic acid	0.3 parts.

—*American Journal of Pharmacy.*

Post-Partum Hemorrhage.—Post-partum hemorrhage has been treated successfully a number of times by saturating a piece of lint in turpentine and introducing it by the hand into the uterus. Contraction of the uterus soon took place, and the hemorrhage stopped. The remedy is quick and certain in its action, and easy of application. It produces no injurious result.—MAYNE.

Lassar's Paste.—

R Acid. salicyl	2.0 parts.
Vaselin	50.0 "
Zinc. oxid.,	
Amyl	55 25.0 "

M.

Warts.—Flowers of sulphur, 150 grains; glycerin, 375 grains; pure acetic acid, 75 grains. Applications of this mixture should be made every day, and gradually the warts will become shriveled and dry and finally drop off. The mixture should be well shaken before it is used.—*Lyon Médical.*

Violent Urticaria.—Salicylate of soda in dose of twenty-four grains repeated every two hours for three doses.—LASSAR.

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THE MISSING LINK AGAIN.

ONCE more the reporter has been helping the scientist out of a dilemma. As is well known—by those who depend upon the daily press for their scientific information—the only thing necessary to the absolute demonstration of the Darwinian theory was the discovery and production, living or dead, of the intermediate form between man and the anthropoid apes, popularly but incorrectly termed “The Missing Link.” And now it is said that he has been unearthed in Java, to the great joy of the newspaper biologist and the dismay of the orthodox.

The lucky explorer was a French surgeon attached to a Dutch regiment in the East Indies, who, some months ago, in digging for fossils, exhumed some fragments of a skeleton which struck him as something distinctly unusual. He therefore made a careful study of the bones and reported thereon to one of the Dutch scientific bodies. The discovery was accepted at once by the unscientific as conclusive, that the missing link was found and a great truth was established. But science spoke differently. Professor Cunningham, of Trinity College, Dublin, for the anatomists, and Professor Brinton, of the University of Pennsylvania, for the anthropologists, united in declaring, on the evidence of Dr. Dubois’ own memoir, that the remains described by him did not belong to any ape-like form at all, but were distinctly human, although prehistoric. They bore witness to the accuracy of Dr. Dubois’ report and to his evident scientific attainments, but thought that if he had had the opportunity of comparing his specimens with some of the human bones from the cave-deposits, he would have modified his opinion considerably. Indeed, as they might have reminded him, there are races of almost prehistoric character to-day in the same group of islands, the Dyaks, at Borneo, for example. Moreover, not so very far away is Ceylon, whose aborigines, the Veddahs, are still arboreal in their habits, living in flimsy huts built among the branches of trees, and whose series of assorted grunts hardly deserves the name of a language.

The whole episode beautifully illustrates the haziness, or rather fogginess, of popular ideas upon this subject. The common conception of the Darwinian theory, even among educated people, is roughly that man is assumed to be descended from a monkey, but that the mediate form through which the descent oc-

curred cannot be found, hence the theory cannot be proven and is probably baseless.

There are only three comments to be made on this statement. The first is that Darwin does not regard man as descended from a monkey. The second, that the missing link at this point is not one-fourth as great as at a dozen other places in the series. The third, that there is no “missing link” in the chain of pre-human descent, either here or anywhere else. From an evolutionist’s standpoint, it would be quite as correct to say that monkeys are descended from man, as man from monkeys. Both are from a common ancestor, but he was a long, long way back.

The ancestor of the primates probably diverged from other animals, not far from the very origin of the mammalia, and the ancestors of man and the apes began to diverge from him at least one hundred thousand years before any form like the present anthropoids on the one side or man on the other appeared. What has become of man’s immediate ancestors? He has simply exterminated them in winning his own foothold, just as the “Yankee” has the Algonquin. The more nearly alike are the needs and tastes of any two forms, the surer they are to fight to the death.

As to the second comment, even supposing that the present apes are the closest copies extant of our pre-human ancestor, the gap between us and them is insignificant by comparison with others in the series. Take that between plant and animal, for instance, or between fishes and snakes, or lizards and birds. Or, to come nearer, between whales and other mammals, or, previous to Marsh’s discovery, between the fox-sized eohippus and the modern horse.

The third position, that there is no missing link, is one which requires little defence before practising physicians.

To say nothing of the gill-clefts, the caudal developments, the pupillary membrane, the hairy coat, etc., which embryology reveals, have we not practical demonstrations of man’s kinship to the lower animals every day? What is that *appendix vermiformis*, which is causing us so much grief just now, but the shrivelled remains of a cæcum which was actually useful in the days when man’s forebears ate grass like the ox? What is hernia but the protrusion of intestine through a canal which in the quadrupedal position sloped upward, but now points downward on man assuming the erect position? What of those troublesome bodies, the tonsils, which an eminent laryngologist has recently declared “form no part of a normal throat”? They are simply lymphoid aggregations around the inner end of the second gill-cleft, and how far back does that take us? Back to the tadpole. The occurrence of the cleft in hare-lip at one or both sides of the premaxillary bone, instead of in the median line, is another “link,” and the rebellion of the lanugo hairs all over the surface at puberty, which causes acne, is another.

Even our disease processes are “reversions.” Calcareous degeneration is the process by which the oyster builds his shell; fatty, that by which the whale forms her milk; fibroid, that which enables the sponge-polyp to build his felt-like network. Lithæmia is at bottom

a reversion of our liver and muscle-cells to the avian or reptilian condition, so that they secrete uric acid and urates instead of urea. The menstrual periods still vibrate in a rhythm of weeks and lunar months, which echoes down from the time when our ancestors lay upon the sea-beach, and fed upon the flotsam and jetsam of the ocean surges.

To the physician, the pathologist, there is no "Missing Link."

MEDICINE AND SOCIETY.

ONE of the English reviews contains an article entitled "Medicine and Society," by Dr. J. Burney Yeo, which has attracted some attention, particularly among the more eager critics of the medical profession. Dr. Yeo's article aims in general to show that the present status of the medical profession, in relation to society, is not what it should be. Of course he takes up the subject of "specialism," portrays its familiar evils, and tells how, through the methods of specialists, the profession has become greatly degraded. He says that a man of very limited ability can now, in a short time, acquire a certain familiarity in the management of a single organ, and by merely identifying himself with its treatment, and compiling some work on the subject, however small its merit, be able to advertise himself as a skilful specialist and earn a large income. He adds, also, that specialists charge too large fees, and that society is beginning to resent it.

As regards these points, Dr. Yeo tells some measure of the truth, but he does not tell all of it. If it were entirely true that men of limited ability, by becoming specialists, could and did soon earn a large income, there would be at once an enormous rush of this class into the medical ranks, and society would be glutted with men of limited ability and unlimited charges, so that this evil would be bound soon to correct itself. As a matter of fact, it is probably doing so. We venture to say that, in New York at least, it is not possible for a man to enter a specialty and earn a large income, without a course of preparation involving from fifteen to twenty years, during a large part of which time he is barely earning his living. The large charges of which Dr. Yeo speaks are also somewhat illusory things; at least we venture to say that the young specialists of the country are not, as a rule, earning any extravagant incomes, and we hear of many of them who charge only ordinary office fees for doing their special work. We are not at all blind to the evils of which Dr. Yeo speaks, but it does not follow that medicine is going to the dogs because there are some imperfections in the medical system. The practice of young men passing at once from the college and the hospital into a narrow specialty is to be very greatly deprecated, and we have never ceased to call attention to this particular defect.

Another trouble that distresses the English critic is the etiquette which controls medical practitioners. The evils which are discussed by the doctor in connection with this point exist more, however, in English practice than in American, judging from the special

criticism Dr. Yeo makes. He says that physicians claim the right to name the doctor who shall be called in consultation, and that the patient has nothing to say upon the subject. This is certainly not now the case in America where, as a rule, the wishes of the family are always consulted, and in the happy State of New York the preference for any practitioner duly qualified, is treated with courtesy and attention.

Thirdly and lastly, Dr. Yeo brings up the burning question of unprofessional advertising. Here, too, we think that Dr. Yeo is distressed by facts that may justly disturb English society, but certainly do not very much affect our own. If the name of an English physician by any chance gets into the paper, even though it be a most modest statement with regard to a domestic change or a personal characteristic, the medical press at once arises in its wrath. We quite agree with Dr. Yeo that there is an enormous amount of humbug in this matter.

The MEDICAL RECORD has always taken the ground that the physician has no right to exploit his own skill and greatness, or to advertise the same in the public press, on the broad ground that by so doing he appeals to an audience which is not so capable of critically judging such matters as it is with regard to the pretensions of a seller of dry goods or soap. If, however, society is interested in the fact that a prominent lawyer or a prominent physician has moved to another city, or is going into another country, or if this physician can say something, without advertising his own skill, regarding a matter of public interest, it is proper and right that he should do so. Dr. Yeo, however, seems to go further, and think that medical men have a right to advertise just as a tradesman does, and he undertakes a very false line of reasoning in defence of this view. Medical men, he says, advertise themselves in medical journals, by their articles, through their books, the instruments that they devise, and their teaching. But this, we contend, is very different from appealing to a lay audience which has not the capacity to judge of the merits of the advertiser. If a man writes an article to advertise himself in a medical journal, and his article is weak and pointless or if it is boastful and untruthful in statement, ten thousand eager eyes are quick to detect it and to criticise the author. On the whole, it seems to us that Dr. Yeo has not done himself or the profession much credit by his article. If it were written by him to advertise himself, he has succeeded, but advertisement is not an unmixed good.

ERYSIPELAS AND THE SIR ANDREW CLARKE MEMORIAL.

THE London Hospital has abandoned the idea of erecting an "erysipelas ward" for women and an "isolation ward," in memory of the late Sir Andrew Clarke. We are glad to hear it. To perpetuate the memory of any man by building an erysipelas ward and an isolation ward shows a tremendous non-appreciation of the eternal fitness of things. Sir Andrew Clarke, as far as we know, never had erysipelas.

never wrote about it, and never contributed anything in elucidation of its pathology or in elaboration of its treatment. Sir Andrew Clarke was, furthermore, so far as we have been able to learn, never "isolated," never wanted to be isolated, and never took any practical interest in "isolation wards." We bid good-bye, with pleasure, therefore, to the erysipelas and isolation memorial business of the great London Hospital. We understand that it is proposed to build a new wing to the hospital which shall be called the "Clarke Memorial Wing." We wish there were a better word than "wing" to associate with the memorial, but wings are, at least, better things to associate with those who are gone than the memorial perpetuation of any disease that may secure them.

SEPTIC TONSILLITIS.

UNDER the above title, Dr. Stewart A. Tidey, of London, describes a malady which he thinks is specific in its origin and course. He says that his experience, accumulated during several years of hotel practice in Switzerland, has led him to believe that "septic tonsillitis," as he calls it, is an acute specific disease, having as much definiteness in its symptoms, course, and origin as has scarlet fever or measles.

It is a pleasure to find that hotel doctors have been utilizing their experience for the benefit of science, and we take much satisfaction in encouraging clinical observations at hotels by giving some details of Dr. Tidey's specific disease. It is a trouble, he says, which occurs with great frequency at and after the most crowded seasons, when the air near the closets is very offensive, and he says that the disease is frequent in inverse ratio to the sanitary provisions of the hotels. The disease is known at Geneva as the "white throat of the lake." Dr. Tidey is confident that it is directly transferable from person to person, and that such a mode of origin is favored by overcrowding and bad ventilation. The trouble begins with pain at the seat of inoculation, generally one tonsil. It rapidly involves the whole throat, causing dysphagia. The pain is often accompanied by pricking and burning in the soft palate. The patient suffers from headache, pain in the back and limbs, prostration, and constipation. Sometimes there is a chill, and always considerable fever. There is enlargement of one or both tonsils, inflammation of the soft palate, and extension of the inflammation into the naso-pharynx. At first, the throat is uniformly bright red in color. There is rapid ulceration over the tonsils, causing white patches of greater or less extent, which involve the pillars of the fauces and soft palate. There is a copious secretion of mucus and muco-pus. The disease lasts five or six days. Treatment consists in systematic cleansing of the throat by the application of glycerin and carbolic acid or of glycerin and tannin. Internally, laxatives and tonics are given.

No bacteriological study of this alleged specific malady has been made by Dr. Tidey, and he does not even seem to have investigated the literature on the

subject. Otherwise, we think that his "Switzerland sore throat" does not differ very much from the mixed infective sore throats that are common in all parts of the world.

ARTIFICIAL ABORTION.

A PROMINENT specialist in this city, Dr. Garrigues, begins an article on "Artificial Abortion" in this way (*American Gynecological and Obstetrical Journal*):

"To judge by the very frequent applications I receive from women, married not less than unmarried, for interruption of early pregnancy and the wonderful *sans gêne* with which the request is made, as well as by the coroner cases reported in the public papers, I am inclined to think that this operation is being performed quite frequently and without scientific indications."

The writer adds with *naïveté*:

"Personally I have hurt my business interests very considerably by constantly refusing to perform this operation, except when it was called for on strictly scientific grounds, not only in my mind, but according to the opinion of other competent and sometimes superiorly able judges."

He then proceeds to give a description of the proper indications for abortion and the technique of its performance. Pelvic deformities, serious disease of the mother, such as tuberculosis, cardiac trouble, aneurism, chronic nephritis, carcinoma, threatened insanity, or serious nervous disease furnish legitimate indications for the operation. If indications point to the great certainty that the foetus may inherit tuberculosis, cancer, or syphilis, Dr. Garrigues thinks that it may be destroyed. Here, however, serious deliberation must always be required. The advice is given never to induce an abortion without having a formal consultation. The result of this should be put in writing and signed; the written consent of the husband, if there be one, and of the patient should be obtained.

The technique of the operation for abortion is given in detail, and it shows how different the approved, safe, and scientific procedure is from that adopted by the charlatan. The patient must be anesthetized, the vagina, vulva, and nearest part of the outer surface are disinfected as for childbirth or a gynecological operation. The cervical canal is dilated by means of coniform hard-rubber or expanding steel dilators until there is room enough at least for a curette, but if possible for a finger besides. Not only the foetus and the ovum but the spongy endometrium should be removed, the latter forming a mass that easily bleeds and has to become disintegrated and to be expelled. It is therefore better to remove it at once. Before scraping one should wash out the uterus with creolin, and after having finished scraping, a quart of a one-per-cent. solution of this drug is run through the cavity.

A 50,000-Franc-Prize has been awarded by *L'Académie des Sciences* (Prix Alberto Lévy) to Drs. Roux and Behring for the discovery of an efficacious treatment of diphtheria.

News of the Week.

A New Swindler.—A tall man, with dark steel-gray hair and beard, of pleasant address, representing himself as an officer of "the American Union Insurance Company," calls on a clergyman, asking the address of a good doctor in the neighborhood; he next visits a physician and explains that he wishes to insure him for \$2,000 and make him an examiner. He has heard a good report from such a clergyman, Mr. So and So. The physician, who becomes easily entrapped, pays \$3 for an application, the agent promising to send a physician to examine him, and thus endeth the lesson.

Dr. James E. Reeves, of Chattanooga, Tenn., died on January 4th, at the age of sixty-seven years, after a short illness. He was a Trustee of the American Medical Association and the author of a "Manual of Medical Microscopy for Students, Physicians, and Surgeons." He had at different times held numerous important public positions, both within and without the medical profession, and was highly esteemed for his admirable personal qualities and his varied professional attainments.

The Camden (N. J.) City Medical Society held its annual meeting on January 1st. Dr. O. W. Braymer, the retiring President, read an interesting paper on "The Relation of the Medical Profession to the Public Schools." The following officers were elected: *President*, Dr. W. S. Jones; *Vice-President*, Dr. W. R. Powell; *Secretary*, Dr. J. S. Nicholson; *Treasurer*, Dr. W. W. Kain; *Historian*, Dr. D. S. Strock; *Librarian*, Dr. S. G. Bushey; *Managers of the Camden City Dispensary*, Dr. H. Genet Taylor, Dr. Alexander Mecray, Dr. E. L. B. Godfrey, Dr. O. B. Gross, Dr. Joseph W. Wills, Dr. O. W. Braymer, Dr. J. G. Doron, and Dr. W. A. Davis.

One of the Advantages of Being Married.—The women of the State of Missouri are circulating a petition to the Governor of the State, requesting that he appoint only married men as resident physicians at the various insane asylums in the State. This is a most extraordinary reflection on the character of the assistant physicians of the Missouri State Asylums. We feel sure that the Governor will not do so silly a thing as to grant the petition.

Careless Prescribing.—A physician of this city prescribed morphine for a patient whom he had not seen, and on account of a misunderstanding with the messenger directed a full dose for an infant, promptly causing its death. The case goes to the coroner.

Privileged Communications by Physicians.—The Court of Appeals in this State has decided in a recent case of damages for railroad injury that when one of two or more physicians in attendance offers testimony, the others of different opinions cannot be restrained from doing likewise on any plea that they would be violating the confidence of the patient. In other words, all the medical attendants are on an equal footing as regards privileged testimony.

Bovine Tuberculosis at the Norristown Hospital for the Insane.—The Norristown Hospital for the Insane is threatened with another outbreak of tuberculosis among the cattle on the hospital farm, notwithstanding the experience last year, when a large herd of tuberculous cows was killed off in the hope of stamping out the disease. At the monthly meeting of the Trustees on January 3d, it was reported by the steward that last month seven cows were killed for beef, one of which showed symptoms of a well-developed case of tuberculosis. Since then other cows in the herd have been subjected to the usual test, but no other victims were found. It was discovered recently that under a section of the by-laws governing the institution the Trustees were authorized to appoint a committee of physicians. Since then President Stinson named as the committee Dr. S. Weir Mitchell, Dr. H. C. Wood, Dr. C. K. Mills, and Dr. Anna Bromall, of Philadelphia, but these all declined the appointment. A further endeavor will, however, be made to persuade them to accept. They are not expected to assume any direct responsibility, and are intended to be called in consultation only when an extraordinary case presents itself.

The Inter-County (Pa.) Medical Society held a meeting at Spring City on January 2d, and, among other business, elected the following officers: *President*, Dr. F. W. Heckle, Spring City; *Vice-Presidents*, Dr. William Brower, Spring City; Dr. W. Marsteller, Phoenixville; *Recording Secretary*, Dr. J. S. Morey, Royersford; *Corresponding Secretary*, Dr. Burns, Royersford; *Treasurer*, Dr. Finkbeiner, of Parker Ford.

A Medical Man by the Name of Dr. Jameson has been making quite a stir in South Africa. According to the last reports, it looks as though the shoemaker should have stuck to his last.

Political Places for Physicians.—The recent political upheaval in Maryland has caused wideawake statesmen to survey the field in search of spoils, and the *Maryland Medical Journal* gives a list of the particular spoils to which competent medical men are eligible. In Baltimore alone, there are 30 places, with salaries ranging from \$400 to \$3,000.

Journalistic Change.—The *College and Clinical Record* will hereafter be known under the name of *Dunglinson's College and Clinical Record*.

Improvements for the City Hospitals.—Corporation Counsel F. H. Scott has prepared a bill entitled, "An act to make further provision for the maintenance, care, and treatment of sick, infirm and destitute persons under the jurisdiction and care of the Commissioners of Public Charities in the City of New York." The bill provides for the erection of new buildings, and repairs and alterations to existing buildings; also for the construction upon Blackwell's Island of an electric lighting plant of sufficient size and capacity to light all the public buildings on said island, and to introduce electric lights into all the buildings.

The Rush Monument Fund has now reached the sum of \$3,548.39.

Mortality in November.—The bulletin of the State Board of Health for the month of November says that during the month there were 200 more deaths than in November, 1894. The death-rate per 1,000 of population was 15.50. The infant mortality (under five years of age) was 27.4 per cent., which is the same as that of the corresponding period for the last two years, that of October having been 31.5. The zymotic mortality has decreased from 16.7 per cent. of the total deaths to 13.5, and is below the average for this month. Compared with last November the deaths from diphtheria are much less, being 5.8 per cent. of the total, against 8.5; there has been a smaller increase than usual since October. From other zymotic diseases the mortality is almost identical with that of a year ago, except from measles, which shows a marked increase, and to a less degree from typhoid fever and malarial diseases. There were 96 deaths from measles, which is double the number reported in October. It has been especially prevalent in New York, Brooklyn, and Albany, in which 74 of the deaths occurred. From typhoid fever there were in the five cities of over 100,000 population 2.4 deaths per 100,000 population; in the rest of the State there were 4.0. From diphtheria there were 9.0 deaths per 100,000 population in these large cities; in the rest of the State there were 5.0. There were 17.2 deaths per 100,000 population in the large cities from consumption, against 12.0 in the rest of the State. Deaths from acute respiratory diseases were nearly double the number occurring in October, though not above the average for this month.

New York Academy of Medicine.—The following officers were elected at the meeting on January 2d: *Vice-President*, Dr. Egbert H. Grandin; *Trustee*, Dr. Joseph E. Janvrin; *Members of Committee on Library*, Dr. Herman L. Collyer and Dr. B. Farquhar Curtis; *Member of Committee on Admission*, Dr. Robert A. Murray; *Delegates to the Medical Society of the State of New York*, Dr. William S. Gottheil, Dr. Reginald H. Sayre, Dr. Ralph L. Parsons, and Dr. Charles H. Richardson. As a result of the vote on candidates for resident fellowship, the following were declared elected: Dr. Frank J. Blodgett, Dr. George T. Hunter, Dr. George W. Smallwood, and Dr. F. C. Valentine. Dr. Richard P. Francis, of Montclair, N. J., was elected to non-resident fellowship.

A Criminologist Sued.—Dr. Aubry, a Brest physician, is the author of two works called "A Family of Criminals" and "The Contagion of Crime." In these he instanced a family, whose name he gave, the members of which had incurred a number of convictions for various offences during a period of something like seventy years past. He added that one of the female members of the family had led a dissolute life in Paris, and that after living upon the debauchery of others, she had retired on a handsome competence. This woman, being still alive, brought an action for libel against the doctor. It does not seem to have been denied that the facts were as stated in the books, but the court held that the author was not justified in raking them up. At the same time, as it was held

that he had no intention to annoy, but had been actuated solely by scientific considerations, the judge has let him off on paying his own costs and those of the plaintiff.

The Dissection of a Famous Monarch.—The *Lancet* gives the following interesting and suggestive account of the post-mortem examination performed upon William III. of England:

Report of the Physicians and Surgeons, commanded to assist at the dissection of the Body of the late King.

Upon the first view of the Body, before dissection, the following appearances were remarkable.

The Body in general was much emaciated; Both the Legs up to the Knees and a little higher, as also the right hand and arm as far as the Elbow, were considerably swelled.

There appeared likewise on the left thigh near the Hipp, a bladder full of water, of the bignesse of a small Pullet's Egg, resembling a Blane.

Upon opening the Belly, the Guts appeared of a Livid colour, and the blood contained in the vessels there of blackish: The gutt called Jlion had in some places, the marks of a slight Inflammation.

The Pancreas, Mesentery, Liver, Gall, Bladder, Spleen, Kidneys and Stomack, were all sound and without fault.

In the Thorax or Chest we observed, that the right side of the Lobes of the Lungs adhered to the Pleura, and the Left, much more, from which upon separation there issued forth a quantitie of Liquor judged to be purulent or frothy serum: The upper Lobe of the left side of the Lungs and the part of the Pleura annex to it, were inflamed to a degree of mortification: And this wee looke upon as the immediate cause of the King's death.

From the ventricles of the Heart and the great blood vessels issuing out of them were taken severall large tough fleshlike substances of the Kind called Polliposer.

The Heart was of the smaller size, but firm and strong.

Upon laying bare the right Collar bone, wee found that it had bin broken neare the shoulder and well sett, some Extravasated blood was lodged above and below the fracture.

The Brain was perfectly sound and without any signe of distemper.

It is very rare to find a Body, with so little blood, as was seen in this, there being more in the Lungs, than in all the parts besides putt together.

Signed HUTTON BLONEMORE
MILLINGTON BIDLOO
[and others.]

Delivered to ye Queen and Councell, March ijth, 170½. Endorced—"Dissection of the Late King's Body." In writing of a later date and in different coloured ink, similar to the signatures—"To his Grace the Duck off Queensbury, &c., &c."

Paris has 521 foreign medical men among the total 2,922 in the city. It is supposed that New York has more than 600 native American medical men among its 3,000 practitioners.

Japan appreciates the work done by physicians. A statue has recently been erected at Tokio of the late Dr. Müller, the first German Professor at the Tokio Medical College.

An Industrious Scientist and Physician.—Dr. Haffkine recently delivered an address in London on his work in vaccinating against cholera in India. His work lasted twenty-nine months; 70,000 injections were made, on 42,179 individuals, without a single mishap.

The Twelfth International Medical Congress.—The date of the Twelfth International Medical Congress, to be held in Moscow, has now been definitively fixed for the week August 19–26, 1897—cholera and the state of the political atmosphere permitting. The Czar has signed the Imperial Rescript sanctioning the congress, and His Majesty's uncle, the Grand Duke Sergi, Governor-General of Moscow, has consented to be its patron. The President will probably be Professor Klein, Dean of the Medical Faculty of Moscow University; Professor Erisman, Professor of Hygiene in the same University, will be General Secretary. The Russian Government has granted a subvention of 120,000 francs toward the expenses of the congress. The official languages of the congress will be French and German.

Medical Students in Revolt.—There has been trouble in the Medical University at Athens, and also in that at Moscow. At Athens, the students were dissatisfied because five female students had been admitted to the Attic University. The students were divided in opinion as to the propriety of this, and matters came to a crisis in the chemical laboratory one day when a student from Arcadia shot another from Asia Minor. At Moscow, the trouble arose from the unpopularity of Professor Zakharin, because, it was said, he was a court physician. This is an old offence, however, and there was probably something more behind it. The professor's lectures were boycotted by the students, but he has continued to lecture in spite of diminished audiences.

Another University Admits Women to its Medical School.—The Government of Hungary has issued a decree to the Universities of Buda-Pesth and Klausenburg, ordaining that women shall be admitted to academic studies, and also to the special studies which will equip them to be physicians for women and children, teachers, and so on.

The Hospital Hold-up will not be condemned by the Academy of Medicine. By a vote of 108 against 47 this body will refrain from memorializing the Mayor upon the subject.

One Reason why no physician's name appears upon the Board of Charities may be inferred from the remarks of Dr. Girdner at the Academy meeting. This gentleman stated that he had been advanced as a candidate for the commissionership by members of the faculties, who had then opposed him when they found him unwilling to promise to uphold the action of Mr. Porter, the gentleman who has since been deposed.

The Jefferson Medical College has purchased additional land and will in the course of next year build a laboratory, five stories in height and fitted with all modern apparatus, the first floor to be used for a dispensary. The Medico-Chirurgical College has also purchased more land and is putting up a new amphitheatre.

An Epileptic Colony, which is known as the Passmore-Edwards House, has recently been established in England by the National Society for the Employment of Epileptics. It is estimated that there are between thirty thousand and forty thousand epileptics in England.

A Tri-State Medical Society Becomes Bi-State.—We never knew exactly why the larger medical organizations of the West were so constantly bred in triplets, but this has been the popular method of combined State organization, and there are now more tri-State medical societies than we can keep in mind. One of them has, however, temporarily come to grief, the Tri-State Medical Society of Missouri, Illinois, and Iowa. At its meeting on October 1st, 2d, and 3d, at Des Moines, there were delegations from Missouri and Illinois, but Iowa itself was not represented. The trouble, as explained by *The Iowa Medical Journal*, is that the Tri-State Society has an official organ which has published statements derogatory to the medical profession of Iowa, and of Polk County in particular, where the Tri-State Society held its last meeting. The result was that the Polk County doctors did not join in the gathering, and the tri-State society was really a bi-State society. Arrangements are being made, however, to have all the difficulty readjusted.

A New Society in St. Louis.—The St. Louis Academy of Medical and Surgical Sciences was recently organized by thirty-five physicians of that city. The following officers were elected: *President*, Dr. George W. Cale, Jr.; *First Vice-President*, Dr. James Moores Ball; *Second Vice-President*, Dr. Arthur E. Mink; *Secretary*, Dr. Emery Lamphear; *Treasurer*, Dr. Willington Adams; *Orator*, Dr. Thomas O. Summers; *Curator*, Dr. George I. Thompson. Among those present at the organization of the academy were Dr. Walbridge, brother of Mayor Walbridge, Dr. Walter Dorset, Dr. Given Campbell, Dr. F. P. Norberry, and Dr. G. F. Hulbert. The organizers of the new society are unanimous in saying that ethics will not enter into the purposes of the organization. The membership is limited to fifty.

Vital Statistics of Massachusetts.—The Twenty-sixth Annual Report of the State Board of Health shows that during the year ending June, 1894, the birth-rate was 27.55 per thousand and the death-rate 20.13 per thousand. It is seen from the report that, among other interesting changes, there has been a steady reduction in the annual number of deaths from typhoid fever.

The Mary Thompson Hospital of Chicago for Women and Children.—Dr. Marie J. Mergler, Professor of Gynecology and Clinical Gynecology, North-

western University Woman's Medical School, has been appointed gynecologist and head physician and surgeon to fill the vacancy caused by the death of Dr. Mary Harris Thompson. In memory of the valued services of the deceased physician the name of the hospital has been changed from "The Chicago Hospital for Women and Children" to the above.

Royalty's Physicians.—To the Czar, Dr. Zakharin; to King Humbert of Italy, Dr. Saghone; to Emperor William, Dr. Bergmann; to Queen Victoria, Sir William Broadbent; to the Emperor of Austria, Dr. Von Widerhofer; to the Mikado, Dr. Kitasato.

Interest in the Missing Link has been revived by the fact that Dr. DuBois, who is the discoverer, has been lecturing and showing his treasures in England. The first criticisms of Dr. DuBois' findings were adverse to the claims that he set up, but since he has brought his specimens to European centres, where they have been examined, there seems to be more credence placed in their importance. He has, at any rate, found the remains of a skull of which the cranial capacity is only about one thousand cubic centimetres. This is a much smaller capacity than that of the average human skull (1,500 c.cm.) and is about twice as large as that of the male gorilla (531). However, the skulls of human microcephali have a capacity of only 419 to 440, and a skull of 1,000 centimetres is considered as only semi-microcephalic, so that the volume alone would indicate little. The skull discovered by Dr. DuBois has other peculiarities, resembling those of the Neanderthal type. The frontal region is very low and flat, and the glabella and supra-orbital ridges are enormously developed. There is also a distinct ridge extending from the curved line of the occiput to the temporal region, which is characteristic of apes and absent in man. Altogether, Dr. DuBois' findings are, at least, deserving of the very great interest they have excited.

The Infectiousness of Suicide has been well shown by some cases that occurred recently in St. Petersburg. During the month of September three young girls threw themselves from high windows on to the pavement, intending to kill themselves. One threw herself from the third story, another from the fourth, and one from the fifth story; all recovered from their injuries.

An African Medical Explorer.—*The British Medical Journal* says that among the feats which have heretofore baffled the efforts of travellers is the exploration of Lake Rudolf. A young American man, Dr. Donaldson Smith, has, however, succeeded in reaching this lake from the north. He is thus the first white man who has visited this region. He left London last May and started with a taxidermist and another companion.

Some Recent Experiences with Antitoxins.—Dr. James Swain, of Bristol, publishes in the *British Medical Journal* the report of a case of malignant tumor, an osteosarcoma of the upper jaw, treated by the mixed toxins of erysipelas and B. prodigiosus. The result was a failure, but, according to Coley, the

osteosarcomata are least benefited by this mode of treatment. In the same journal, Dr. Frances Heatherley reports a case of cellulitis treated by an anti-streptococcic serum. The serum was obtained from the Pasteur Institute. The patient was not affected by the injections, and subsequently died; treatment was not begun until a late stage of the disease. Mr. E. A. Steele, in the same issue, reports a case of erysipelas neonatorum, treated by injections of antistreptococcic serum. The child was three weeks old, and three injections were given. Dr. Steele says that in his practice he has seen a number of cases of erysipelas neonatorum, but had never seen one recover when the disease was so far advanced as in this case, and he is convinced that the child's recovery was due to the serum.

Medical Fees in Austria.—The country practitioners in Austria complain that the fees which they receive are too small, and one of them has proposed the following scale (the equivalents being given in American money): Office visit, 15c.; first visit to a patient's house, 30c., subsequent visits, 25c. each; night calls, 60c.; setting a fracture, \$2.25; major surgical operations, such as amputations and the like, from \$6 to \$9; hypodermic injection 20c.; antitoxin injection, 80c.; bacterioscopic examination, 80c. The prizes of the profession do not seem to lie in Austria.

Short Men and Fat.—A man named Clark, who advertised to make short people tall and fat ones thin, has recently disappeared from his Twenty-third Street office, presumably returning to London, whence he came, and many short men find themselves even shorter than before meeting him, while the fat ones are at least not putting on much flesh, while they can no longer laugh. When he promised the short ones they would grow, he probably meant to grow wise by experience, which process they are now going through, while he is spending the fees paid in advance.

Medical Annuals.—The time was when semi-annual and annual retrospects and summaries, under various names, of the work of the year had their use and value; but in these days of live medical journals, ably edited, unceasingly scouring the world for items of interest, eager to record everything novel both in theory and practice, with exchange lists exceeding in number and variety anything which might be collected in any other way, it would surely seem the medical profession might safely rely upon them, with their voluminous and complete indices, as the most reliable records of each year's work and progress, and more wisely and profitably invest the money which has heretofore been spent upon abstracts, retrospects, and annuals of all kinds, in one or more first-class weekly and monthly medical journals.

Puerperal Fever and Puerperal Infection.—*The University Medical Magazine* makes a plea for a more correct nomenclature with reference to the term "puerperal fever." It asserts that this term, "puerperal fever," may include any form of febrile disorder occurring at the puerperium, and that, as a puerperal patient may have a large number of different fevers,

the words are indefinite and mean nothing. It suggests that we use the terms "puerperal infection" or "puerperal sepsis," or whatever specific disorder the patient may be suffering from.

Teaching University for London.—It would be a great source of comfort to readers and subscribers to London medical journals if the question of a "Teaching University for London" could be definitely settled. For a decade now, a large amount of valuable space—editorial annotatory, and so forth—has been devoted to arguments upon this most recondite and interminable topic. We beg the citizens of London to cease verbiage and either to have a university or not, at once. We ask this for the sake of those who have loved to peruse the one-time valuable pages of the medical journals of that town.

The Medical Students and Doctors in Germany, though they have to serve a full year in the army, have heretofore been kept under arms for only six months. The authorities have lately decided to call in the doctors for a short period of service in the years following their dismissal from active service. The Berlin correspondent of *The British Medical Journal* says that this news has caused a great deal of excitement among the young doctors, who find it difficult enough to build up a practice without being called away for four or six weeks during the midst of their work.

The Cities of New York and Berlin issue cards to physicians for the purpose of enabling them to pass unhindered through a cordon of police or other obstruction to the general circulation. This example has been followed by the city of Paris, the chief of police having made arrangements for issuing similar cards of identification to the medical men of the capital.

Infective Books.—Drs. Ducazal and Catrin have concluded from experiments (*Paris Acad. de Méd.*, December 17, 1895), that while new books show no pathogenic microbes, library and hospital volumes may transmit Klebs' bacillus and the streptococcus. Koch's bacillus and the pneumococcus, however, cannot be transmitted in this manner.

Sufficient Subscriptions have been received to justify the continuance of the publication of *The Index Medicus*.

The Third International Congress of Psychology will be held at Munich from the 4th to the 7th of August, 1896.

The Western Reserve Medical School has effected a combination with the Lakeside Hospital, by which the latter institution will be under the control of the faculty of the school and will thereby be used for teaching purposes.

A New Surgical Polyclinic in connection with the Berlin University is to be opened shortly. Professor König is at its head, and Professor Hildebrandt its chief surgeon.

France has two Medical Men who are cabinet ministers—Dr. Viger, Minister of Agriculture, and Dr. Combes, Minister of Public Instruction.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 23, 1895.

EDWARD D. FISHER, M.D., PRESIDENT.

Prolapse of the Rectum with Special Reference to the Obscure Forms and their Reflex Phenomena.—DR. JAMES P. TUTTLE read the paper on the above subject. (See p. 38.)

DR. A. P. GERSTER, in discussing the paper, said he was very grateful to the writer for bringing forward a condition of the rectum not often spoken of or written about. He would rather favor the term intussusception for the condition described by Dr. Tuttle, and apply the term prolapsus to that condition in which the gut extended beyond the anus. As to the affection proper, he was astonished to hear Dr. Tuttle say it was so common, for though he was in reach of an immense amount of material at the Mount Sinai Hospital, he had not met the condition so often as to be impressed with its frequency. He believed the operation by which the gut was lifted and attached to the abdominal wall was often a successful cure, but there were cases in which it was not at all applicable, for in some instances there was a hypertrophy of the rectum so large and indurated as to resemble elephantiasis. In these cases the rectum had to be amputated.

DR. J. D. BRYANT said he would like to join Dr. Gerster in thanking the gentleman for the paper. The frequency of the condition was greater than he had supposed, but he presumed Dr. Tuttle had greater opportunity than he for seeing such cases. The patient whom he had operated upon, and to whose case Dr. Tuttle had referred, entered the hospital in 1891, without having obtained any benefit from six operations which had been performed for the relief of a prolapsus of the rectum. The operations which had been performed had been done in the manner which seemed to meet existing conditions. The patient came under his care in March, 1893, with complete prolapsus and the sphincter entirely paralyzed. In view of the fact that so many operations had been performed and failed, leaving incontinence, he decided to do colotomy, and later operate upon the prolapsus. He performed an ordinary colotomy, and in three weeks the patient got up, left the hospital, and did not return until the next fall. Before the colotomy the patient had suffered from colicky pains, diarrhoea, and tenesmus, which were quite constant. When he returned in the fall the prolapsus was within the sphincter, and did not come down except on straining, and his physical condition was much improved. About one-third of the fecal matter continued to pass through the bowel. In 1894 he presented the patient at a surgical meeting of the Academy, when, by straining, a prolapsus of about one-fourth of an inch could be exposed. The case was not cured. He had drawn the following conclusions when he presented a paper on the subject at the time: 1. That the proper performance of the physiological function of the rectum contributes greatly to the advancement of rectal disease and to the suffering of the patient. 2. That the complete vicarious discharge of the fæces through an artificial anus located at the sigmoid flexure reduces the physiological demands upon each structure of the rectum to a minimum. 3. The lessening of the physiological requirements is commonly in direct proportion to the diminution of the fæcal flow through the rectum. 4. The cessation or lessening of the fæcal discharge through the rectum exercises a palliative or curative influence on the diseases of the rectum. 5.

In certain cases of obstinate rectal prolapse, the formation of a vicarious channel for the fecal discharge is justifiable, both as a palliative and as a curative measure. 6. The establishment of such a channel for the purpose of cleanliness and prevention of infection is justifiable in many operations for prolapsus of the rectum. 7. That the dangers of formation of artificial anus are much less than those invited by contact of fecal discharges with large operative surfaces of the rectum. 8. The case presented had been greatly benefited, and may finally be cured by the agency of an artificial anus. Dr. Bryant said he wished to add that the patient had not been cured but was greatly relieved, and while there was no protrusion, he was still conscious of a feeling of weight in that region.

Dr. JOHN ERDMANN said the first patient he tried to relieve by attaching the meso-colon had a large ulcer, and had experienced much pain on defecation. He operated in January, 1894, and also formed an artificial anus. The prolapsus was much relieved, but the ulcer being tubercular, the patient died later. At autopsy he found the adhesions desired by the operation firmly formed. In the second case he attached the colon itself by the anterior longitudinal bands to the peritoneum. The patient had no prolapse until the last sixty days. In the third case he had operated upon he attached the meso-rectum to the side wall, and then the longitudinal fibres to the abdominal wall. He let the patients go around in about fourteen days.

Dr. WILLIAM H. MCENROE said he wished to call attention to a remedy for the treatment of prolapsus of the rectum from a medical standpoint. He had found that hypodermatic injection of strychnine was very beneficial. After the gut has been replaced, inject the strychnine into the folds of the intestines, beginning with one-sixtieth of a grain, and gradually increasing to one-twentieth. He knew one case that had shown symptoms of strychnine poisoning, yet the prolapsus was greatly improved. It should be remembered that the strychnine should be given hypodermatically, and not by the mouth.

Dr. SENECA D. POWELL said his views were so entirely different from those expressed by the speakers that he felt a little diffident. He did not believe any operation was necessary for prolapsus of the rectum. In 1878 his attention was called to a case, the study of which led him to conclude that not enough was known of the cause of prolapse, and by research he came to the conclusion that it was an anatomical fault. To appreciate the mode of treatment it was necessary to remember the physiological process and the anatomical relations in defecation. The natural and proper position in defecation was the squatting position, as evidenced by the difficulty experienced by trying to defecate in the erect position. The sphincter ani muscle held the balance of power between the muscles of expulsion—the diaphragm, abdominal muscles, and the levator ani—and the muscles which guarded the outlet of the pelvis—the levator ani, the internal and external sphincters, the transversus perinei, and the accelerator urinæ. The external sphincter was attached to the coccyx, the tendinous centre of the perineum and the skin. The squatting position caused the rotation of the pelvis upon the heads of the femurs; this drew the skin tight, and the sphincter ani was pulled open laterally. It should be remembered that the levator ani often contained long fibres which passed in and between the sphincter ani and the rectum, and extended up the gut three or four inches, and was inserted into it. If for any reason the tendinous centre of the perineum was affected, the support of these muscles attached there was interfered with, and the result was necessarily a prolapsus in every case where there were long fibres of the levator ani. The mode of treatment was therefore to overcome the cause

by providing a support for this tendinous centre of the perineum. For this purpose the patient was laid on his belly, and by means of a strip of adhesive plaster passed along the line of the gluteal fold, the buttocks were pushed upward and inward, forming a support for the affected parts and a rest for the muscles of the perineum until they regained their normal condition. Dr. Powell had presented a paper on this subject before the Northwestern Medical and Surgical Society in 1878, and from that time on had used the method successfully, not having had a single failure. The patient should wear the strip all the time, especially during the act of defecating, after which the parts should be cleansed and a new strip applied. Dr. Powell said Dr. Bryant's case illustrated this principle, and that if he had taken all work off the part by means of the artificial anus, the patient would doubtless have recovered entirely.

In closing the discussion, Dr. TUTTLE said he had mentioned in his paper that there were many cases which were not suited for this mode of treatment. He was not surprised that the gentlemen did not find so many cases of prolapsus of the third degree, for the patients did not complain of this condition. He believed if Dr. Bryant had drawn up the prolapse he would have cured his patient. The cause of one-half of the failures was neglect in carrying out treatment during inflammatory conditions.

The Preventive Treatment of Sea Sickness.—

Dr. A. D. ROCKWELL read a paper on this subject. The literature, he said, was very extensive. The disease had become something of a byword. The general idea prevailed that it was good for the system, and there was also a general belief that it was not possible to do anything that would prevent or help the condition materially. Little systematic research had been made by ship surgeons, for they did not often meet the patients until nausea had set in, and then the disease was permitted to take its course. No physician believed seasickness came from the stomach alone, but more probably from mild concussions of the brain. The use of the bromides before sailing was of great benefit. He would not say all cases of seasickness would be prevented by this means, but it would prove serviceable in most cases. To get the desired effect, bromization must be secured before sailing. He had always suffered very much from seasickness, and so feared to sail for Europe, but by taking a hundred grains a day for three days preceding sailing, and continuing the bromide three or four days after sailing, he had escaped being seasick. His experience was that bromization was not disagreeable, aside from a little drowsiness, from which the mind readily aroused, while the sleep taken during the period was very sound and refreshing. Though the English Channel was very rough when he crossed it, he did not get seasick, for he prepared himself by taking bromide for two days preceding the time of sailing. Dr. Rockwell cited a number of persons who had been accustomed to suffer severely when crossing the ocean, but who had entirely escaped by means of the bromide treatment. He emphasized the fact that it was not enough to take a few grains of bromide, but it was bromization that was necessary.

Dr. MAX EINHORN said he had had some experience with bromide in seasickness. Before sailing to America the first time, he took bromide and did not get seasick, but feeling uncomfortable from the bromization he quit it and got very sick. There were some persons who did not bear bromization at all well.

Dr. J. A. IRWIN said we ought to have some idea of the pathology of seasickness to appreciate the condition. The primary condition was a disturbance in the labyrinth of the ear. Any treatment that tended to anæsthesia would help that condition. Also any

treatment which tended to make the stomach less susceptible to reflex irritation was useful. It must be remembered that seasickness was a disease that cured itself, and that the individual could become habituated to the motions which produced the sickness. All persons did not respond to the same treatment, and the seasickness did not affect every one in the same way. In some it affected the head most, in others the stomach, and the treatment should be directed to the radical symptom. He objected to bromization on the ground that it was as bad as the disease it was designed to prevent.

Drs. William H. Haskin and J. L. Barton were elected delegates to the State Medical Society.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, December 3, 1895.

EDWARD D. FISHER, M.D., PRESIDENT.

Graves' Disease—Œdema of the Eyelids.—DR. J. ARTHUR BOOTH presented a case of Graves' disease with the presence of a rather rare symptom—œdema of the eyelids. On inspection the diagnosis of Graves' disease had been made, but the examination had revealed no exophthalmos. There was, however, slight enlargement of the thyroid and a rapid pulse. The patient, a girl of seventeen years, was very much frightened when quite young. She had some convulsions following this incident. About the time of her first menstruation œdema of the eyelids first appeared. She now complained of palpitation of the heart, profuse sweating, headache, and general weakness. This œdema, the speaker said, was not a true œdema, as it did not "pit" on pressure. The movements of the lids were harmonious. On palpation, swelling and diffused hardness of the thyroid could be made out. When seen about one month later, *i.e.*, December 2d, there was apparently a slight prominence of one eyeball. Four examinations of the urine had been made, but nothing abnormal discovered.

Cerebro-Spinal Syphilis.—DR. CHRISTIAN HERTER presented a young man, twenty-eight years of age, who gave a history of having had a chancre two years ago, and about one year thereafter developing various cerebral symptoms. The vision was first observed to become diminished in the right eye; then there was ptosis on that side, paralysis of the third nerve, paralysis of the facial nerve and of both trigeminal nerves. After this he developed weakness in certain muscles of the right arm. There was a history of rheumatism in the parents, and of alcoholism in the patient. About one year ago there was a purulent discharge from the left ear, which lasted for several months. One year ago the right eye was struck by a piece of hoop from a barrel. Shortly afterward he began to complain of double vision, and saliva drivelled from the right angle of the mouth. There had been at no time pain in the hand or forearm. Under the administration of iodide the patient had regained some control of the movement of the eye muscles and right eyelid. The physical examination on November 26, 1895, showed the man to be small and fairly nourished, with lateral curvature of the spine and considerable deformity of the thorax. There was slight ptosis on the right side. The right internal rectus was extremely weak, and there was paresis of the superior and inferior recti. There was sufficient power in the internal rectus to maintain binocular vision but not sufficient to preserve convergence. The reaction to accommodation was greatly impaired. R. V. was $\frac{3}{40}$ and L. V. $\frac{2}{40}$. Both optic discs were found to be distinctly paler than normal and the vessels slightly narrowed. Near the right disc were two patches of slight choroidal atrophy. All

the movements of the face were well performed, and there was no drivelling of saliva. Reaction of the facial muscles to faradism was well preserved. The temperature sense and tactile sense presented fairly well-defined areas. Sensation was preserved over the eyelids and was only moderately impaired over the nose. Near the lips sensations of pain and touch were slightly impaired. The uvula deviated to the left. The sense of taste did not seem to be distinctly impaired. There was some loss of power in both arms, but this was more marked on the right side. The flexors of the right wrist were weak, and those of the fingers were wholly paralyzed. The power of the pronators and supinators was normal. All the parietic and paralyzed muscles were wasted. All the paralyzed muscles showed the reaction of degeneration to a greater or less degree. The ulnar area of the right hand and lower two-thirds of the forearm showed loss of sensibility to pain, temperature, and touch. In the left hand and forearm there was a moderate loss of power in the flexors of the fingers. There was no wasting of the left forearm or any change in sensibility or electrical reactions. In both arms there was slight and rather coarse tremor when the arms were extended. There was no loss of power in the legs, and sensibility was not impaired. Both knee-jerks were absent, but the plantar and cremasteric reflexes were present. There was considerable oscillation on standing with the feet together and the eyes closed. The patient urinated without straining. There was frequent pain in the right hypogastric region, but no "girdle" pain. There had evidently been marked improvement during the past month under the use of iodide. The conditions present in this patient were undoubtedly due to the lesions of cerebro-spinal syphilis. The fifth nerves had been more damaged than the others.

The speaker said that the two points upon which he desired further information were: (1) The exact location of the lesions at the base; and (2) as to whether or not the patient had locomotor ataxia.

Discussion.—DR. W. M. LESZYNSKY said that he recalled having seen a man, about fifty-eight years of age, with very marked exophthalmos and goitre, associated with marked œdema of the eyelids. This œdema, however, had been absent in one eyelid for a time, and it had gradually disappeared.

DR. B. SACHS said that within the last few years he had seen upward of thirty cases of Basedow's disease, and yet he had never observed such œdema in any of these cases.

DR. BOOTH, in closing the discussion, said that he had been unable to find any mention of more than one case of the kind in English literature. It was interesting that no exophthalmos had been noticed until a few weeks ago. It had been suggested that the œdema was due to paralysis of the orbicularis.

DR. SACHS said that he agreed to the diagnosis of cerebro-spinal syphilis in Dr. Herter's case, but would prefer to have it called multiple cerebro-spinal syphilis. The involvement of a large number of cranial nerves and imperfect involvement of some of these nerves were especially characteristic features. He had made the diagnosis of cerebro-spinal syphilis several years ago in a case in which there had been complete trophic paralysis of the upper and lower extremities, with ptosis. One critic had looked upon this case as one of neuritis rather than of central disturbance. This view he did not accept, for we had only to suppose that the specific meningitis had extended along the ventral surface of the cord instead of laterally to explain the symptoms. The fact that there had been improvement in some of the symptoms under the use of iodide was, of course, very significant. In his opinion, there was no one symptom of

greater value than the complete immobility of the pupil to accommodation and light, or the equal impairment of both of those functions. This was very different from the Argyll-Robertson pupil. If in addition to this there was a multiplicity of lesions, the probability of syphilis was very strong. He would not think of making the diagnosis of tabes in this case, because there was absence of the Argyll-Robertson pupil, little or no pain, and no involvement of the bladder.

DR. HIRSCH said that he did not think we could exclude general paresis of syphilitic character. The expression of the face, the tremor and slight deviation of the tongue, all pointed toward this condition, and the diagnosis could not be made without further knowledge of the psychical symptoms.

DR. HERTER said that from his short acquaintance with the patient he felt that the psychical symptoms usually observed in general paresis were not present. His mental condition and memory were quite good, and his slight imperfection in articulating seemed to be due to an imperfect co-ordination of the lower speech mechanism. The expression of the face appeared to be due to the ptosis.

THE PRESIDENT said that he would certainly agree with the diagnosis of cerebro-spinal syphilis, and also regarding the points of localization at the base of the brain.

DR. IRA VAN GIESON said that he wished to indorse the term "multiple" cerebro-spinal syphilis from a pathological standpoint. Syphilis of the nervous system should be considered in three forms: (1) The multiple variety appearing in the form of plaques; (2) the form in which there were discrete gummata; and (3) the form in which there were less tangible lesions of the blood-vessels and interference with the nutrition of the blood-vessels.

DR. SACHS said that through recent researches the endarteritis of the spinal cord had been very definitely established. The specific endarteritis of the cerebral vessels had been recognized for a long time, but more recently it had been very definitely established in some of the cases of spinal syphilis that there was a specific endarteritis of the vessels of the spinal cord with areas of softening in the spinal cord. The speaker said that a few years ago he had been inclined to consider these cases as examples of meningeal infiltration extending gradually inward through the entire cross section of the cord.

THE PRESIDENT said that most of the symptoms of general paresis were of later origin than those present in the case under discussion. This patient had already shown improvement, therefore the symptoms must be due to specific infiltration at the base of the brain, and also possibly to softening in the cord from an endarteritis—a condition shown to exist many years ago. This was essentially different from the chronic condition present in general paresis.

Report upon a Case of Progressive Muscular Dystrophy, with Especial Reference to Improvement by Treatment.—DR. A. WIENER presented a case of this kind with the idea of showing that such a case could be improved by treatment. From a review of the literature he said that it was apparent that the tendency now was to bring the disease formerly divided into spinal and myopathic forms under one head. The patient to be presented this evening, he said, had been exhibited two years ago before this society. At that time he had been twenty years of age, and had been perfectly healthy up to May, 1892, and had not experienced the slightest difficulty in performing any muscular movements. The first indication of difficulty was in May, 1892, when he began to suffer from vague pains in the region of the spleen and liver on considerable muscular exer-

tion. Shortly after this, difficulty in going up-stairs and in walking was observed, and soon atrophy of the lower extremities and back was observed. Finally the muscles of the neck and face became involved. The patient denied alcoholism or syphilis, and stated that his health had been excellent. He had noticed while engaged in athletic sports that the muscles of the upper extremities quickly became fatigued. In 1893 there was no distinct abnormality about the formation of the skull. His general appearance was that of a person very much emaciated, and there was great difficulty in walking and lifting the limbs. On attempting to stand upright, he exhibited a marked lordosis. When lying down, it was impossible for him to turn over. The muscles were soft and covered with redundant skin. No vasomotor or trophic disturbances were discovered. The deep reflexes were absent on both sides. The spinal column was in no way tender on percussion. Examination of the muscles showed a marked paresis. The muscles of the forearm and hand appeared normal. Mechanical excitability was very much diminished. Electrical examination gave quantitative changes, but no reaction of degeneration. The abdominal muscles were only slightly affected. The orbicularis oris and palpebrarum were the ones chiefly affected about the face. The deltoid muscle showed simple atrophy of the muscular fibres, with cell infiltration in the muscle and between the fibres. No hypertrophy of the fibres could be found, and there was no evidence of fatty deposit. The small blood-vessels were filled with blood, and the walls with round cells. The lack of all sensory disturbances left no doubt that this was a case of the myopathic type. No improvement was noticed under the usual tonics and electrical treatment, so it was decided to try the effect of physical culture carried on daily to the point of exhaustion. From half an hour to one hour were devoted to exercises with dumb-bells, Indian clubs, and the use of a health-lift machine. There was evidence of very marked improvement in every way. Quite lately he had been able to ride forty miles in one day on a bicycle. Some of the muscles still showed atrophy. The improvement was especially marked in the muscular movements and in the partial return of the contour of the parts. The speaker said he did not think such treatment would be efficacious in cases developing in infancy, but where there had been a good development prior to the appearance of the disease, this plan of treatment offered a good prospect of success.

Discussion.—DR. G. M. HAMMOND said that the heart symptoms in this man were very much like those seen in individuals who had received too much physical exercise at a time when the heart was feeble. This man's heart was dilated and hypertrophied, and it was possible that this was due to a loss of muscular tissue as a part of his disease. He asked if Dr. Wiener thought the arrest of the atrophy might not have been spontaneous and independent of the physical exercise. He had himself seen one or two less extensive cases of dystrophy in which the atrophy was recovered from without any treatment. In one of these cases the atrophy was limited to the muscles of the thumb in both hands.

DR. C. L. DANA said that he thought there was a class of cases of progressive muscular dystrophy brought on by excessive muscular work when the person was immature. This form of dystrophy seemed to him to have a different course from the ordinary types of dystrophies. He had seen cases in which he believed the lesion was in the muscles, and in which the course and clinical symptoms were those of dystrophies occurring in acrobats and gymnasts. In these cases the symptoms usually progressed steadily up to a certain point, and then there was an arrest of the

process, and sometimes a very decided improvement. This clinical distinction should be borne in mind in estimating the value of the treatment pursued in this case. He doubted very much if such treatment would have much effect on the more usual form of atrophies. In the cases to which he had referred the upper arm, shoulder, and back were usually affected.

DR. SACHS said that the case seemed to him of great importance. He was perfectly familiar with the class of cases referred to by the last speaker—the localized atrophies and those due to excessive muscular exercise. The case under discussion, however, did not belong to this category. When first presented to the Society two years ago, the involvement of the facial muscles was a prominent feature and the improvement observed had been in the muscles other than the facial ones. There was, of course, room for doubt as to the value of this particular treatment, yet it should be remembered that no improvement had been observed under other methods, and yet it was prompt and decided under physical exercise systematically carried out. The original diagnosis of progressive muscular dystrophy was without doubt correct, and the result of treatment was certainly unique.

DR. JOSEPH COLLINS said that where the proton was diseased it should be evident that no amount of mechanical treatment would be of service, but if the form of progressive muscular atrophy were acquired, then treatment including exercise should be of some advantage. He thought, therefore, the case was very instructive. It was begging the question to infer that the improvement was independent of the treatment. He believed this to be a case of progressive muscular dystrophy of the acquired type, no evidence having been brought forward to show that it was either familial or hereditary, and that the improvement was due to the treatment.

DR. HAMMOND said that the man had been an athlete and a runner, and yet had developed the muscular dystrophy; hence he could not understand why if the muscular atrophy had developed during exercise, it should be arrested and improved by a resumption of systematic exercises.

DR. HERTER said that the case was evidently one of the family form of progressive muscular dystrophy, and he felt that the systematic exercise must have had a beneficial effect in bringing about this change. One should not, however, draw too positive conclusions from one or two cases. The case was a most interesting example of what could be done by modifying favorably the nutrition of a part.

THE PRESIDENT said that as far as the distribution of the dystrophy was concerned we certainly found cases in which it was exactly similar, and yet we could not trace the exact etiological factor. Where the hereditary element was not present, it was possible that there was a better chance for improvement under treatment. He thought that we were warranted in trying systematic physical exercise, at least in cases in which the hereditary factor was not especially prominent.

Tumor of the Medulla.—DR. JOSEPH COLLINS presented a pathological specimen with the following history: S. J. J.—, twenty-eight years of age, denied syphilis and had been extremely temperate. The first symptom, numbness in the fingers of the left hand, was observed eight months ago. This gradually spread up the arm, and later on a similar feeling was noticed in the left lower extremity. About five months ago he became so unsteady that he had to give up his work as a bricklayer but continued working in a factory till two months ago. About three weeks ago he observed a "stiff feeling" in the left side of the head, and the left upper and lower extremities felt unwieldy. On November 22d, when first seen by the

speaker at the request of Dr. Kelly, the head was fixed and slightly drawn to the left. There was no real stiffness of the head, and no abnormality or tenderness. There was no ocular paralysis; the pupils responded to light and accommodation. The fundus was found quite normal. Vision and color perception were normal. The sense of smell and taste were normal. There was no unsteadiness of articulation. The knee-jerks were both exaggerated, particularly on the left side, and there was likewise left ankle clonus. The triceps reflex was exaggerated on the left side. The left hand was decidedly ataxic. The patient could walk, and could move the upper extremity in every direction. There was a remarkable diminution of the pain sense all over the body, including the mucous membranes. Tactile sensation appeared to be unimpaired. Temperature sense was exquisitely preserved. The patient talked rationally and the psychical sphere was intact. Examination of the urine showed albumin but no sugar. The pulse was rapid, the respirations accelerated, and the temperature 102° F. The opinion was expressed that the intra-cranial lesion could not be satisfactorily localized, but that there was probably a new formation within the brain subcortically, involving the pyramidal projection on the right side. Three days later the patient was seen again, and was found much worse. He was quite somnolent and the reflexes had become quite sluggish. There was already marked pulmonary oedema. An exploratory opening was made by Dr. J. E. Kelly, the surgeon in attendance, just behind the fissure of Rolando. A hollow needle introduced into the brain in various directions found no unusual collection of fluid. On the second day after the operation his temperature rose to 105° F., although there was no evidence of sepsis in the wound. He died December 1st. It was found on autopsy that a large part of the medulla had been destroyed by the tumor, leaving only a mere shell. The remarkable feature of the case was that the man appeared to be well in every respect up to a short time before his death, and yet nearly all of his medulla was gone.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 16, 1895.

DR. S. B. W. McLEOD, PRESIDENT, IN THE CHAIR.

Sprained Ankles.—DR. E. VON DÜNHOF opened the discussion upon this subject. He said he had intended to speak not only of sprained ankles but sprains in general. Sprained ankle was the most common form in which that kind of injury known as sprains was found, and it was not a matter of such small importance as to render it contemptible in a diagnostic sense to the physician. A correct diagnosis was pre-eminently important, as upon the correct knowledge of the injury the treatment depended. Every joint was an exceptionally complex machine in reference to its structure, especially as to its synovial membrane, which was so sensitive that an injury often gave rise to conditions which impaired or rendered useless the joint. It was therefore necessary to determine as nearly as possible the extent of the injury—whether there was an injury of the bone, the soft parts, or the cartilage, for upon these primary conditions rested the treatment. Having determined the extent of the injury, the next thing was to adopt the line of treatment which was the least cumbersome to the patient and assured the readiest cure. Treatment by massage had been recommended by many, but there were cases in which that would result in serious and lasting injury. Neglect of the first principle, absolute

rest, was often a source of permanent impairment of the joint.

In stepping from her carriage a lady had sustained an injury to the ankle which a doctor said was a sprain and suggested bathing. Another doctor diagnosed the case as osteomyelitis and proposed to open the part and let out the pus. The result was, the limb was amputated and the bones were in a softened condition. Dr. von Dönhoff said he was satisfied no serious result would have taken place if the limb had been correctly treated at first. The result of an injury to a joint depended much on the diathesis and age of the patient. A young patient under the age of puberty with tubercular diathesis was very prone to chronic disease of the ankle-joint, or any other joint which had been injured. Slight injuries might appear as nothing to those who had not seen the evil results which sometimes followed such injuries. It was often true that when treated as well as they might be they resulted badly. For example, a number of years ago he had had a child brought to him who had received a sprain a year before and had been well treated, nevertheless he had diagnosed it as a case of dry caries and operation proved the diagnosis correct. It might be truly said that it was not always easy to make a diagnosis, and it was not proper to say to the patient it was only a sprain and of little importance. A favorable prognosis should not be made unless the patient was willing to remain at rest until all pain had ceased. Dr. von Dönhoff said that a sprain of the shoulder often resulted in a helpless shoulder. He had such a case now in a man who fell from a wagon and had not fractured a bone or injured the joint but had injured the deltoid muscle.

Dr. J. F. ERDMANN said he had hoped Dr. von Dönhoff would take up the treatment of sprains. As for the diagnosis, he thought that by taking hold of the joint firmly and making pressure so as to put the ligaments on the stretch the point of pain would aid in locating the point of injury and making the diagnosis. In treating sprains it had been his custom to put on evaporating lotions and then apply splints. More recently he had been using the methods of fixing the joint by means of adhesive plaster, beginning below the injury and extending above the ankle, and then allowing the patient to go about. Dr. Stewart and he had been treating in this way the wrist-joint. In cases of synovitis, if the fluid persisted, he had resorted to the aspirating-needle and removed part or all of the fluid. Every one knew that the family history must be taken into consideration in giving a prognosis, and also that a sprain was not an injury to be lightly considered.

Dr. JUDSON said that sprains as a general thing occurred in the lower extremity, due to the difference in mechanical relation, but were it possible to conceive of men walking on their hands this might be changed. He thought that this gave the hint to the treatment: remove the affected part from the influences of walking and standing. A very simple way to take the weight of the body from the affected limb was to put the patient on crutches and elevate the sole of the shoe on the well foot. The pathology was very interesting, but from the nature of the condition was very obscure. Some cases of joint disease seemed to have had their origin in a sprain which was long continued and not very susceptible to treatment.

Dr. LIVINGSTON said he thought patients with sprains did better with a limited amount of motion. It had been his practice, if the patient was seen shortly after the injury, to put the part up in adhesive plaster as Dr. Erdmann described, but if he saw the patient a day after the injury he used the Martin bandage for a few hours to reduce the swelling before putting on the adhesive plaster. He agreed that but little was

known of the pathology of sprains, and therefore much of the treatment had been more or less in the dark, but clinical experience proved that to put the ligaments to rest by means of the adhesive-plaster bandages and not interfering with the joint was beneficial.

Dr. HENRY said he liked the James F. Little form of treatment. By the use of plaster-of-Paris splints, moulded to the leg and leaving a space between them, then strapping with bandages, a dressing was formed which gave good results and furnished the opportunity for applying new bandages.

Dr. GROW said he thought hot water was excellent in treating sprains. By putting the limb in hot water all pain was relieved. This use of hot water for the relief of pain was not new, and Napoleon had used it when on St. Helena to relieve the pains he suffered from cancer. Hot water, like sleep, brought back to the circulation the fluids of the body, and in sprains was useful to give relief preceding bandaging.

Dr. GALLANT said the speakers did well to lay stress on the serious results often arising from sprains. He also had a case of a man who had fallen and injured the shoulder similar to the case mentioned by Dr. von Dönhoff. He sent the patient to Dr. Peterson for test with electricity and it was found that the injury was in the muscle itself. Dr. Gallant used massage and found that patients did very well under that treatment. It was claimed that by massage the time for recovery was reduced one-fifth of that usually required. In using massage the injury itself should not be massaged at first, but the manipulations should begin above the injury and gradually work toward it, the strokes being made all the time up and from the injury. In this manner the swelling was removed and if the procedure were continued for a time the patient experienced great relief, for the swelling was always the cause of the pain. The usefulness of massage in diagnosis should especially be remembered. It was a desirable method of treatment to prevent ankylosis, for fibrous deposit was prevented and nothing was left to cause ankylosis.

Dr. MANLEY said that sprains were due to a diversity of causes and in quite a number trauma was only an element. As there was often a weakening of certain sets of fibres favoring dislocations, so there were conditions favoring sprains. There was no doubt that rheumatism was a predisposing factor in many cases. In his opinion no particular line of treatment would fulfil the indications in all cases. Fixation would cure many cases in a short time, but some proved quite obstinate and did not recover under this alone. The pathology of some cases was especially obscure, as in a case in which there was no swelling, no hemorrhage, but persistent pain and soreness. This class belonged to what was known as arthritic neurosis. Dr. Manley said in going over the literature of the subject of sprains he had come to the conclusion that there were many cases in which there was a psychical element and some of them should be treated by taking the limb and breaking up the adhesions without anaesthesia. The pain and slight mental shock with the breaking up of the adhesions produced the desired effect.

Dr. T. D. MERRIGAN said he thought the loss of use of the shoulder-joint in the case mentioned by the first speaker was due to an injury of the brachial plexus which passed down just in that region. Such an injury was not uncommon, especially where the individual fell but a short distance and the plexus was unprotected by the contraction of the muscles. For that form of injury he thought electricity was the treatment. When there were adhesions the application of the negative pole of the galvanic current would tend to the resorption of the deposits and the breaking up of the adhesions. Dr. Merrigan said he agreed that massage was good, but a great many patients were not able to hire the services of the experienced

masseur to visit them twice a day. The adhesive-plaster bandage lent a support and was useful. If a correct diagnosis could be made, pressure by means of cotton batting and bandages could be applied to the part in such a way as to give relief and lend support.

In closing the discussion Dr. VON DÖNHOFF said he thought those injuries which could be treated by massage must be slight, for the more serious injuries required some time for recovery. If there was a rupture of the ligaments it seemed unreasonable to think the structures would heal while the patient was going about on the limb. As soon as a limb was injured, Nature at once, by a stiffening of the muscles from nervous reflex, attempted to put the part to rest. Acting upon this suggestion it seemed to him the most reasonable method was to seek mechanical rest for the injured part. He did not mean put the part in a plaster cast which would result in more or less ankylosis, but in all of the severer sprains with injury in and about the joint secure for the part absolute rest, and, as was largely the present custom of treating fractures, begin passive motion about the third day. He did not believe that pain could be entirely relieved by massage, but the thankful patient often drew on his imagination out of gratitude to the surgeon. He thought electricity was useful in many cases, especially chronic ones, but it was often useless; for in his opinion there was a certain amount of paralysis, or, at least, paresis associated with these injuries.

Clinical Report of a Case of Excision of the Head of the Humerus and Half of the Glenoid Fossa of the Scapula.—Dr. JOHN F. ERDMANN presented the patient, aged forty-four, a builder, family and early history negative. On December 15, 1894, he fell, striking on the anterior aspect of his left shoulder. He remained at home three days suffering intense pain, was removed to a hospital where dislocation of the shoulder was diagnosed, was anesthetized, and reduction said to have been made. On December 28, 1894, he was admitted to another hospital with above history and the additional symptoms of inability to use his left arm and great pain in the elbow, wrist, and hand of the same side. He was twice anesthetized and each time so-called reduction was accomplished, but it did not remain reduced. On August 29, 1895, ten months after the original injury, and after three attempts at reduction had been made with the patient under ether, Dr. Erdmann said he found the following: Marked emaciation of the upper half of the trunk, flattening of the left shoulder, prominence within one-half inch of the under surface of the clavicle, a large and round mass beneath the coracoid, and evidence of some bony substance filling the glenoid cavity. A diagnosis of fracture of the head of the humerus with dislocation and possible fracture of the coracoid process was made, and the patient accepted operative interference. While manipulating the arm after anesthesia a distinct snap was heard, the arm became freely mobile but with crepitation. An incision was made and upon exposing the wound a mass of callus was found at the site of the greater tuberosity and extending up into the glenoid fossa, while internally and beneath the coracoid process the head of the bone was found; these two portions were separated by a fissure from which there was free oozing. This fissure accounted for the snapping heard during the manipulation, and was a fracture of the head from the side of the shaft where it had become attached by callus. Reduction of the displaced head was impossible. The incision was enlarged, the head of the humerus chiselled out; the anterior half of the glenoid cavity of the scapula had been broken and was solidly united with the head of the humerus, the long head of the biceps was embedded in a mass of callus on the humeral head and by pressure had been atrophied to

one-half its size at other points. The callus upon the greater tuberosity was removed with a saw, and the wound cleaned out and sewed up with catgut. Twenty days later the dressings were all removed and passive motion begun. On December 14th, about three months after the operation, the patient could abduct the arm to forty-five degrees, could place the hand on his right shoulder, forward and backward motion was good, rotation slight, and the functions of the elbow, wrist, and fingers were excellent.

Carcinoma of the Leg Following a Compound Fracture.—In presenting the specimen Dr. Erdmann gave the following history: Male, aged sixty-seven, laborer. About forty years previous he had sustained a compound fracture of the tibia, the bone had united, but the wound never thoroughly healed, but yielded a constant discharge. In August, 1894, the patient was anæmic, emaciated, poorly nourished, feeble, and with a temperature $99\frac{1}{2}^{\circ}$ to $100\frac{1}{2}^{\circ}$ F. There was an old unhealthy ulcer with hardened and indurated edges, connected with the tibia and covered by a sero-purulent discharge with marked odor. As the high temperature was of recent date and exhaustion was becoming more marked, amputation was proposed and accepted. Disarticulation was done at the knee joint; patient did nicely for three days, then the temperature ran to $102\frac{1}{2}^{\circ}$ F., he became melancholy, refused food after the sixth day, and died on the thirteenth day after the operation. Diagnosis of carcinoma was made by the pathologist.

Reviews and Notices.

ELEMENTARY TECHNIQUE IN HISTOLOGY AND BACTERIOLOGY. By EARNEST B. HOAG, A.B., B.S., Instructor in Zoology and Physiology, Throop Polytechnic Institute, Pasadena, Cal., and K. KAHN, Ph.D. (Mich.), Assistant Demonstrator in Bacteriology, Northwestern University Medical School, Chicago. Chicago: E. H. Colegrove & Co. 1895.

A SHORT manual, giving in a concise manner the technique of histological and bacteriological procedures. Designed for students or beginners in these branches it would serve them for ready reference, as it gives in tabulated form all the various steps requisite for preparing and staining the different tissues and bacteria.

THE PRINCIPLES AND PRACTICE OF MEDICINE, designed for the use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D., Fellow of Royal College of Physicians, London; Professor of Medicine, Johns Hopkins University. Second Edition. New York: D. Appleton & Co. 1895. 8vo, pp. 1,143.

In studying the second edition of this admirable work we are struck with the careful and judicious efforts of the author in his attempts to bring all his subjects up to the level of the advanced thought of the day. Although scarcely less could be expected from one who has for so many years as a teacher kept in the lead, it is nevertheless gratifying to note the fact and to congratulate author and reader accordingly. We need refer only in a general way to the practical character of the treatise, its concise style, its reasonable and authoritative statements, and to the natural and systematic arrangement of subjects, as such features can be duly appreciated only after careful examination. A large amount of new matter has been added to the present edition, incorporating all the new and well substantiated facts that recent progress in medicine, pathology, and bacteriology have brought to light. In such respects the work can serve the double purpose of study and reference regarding essential progress in medicine. Among articles that have been either recast, rearranged, or rewritten we may mention typhoid and malarial fevers, diphtheria, cholera, syphilis, tuberculosis, gout, diabetes, chronic tonsillitis, anæmia, leukæmia, muscular atrophies, and psorospermiasis. The subjects that have been added are those on bubonic plague, infantile scurvy, eczema of tongue, affections of the mesentery, anuria, and Cheyne-Stokes breathing. To such as know the superior excellence of the previous edition it is

unnecessary to say that the present is a model of its kind, while to such as may study this one it can safely be said that it will give most ample satisfaction. Its peculiarity is that it represents the best work of a master in his art.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Tenth Session. Vol. X. Philadelphia, 1895. 8vo, pp. 406.

AMONG the notable papers in this always welcome volume are those on immunity against vaccination by Dr. Sternberg, Madura foot disease by Dr. Adami; hyperthermy in man by Dr. Jacobi, intra-thoracic tumor by Dr. Pepper, and by Dr. Welsh on the treatment of diphtheria by antitoxin.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR 1895. Vol. XIX. Grand Rapids, 1895.

THIS is a goodly-sized volume, well filled with practical papers, some of them treating of rare affections which are well illustrated in full-page lithographs. Among the latter may be mentioned an interesting case of aural sarcoma and one of diffused pigmented sarcoma.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. A Manual for the Use of Physicians, Surgeons, and Students. By CHARLES W. PURDY, M.D., Queen's University; Fellow of the Royal College of Physicians and Surgeons, Kingston; Professor of Urology and Urinary Diagnosis at the Chicago Post-Graduate Medical School. Second, Revised Edition. 8vo, pp. 360. Philadelphia: The F. A. Davis Co. 1895.

THIS compactly written and well-illustrated manual has advanced to a second edition, which, with numerous revisions and additions, both in text and illustrations, presents itself as a most useful and trustworthy aid in uranalysis and urinary diagnosis.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By ARTHUR VAN HARLINGEN, Ph.B. (Yale), M.D., Emeritus Professor Dermatology in Philadelphia Polyclinic. Third Edition. Philadelphia: P. Blakiston, Son & Co. 12mo, pp. 577.

THIS edition has been considerably enlarged, and in many respects is markedly improved as compared with the previous ones. The additions are mainly in the direction of introducing short accounts of the rarer diseases and the appending of notes for references. The illustrations are typical and sufficiently numerous.

OUTLINES OF PRACTICAL PHYSIOLOGY: Being a Manual for the Physiological Laboratory. By WILLIAM STIRLING, M.D., Sc.D., Brackenbury Professor of Physiology and Histology in Owen's College and Professor in Victoria University, Manchester, England. Third Edition. Philadelphia: P. Blakiston, Son & Co. 1895. 12mo, pp. 402.

THIS is a very practical work for the use of the student engaged in laboratory work, especially in those departments of chemical and experimental physiology which refer to practical medicine. Although the essential features of the previous editions remain unchanged, there has been considerable rearrangement of matter and many additions, including a short appendix on recording apparatus.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Vol. XX. For the year 1895. Philadelphia: W. J. Doran. 8vo, pp. 633.

THIS is an unusually good volume, containing numerous special papers of marked value along the new lines of gynecological work, and has the additional value of a general index to the preceding volumes.

THE MEDICAL RECORD VISITING LIST AND PHYSICIAN'S DIARY FOR 1896. New Revised Edition. William Wood & Company, New York.

THIS visiting list is one of the oldest in the market, and its continued popularity shows conclusively the esteem which its convenient arrangement, good materials, and attractive make-up merit. The thirty closely-printed pages which precede the visiting list proper have just been revised and brought completely up to date, and the tables of equivalents, posological table, tables of formulæ for various purposes, of poisons and their antidotes, together with many other memoranda on subjects of daily interest to physicians, are most complete. It is arranged for thirty or sixty pa-

tients per week, either dated for 1896 or without dates, so that it may be used indefinitely. The arrangement for recording visits and memoranda and cash account is excellent. The binding of the Medical Record Visiting List is of the best morocco leather, soft and flexible and extremely durable.

THE MEDICAL NEWS VISITING LIST. 1896. Philadelphia: Lea Brothers & Co. 1895.

ARRANGED for thirty patients weekly, and containing all kinds of information from "the signs of dentition" to "ligation of the dorsalis pedis." This year's record of practice is up to its usual style, is enclosed in an attractive cover, and has a thumb index for the various departments.

SURGERY: A Practical Treatise, with Special Reference to Treatment. By C. W. MANSELL MOULLIN, M.A., M.D. (Oxon.), Fellow Royal College of Surgeons, Surgeon and Lecturer on Physiology to the London Hospital. Assisted by various writers on special subjects. Third American Edition. Revised and Edited by JOHN B. HAMILTON, M.D., LL.D., Professor Prin. and Clin. Surg., Rush Medical College. Philadelphia: P. Blakiston, Son & Co. 1895. 8vo, pp. 1,250.

THE third American edition of this work appears as another candidate for favor among the numerous and more recent works on surgery. The topics are well and judiciously condensed, in order to compass the wide range of topics comprised under the head of general surgery. The illustrations are well selected and sufficiently numerous for their purposes, many of them being original. The demonstrations of operative technique are everything to be desired, and although a few are not up to the higher requirements of artistic conformity, they may be condoned in view of a laudable endeavor of exemplifying a laudable motive. The editor has done his part very judiciously, and proves his good taste by making very few annotations, which, for the most part, are very excusable, in his efforts to incorporate his own experience and that of other American surgeons in several special lines of work.

MENTALLY-DEFICIENT CHILDREN, THEIR TREATMENT AND TRAINING. By G. E. SHUTTLEWORTH, B.A., M.D., etc. London: H. K. Lewis, 136 Gower Street, W. C. 1895.

COMMENCING with an historical retrospect, this manual is divided into nine chapters. In the second chapter we learn of Dr. Warner's method of instruction of the feeble-minded by gradual advancement. So, for example, the ordinary one-year course is subdivided so that it extends over four years. Great stress is laid on development of physical as well as mental defects by combining a variety of systems especially adapted for this class of pupils. This is the reason why one teacher seldom has more than twenty pupils.

It is obvious that a child whose mental deficiency or nervous peculiarity is but slight will have a better chance of improvement when educated with those of similar mental calibre, than if subjected to hopeless competition with normal children at an ordinary school; or, on the other hand, exposed to the depressing influences of an institution where idiots are received.

Chapter III. is the most instructive and interesting, giving brief pathological sketches of microcephalus, hydrocephalus, Mongol or Kalmuc type, scrofulous cases, birth palsies with athetosis, cretinism (congenital), primarily neurotic, and so on.

The next chapters deal with the etiology, diagnosis, prognosis, and treatment of these various defects. The treatment consists of: *a*, general; *b*, medical and surgical. We have a chapter on educational training and one on industrial training, a chapter on recreation, and finally moral training.

The author sums up by giving his results and conclusions. Condensed as this book is into about 140 pages, it is so full of instruction that each page requires careful reading.

It is rare to find such accurate and excellent illustrations. The reputation of the author will alone insure the success of the book, which is full of points for both pediatric and general practitioner.

FUNCTIONAL AND ORGANIC DISEASES OF THE STOMACH. By SIDNEY MARTIN, M.D. Edinburgh and London: Young J. Pentland. Philadelphia: J. B. Lippincott Co. 1895.

THE author of this excellent book deals first with the anatomy of the stomach and the normal processes occurring in

it, then considers the question of food as a normal dietary, as to digestibility, and as regards its effects of excess or diminution. The pathology of indigestion of food is next dealt with. The newer methods of examination of the gastric contents are minutely described. Under the methods of determining the size and position of the stomach we miss "gastrodiaphany," a method which has been in use for the last few years with great satisfaction. The term "indigestion of food" does not strike us as well chosen, for not always are the abnormal sensations within and around the stomach attributable to real abnormal conditions with regard to the digestion of food within the stomach.

The chapters on the organic diseases of the stomach are full of interest, and the illustrations of the pathological conditions are admirable.

The treatment of chronic gastric catarrh is described by Martin as follows:

"Gastric catarrh, being an inflammation of the stomach, although chronic in its course, must be treated like other inflammatory conditions. For an acute inflammation, rest is essential; for a chronic inflammation, rest is also necessary, and at a certain period of the disease stimulation. Rest can be given to the stomach by means of suitable food, food which the disordered organ can digest. It can also be given medicinally by means of drugs. Although rest is one of the essentials of treatment, and important as allowing the chronic inflammatory condition to resolve, yet if food is to be taken into the organ and digested without discomfort, the disordered stomach must be helped. For in gastric catarrh the inflammatory change leads to a great diminution in function of the organ; a diminished secretion of the gastric juice, especially of the hydrochloric acid, and a diminished motor power of the organ. As regards medicinal treatment, there is no remedy which may be said to be universally beneficial in gastric catarrh, except the mineral acids—nitro-hydrochloric and hydrochloric; these supply the deficiency of the gastric juice, and thus aid the process of digestion when given shortly after meals. For stimulation of the gastric secretion, alkalies before meals are necessary, with or without bitters. Not uncommonly, however, bitters irritate the stomach in gastric catarrh. As sedatives, morphine, opium, codeine, cocaine, and cannabis indica may be used.

"In chronic gastric catarrh, the regulation of the mode of living is of great importance; meals at regular intervals, not late in the evening, a moderate amount of exercise between meals, and a period of rest afterwards are essential. With subacute cases and in the exacerbations of chronic catarrh, bodily and mental rest is essential in the treatment, and, if not obtained, delay in recovery is increased. In chronic cases of catarrh the supplementary methods of treatment are of great use, viz., hygienic treatment, local or general massage, etc. Speaking generally, it may be said that treatment in the early stages of gastric catarrh is very beneficial, as also in those cases where there are attacks at intervals. But in the later stages, where there is degeneration of the mucous membrane, no permanent cure is possible, although much may be done to prevent irritation of the stomach by unsuitable food, and the patient may lead a comparatively healthy life although his gastric digestion is deficient."

AN ATLAS OF THE FERTILIZATION AND KARYOKINESIS OF THE OVUM. By EDMUND B. WILSON, Ph.D., Professor of Invertebrate Zoology in Columbia College, with the Co-operation of EDWARD LEAMING, M.D., F.R.P.S., Instructor in Photography at the College of Physicians and Surgeons, Columbia College. New York and London: Published for the Columbian University Press by Macmillan & Co. 1895. Pp. vii., 32.

THIS admirable work represents the most successful attempt yet made to depict the actual changes which take place in the ovum from the moment of fertilization to the stage at which sixteen segments are formed by the process of cleavage. The eggs of the sea-urchin, artificially fertilized, were preserved at regular intervals, embedded, and sections were photographed and reproduced without reduction. The phototypes are beautifully clear and distinct, representing with a vividness, which in some instances is almost startling, the minute changes in the ovum. The much-abused term "living pictures" finds its scientific application in these triumphs of the photographer's art.

In spite of the technical difficulties which attend the reproduction of the microscopical appearance of protoplasm

under high powers, the plates are sufficiently clear and accurate to satisfy the most fastidious critic. Each plate is briefly but accurately described by the accompanying text. The work is one which will be invaluable to biologists and embryologists.

AN ELEMENTARY COURSE IN EXPERIMENTAL AND ANALYTICAL CHEMISTRY. By JOHN H. LONG, M.S., Sc.D., Professor of Chemistry and Director of the Chemical Laboratories in the Schools of Medicine and Pharmacy of Northwestern University. Chicago: E. H. Colegrove & Co. 1895.

THIS work breaks away from the traditions of most of its predecessors in that it plunges at once into experimental chemistry, the principles of the science being thus taught clinically, as it were, instead of didactically—by example instead of by precept. The student is thus led through a series of simple propositions experimentally established to a comprehension of chemical reactions. The second part is devoted to qualitative analysis, and in the third part the elements of volumetric analysis are set forth. The work is one that should prove of great utility to the student of medicine or to the beginner in chemistry.

OUTLINES OF MATERIA MEDICA AND PHARMACOLOGY. A Text-book for Students. By H. M. BRACKEN, M.D., Professor of Materia Medica, Therapeutics, and Clinical Medicine, University of Minnesota. Philadelphia: P. Blakiston, Son & Co. 1895.

THIS book, the author states, is an amplification of the notes arranged for a lecture course on materia medica at the University of Minnesota. Its purpose is to supply a text-book supplementary to a course of lectures in materia medica. It apparently serves this purpose admirably, and should be useful not only to those whose privilege it is to listen to the author's lectures but to students in other schools as well. It is also a good work of reference for the practitioner who may need occasionally to refresh his mind as to the dose of various preparations of some official or non-official remedy. The doses are given in equivalents of both the metric and the apothecaries' systems.

REMOTE CONSEQUENCES OF THE INJURIES OF NERVES AND THEIR TREATMENT. An Examination of the Present Condition of Wounds Received, with Additional Illustrative Cases. By JOHN K. MITCHELL, M.D. Philadelphia: Lea Brothers & Co. 1895. 8vo, pp. 245.

THIS little work is really a continuation of the valuable contributions of Mitchell, Moorehouse, and Keene, in 1864, and of Mitchell in 1872. Dr. John K. Mitchell has, with great care and labor, traced the histories of many of the cases which were reported in the previous book. He has added a number of new cases, and has thus, in large measure, completed the work begun by the previous authors. The book, necessarily, consists largely of reports of cases, but there are chapters giving proper deductions that have been made, and a final chapter on "Treatment." The book is one which should prove most valuable to both surgeons and neurologists.

PHYSICIANS' VISITING LIST FOR 1896. Philadelphia: Lindsay & Blakiston.

THIS well-known visiting list presents several improvements in the new edition for 1896. More space has been allowed for writing the names and to the "memoranda page;" a column has been added for the "amount" of the weekly visits, and a column for the "ledger page." The lists for seventy-five patients and one hundred patients also have special memoranda page, dated January to June, and July to December.

THE ART OF COMPOUNDING. A Text Book for Students and a Reference Book for Pharmacists at the Prescription Counter. BY WILBUR L. SCOVILLE, PH.G. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1895.

THIS work furnishes excellent notes on the subjects of writing and compounding prescriptions. A special chapter is devoted to the subject "Incompatibility," pointing out all the conditions in which two or more different substances—on account of their chemically or physically antagonistic qualities—cannot be compounded. This part of the book is especially important for physicians, and will undoubtedly prove very instructive to its readers.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PREVENTIVE CHOLERA INOCULATION—HAFFKINE'S INDIAN RESULTS—COLOTOMY FOR COLITIS AND DYSENTERY—EARLY CANCER AND CYSTS OF THE BREAST—CHELSEA HOSPITAL DISPUTE—TUBERCULAR OR TUBERCULOUS—SNAKE POISON IMMUNITY PRIORITY—DEFEAT OF QUACKS—HOSPITAL SQUABBLES—PROPOSAL TO EXTEND NOTIFICATION OF DISEASES.

LONDON, December 20, 1895.

PROFESSOR HAFFKINE is now in England, after twenty-nine months of work in India, and at the invitation of the two royal colleges gave a lecture the day before yesterday on his preventive cholera inoculations. You will remember I sent you an account of his former lecture in February, 1893. The record he has now placed before the profession embraces 70,000 injections on 42,179 individuals without a single mishap. The results fall into three groups: (1) Unsuccessful or where no definite conclusion is possible; (2) Slightly favorable to the method; (3) Satisfactory. In Group 1 numerous cases underwent only part of the treatment. Where cholera had most victims and the whole population seemed exposed to it, the result of inoculation was most favorable. Applied during an epidemic it reduced the mortality even in the first few days. The lecturer quoted the opinion of Koch, who says: "The demonstration is complete; the protective power of the inoculation is established finally by the observations collected in India up till now; further perfections and simplifications may be possible, but the main question at issue, the chief part of the problem, is solved by the facts recorded in your report to the government of India." Professor Haffkine intends to return to India and make extensive trial of an antitoxin serum. How far this may aid or defeat his inoculations it is impossible to foresee. He closed with a graceful expression of thanks to all who have assisted him. Sir R. Reynolds, who presided, thanked him for the good work he had done and for coming to give us so lucid an exposition of his method and its results.

The extension of modern surgery has been so rapid that we have ceased to be surprised at any proposal. The physicians, if not the surgeons, of the last generation would perhaps have been more than astonished or awe-struck could they have been present at the Clinical Society this day week. That evening a case was related of membranous colitis in a lady aged thirty, who had been ailing since 1885 with abdominal pain, constipation, discharges of mucus and blood, etc. Eventually, in 1894 tubular casts were passed with intense pain, and she was a complete invalid. Tenderness over the descending colon and sigmoid flexure was present, and a motion on examination seemed composed of a little fecal matter, a great deal of mucus and blood, as well as long tubular casts. As for ten years everything had failed, a right colotomy was undertaken. The bowel was fixed to the surface on May 10, 1895, and opened on the 17th. Three days later the colon was washed out with hot water from the artificial to the natural anus, but membranes had ceased already to be formed. All motions were passed for five weeks through the artificial anus and were quite normal. No purgatives were given. Then the wound was closed, and the bowels were confined with opium for a week. No blood or mucus recurred, and the patient went into the

country in July, feeling better than for years. There, however, she died, and the gentleman who attended her during the last forty hours of her life told the society she had generalized peritonitis and was moribund when he was called in. He found a swelling, on rectal examination, which he thought was probably an enlarged gland which having suppurated, the abscess had burst into the peritoneal cavity. The patient told him there had been no return of the colitis. This case naturally elicited the mention of others in which the operation had been done for dysentery. In one of these the entire mucous surface was found to be studded with polypoid growths, from one to two inches long. The patient improved after the operation and died later from other causes. One case of colitis was described resembling the one operated on, but which got well under small doses of calomel. Some differences of opinion were expressed as to the precise nature of these cases of membranous colitis, and whether the morbid process was not more extensive than the surface of the colon. The differences of the disease from dysentery were also insisted on, especially as to the prospects of operative measures.

The diagnosis and treatment of early cancer and cysts of the breast was the subject at the last meeting of the Medical Society. It was introduced by Mr. Bryant, who divided the cases in which there are difficulties of diagnosis into three groups: 1. Those in which there is some enlargement or thickening of the gland without evidence of anything wrong in the skin, nipple, or lymphatics; 2. Those in which there is a distinct lump, encapsuled or not, inseparable from the gland, with some local conditions, such as flattened or retracted nipple or enlarged axillary glands; 3. Cases in middle age when the gland feels harder than normal, in knots about the size of peas, with at times discharge from the nipple of clear yellow or blood-stained fluid or cheesy matter, whether the lymphatic glands were enlarged or not. In the first group the importance of the diagnosis was pointed out, as the earlier a cancer was removed the better the prospect. A cyst might be mistaken for cancer or even a chronic abscess if connected with lactation. Early exploratory incision was advocated. In Group 2 the possibility of a cyst being present should always be remembered. Cysts had been known to disappear, but so rarely that they ought not to be left to time. The cases of alleged disappearance of sarcoma were probably only cysts. In the Group 3 the point urged was not to conclude too hastily that they were cancerous. Each case must be considered by itself.

Mr. Shield said, in the absence of evidence of malignancy, he assumed a lump to be a cyst. He pointed out that some conditions might render puncture with a trocar deceptive.

Dr. Snow held every mammary tumor in a patient over thirty-four, whether cyst, fibroma, or other, sooner or later would become malignant, and he always removed them. Moreover he had not yet met with a simple cyst. He had, too, seen many cysts connected with malignant disease give a straw-colored or pale fluid, so that the quality of the discharge could not be depended on as a guide. This statement was supported by Mr. Bidwell. A case of difficulty from a sebaceous tumor was mentioned by Mr. Turner, who also discredited the alleged disappearance of sarcomata. Mr. Lockwood said surgeons would save themselves humiliation if they would cut down to a tumor and see what it was. Mr. Bryant, in reply, admitted that cysts might become the seat of malignancy, but that did not justify any one telling patients that cysts were sure to do so.

The discredited board of the Chelsea has taken a step which may not assist in restoring confidence in its proceedings. The board refused arbitration on

LONDON, December 27, 1895.

matters disputed between it and one of the staff, and called a meeting of governors to endorse its action and dismiss the surgeon who asked for arbitration. The meeting took place on Wednesday. At one period of the proceedings there was interruption, with booing, stamping, and noises which must be pronounced disgraceful considering the semi-judicial character of the meeting. An honorary officer was to be dismissed without any charge being formulated against him, except that the board and his colleagues could not get on with him. Mr. Burdett-Coutts resigned rather than be a party to refusing arbitration. Mr. Langman proposed and Dr. Travers seconded that all questions that have arisen should be referred to arbitration, and this was supported by Canon Fleming; but only seventeen votes were given for the proposal and more than one hundred against it. Both the board and staff had threatened to resign unless the dismissal was carried. I cannot congratulate either. The board ought long ago to have retired. The present staff should reflect that they were appointed by this discredited board. Their statement that they could not work with their assailed colleague is as absurd as it is injudicious, considering the many cases in which colleagues are known to be on distant or even unfriendly terms with each other, although discharging their duties at the same hospital. Pity 'tis—but true. As to the merits of this case the meeting affords no information, and the governors appear to have simply voted as the board dictated. We may yet hear more of it.

Tubercular or tuberculous? These adjectives are often confused even by careful writers, and attention has lately been called to the necessity of distinguishing between them. Dr. Fred J. Smith long ago proposed to use the word nodular as the adjective of nodule, which merely means a small lump. This would avoid confusion, and leave the bacillus free to the monopoly of tubercle and both its adjectives.

Professor Ray Lankester has assailed Dr. Fraser, of Edinburgh, rather hastily perhaps, respecting his communications on snake poison, and declares that the honor of the discovery of immunity belongs to Dr. Calmette. Dr. Fraser replies that he has made no claim of priority, and that although his communications have only been preliminary, in which it is not usual to introduce historical notices, he has done justice to Dr. Calmette, of whose researches he has the highest opinion.

Quackery has had some notable reverses lately. John Ferdinand, who signed himself M.D., U.S.A., was proceeded against by the Defence Association for wilfully and falsely assuming the title M.D. He thought the additional letters protected him, but the magistrate decided otherwise and fined him £20 and £10 costs. This Ferdinand issued most offensive advertisements, proclaiming himself "the first physician in the world, the only authority on cancer, rupture, consumption, etc.," stigmatizing hospitals and ordinary doctors, and so on. The only wonder is that any one should believe him, but, as the magistrate remarked, it is the poor and ignorant who are deceived by such practices.

Sherman, the American hernia specialist, has also come to grief in the courts for having obtained 20 guineas by fraudulent representations. He is ordered to refund, with costs. He admitted that in the States he was connected with horse-trotting before taking up the hernia specialty. It is to be hoped other quacks may be brought to book and taught that to pretend to be Americans will not avail them.

Another encouraging case came before the county court as an action for damages against a Manchester cancer quack. The unhappy victim recovered £10, which, with costs, may prove a wholesome lesson to the quack and a warning to the ignorant.

THE Chelsea Hospital committee seems no nearer the end of their troubles. Dr. Watt Black and Mr. Bryant, who were asked to arbitrate, have made public a letter in which they stated that they went to the hospital to ascertain what points were to be submitted to them in order that they might determine whether they could undertake the inquiry. They read the documents, requested Sir A. Borthwick, who attended for the purpose, to state the exact points on which their opinion was desired, and concluded they would not undertake the inquiry unless both parties agreed to abide by their decision. As Sir A. Borthwick represented one party, it seems doubtful whether this proceeding was a wise one, though no one doubts the good faith of the proposed arbitrators. I think either all questions involved should have been referred, or else the two parties should have agreed on the points to be submitted before either communicated with the arbitrators. It is not surprising that Mr. O'Callaghan objected to the arbitrators first meeting a member of the board which desired to eject him. He has been ejected in the manner I reported to you, but it is a most unsatisfactory state of affairs. According to Mr. O'Callaghan the dispute arose from his objection to the house surgeon removing the dressings in his operation cases. If this be so, I think his colleagues will find it no easy matter to justify them in uniting to get rid of him. Surely honorary officers should not be removed except for grave reasons and after proper investigation. Here no complaint is made except the wish of the other officers to get rid of their colleague. This is a sad confession, but it shows the length to which some men will go, and to some extent justifies a remark, made on another case, that "doctors have no common sense." It reminds me of a case I have heard of as occurring lately, but which has not found its way to the journals. Dissatisfied with an election to the staff two members left and took with them the case books of the hospital, containing the cases they had treated. The committee was not a weak, discredited board, and quietly directed its solicitor to recover the books. One man, having consulted his own solicitor, did so; the other refused. The hospital solicitor then informed him that unless he delivered up the book, he must take out a summons against him. This brought the doctor to his senses, for he could scarcely have been in them when he ran the risk of being charged in a police court with appropriating the property of the hospital. This case, however, shows the importance of a committee being strong enough to deal with difficulties in a natural and effective manner. A weak or discredited board in such a case might have hesitated to assert its legal rights and to instruct its solicitor to vindicate them in court.

The propriety of notifying all forms of disease has been forced into a prominence, which is at least premature, by Dr. Newsholme, the able medical officer of health for Brighton. We are not concerned to deny that useful information might be obtained could reliable statistics of the prevalence of all diseases be exacted from the public. But that is impossible. The present system of notification gives great dissatisfaction to many people, and is opposed by not a few doctors, so that even yet it may be repealed. How then can Dr. Newsholme imagine the public will tolerate its extension? One hears already enough about the tyranny of the sanitary officer. What if we had to report to him every ailment we might contract?

Not to be Found.—

Mr. Maximus Miles suffered much from the piles,
And he had a colitis one day;

* When the doctor came round, he was not to be found.
For his bowels were running away.

TENDON GRAFTING—A QUESTION OF PRIORITY.

TO THE EDITOR OF THE MEDICAL RECORD.

Sir: My attention has just been called to an article published in the *MEDICAL RECORD* for October 26th last. The article was written by Dr. Samuel E. Milliken, of New York City, and is entitled: "A New Operation for Deformities Following Infantile Paralysis, with Report of a Successful Case."

In this article Dr. Milliken goes straight forward, claiming everything for himself, not mentioning any one's name but his own.

You will imagine my surprise—not to say more—in reading what he had to say when I refer you to an article by myself in the *New York Medical Journal* for October 8, 1892. The title of my article is, "A New Operation for Talipes Valgus and the Enunciation of a New Surgical Principle." In his article Dr. Milliken claims, first, the principle of tendon grafting; second, the special operation of grafting the tendon of the extensor longus pollicis to that of the anterior tibial muscle for the purpose of overcoming a paralytic valgus foot. Both are exactly what I claimed in my article of three years ago. He says: "I believe this to be the first case reported where a healthy muscle has been made to do the work of one which was completely paralyzed, without in any way interfering with its own function." He then goes on, in almost my own words, and comments upon the permanent disabilities in general resulting from infantile paralysis, and then upon the special deformity resulting from paralysis of the anterior tibial muscle. He is then struck by the fact that the extensor pollicis is seldom paralyzed, and is especially strong in his case. Immediately he conceives the idea that it would be a good plan to fasten the pollicis tendon on to that of the anterior tibial and have the good muscle do the work of its crippled neighbor. He then describes the operation he has done which is, in principle, exactly mine. In my article, after describing the same operation as done by myself, with the assistance of Drs. Lewis A. and Reginald H. Sayre, I laid down the general principle of tendon grafting as follows: "However, the important principle of grafting tendons and having a live muscle do the work of a dead one is that which I wish particularly to establish in this article."

Subsequently I exhibited the patient at a meeting of the Orthopaedic Section of the Academy of Medicine in New York. At the same meeting Dr. A. M. Phelps exhibited a similar case. The cases were liberally discussed and published in the transactions of the society.

Has Dr. Milliken a new operation or a new principle? Evidently not. He hardly has new words.

Granting this, was he ignorant of my article, and did he publish his in good faith? If my operation and case had been published in only one medical journal, I should say may be so. But this is not the case. At the time the article was first written, and also at the time the case was reported to the Orthopaedic Section, it was extensively reviewed. Did he see none of these? If he did not, he must be extremely particular about the medical literature he reads.

But this is not all. At that time (and probably yet) Dr. Milliken was one of the editors of a Spanish medical journal, published in New York. He happened into Dr. Sayre's office one day and spoke of having seen my article, and said that he intended reviewing it in his journal, which he did in the following issue. Considering all these things, I must admit I cannot think Dr. Milliken has entirely covered himself with honor.

B. F. PARRISH.

MIDWAY, KY., December 27, 1895.

AN EARLY TEST FOR GLYCOSURIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In 1892 I made the discovery that if certain articles of food or drink rich in glucose were administered to certain persons and their urine carefully tested during the subsequent twenty-four hours, glucose could be found by use of Prof. Walter Haines' test liquid. (On the other hand, the same amount of food or drink, rich in glucose, taken by myself was without result so far as the urine was concerned in its action on the sugar-test liquid. From these experiments I drew the deduction that a predisposition to glycosuria might in some cases be ascertained far in advance of the evil day of diabetes by administration of articles rich in glucose and testing of the urine thereafter. This observation was published in *The Hahnemannian*, for May, 1892.

In a recent number of *THE MEDICAL RECORD*, Dr. von Noorden is given credit for this same discovery. Although not a matter of vital importance to the medical profession, nevertheless I would deem it a favor were you to credit me with priority in this small matter.

CLIFFORD MITCHELL, M.D.

CHICAGO, December 25, 1895.

Medical Items.

Coney Island Beach as a Health Resort.—During the last year the Brooklyn Health Board reports that no less than 14,038 carcasses of decomposing animals, fish, and fowls, scraps of bedding, and lots of garbage were found upon the Coney Island and adjacent beaches, and were buried or burned.

Illuminated Tissues.—A cable dispatch to the *Sun* announces that Professor Routgen, of Bavaria, has discovered in certain rays of light a capital potency the existence of which has heretofore been unknown. Professor Routgen maintains that: "These rays penetrate organic matter and other opaque substances just as ordinary rays penetrate glass." He is reported to be using his discovery to photograph broken limbs and bullets in human bodies.

Provisional Programme for Meeting of the Medical Society of the State of New York.—Albany, January 28 et seq., 1896. **TUESDAY. Morning Session.**—Inaugural address of the President, to be followed by the business sessions, reports of committees, etc. "On Serum Therapy," by Dr. E. H. Wilson, of Hoagland Laboratory, Brooklyn. "Water and its Relations to Disease," by Dr. W. P. Mason, of Troy (late of the Pasteur Institute, Paris). "On Sepsis of the New-Born," by Dr. M. A. Crockett, of Buffalo. "The Question of Puerperal Self-Infection," by Dr. Charles Jewett, of Brooklyn. "A Medico-Legal Note," by Dr. A. Walter Suiter, of Herkimer. "Shall the State Attempt to Control Spread of Tubercular Disease?" by Dr. J. L. Heffron, of Syracuse. **Afternoon Session.**—Discussion: "On Early and Latent Syphilis in Infants and Young Children." Opened by Dr. George T. Elliott, of New York, "Diagnosis and Treatment;" Dr. Ernest Wende, of Buffalo, "Pathology;" Dr. B. Sachs, of New York, "Nervous Manifestations." "Diseases of Intra-Uterine Life." "On the Part of the Mother," by Dr. E. H. Grandin, of New York; "On the Part of the Child," by Dr. P. W. Van Peyma, of Buffalo. Address: "Medical Education of the Future," by Dr. Charles Eliot, President of Harvard University. "On Sloughing Fibroids Complicating Pregnancy," by Dr. M. D. Mann, of Buffalo. **Evening Session.**—"Scorbutus in Infants," by Dr. H. C. MacLane, of Brooklyn. "Treatment of Malignant Disease in So-Called Cancer Institutions," by Dr. Nathan Jacobson, of Syracuse. "Alcoholism and Public Health," by

Dr. H. R. Hopkins, of Buffalo. "On the Evolution of Pathology," illustrated by lantern photographs of those who have developed the science, with illustrations from their works, by Dr. J. H. Hunt, of Brooklyn.

WEDNESDAY. *Morning Session*.—"Abdominal or Vaginal Coeliotomy—Which?" by Dr. J. W. Whitbeck, of Rochester. "Vaginal Hysterectomy without Ligations," by Dr. W. E. Ford, of Utica. "Complications in Abdominal Surgery requiring Intestinal Anastomosis," by Dr. A. Vander Veer, of Albany. "Some Rare Complications of Appendicitis," by Dr. Herman Mynter, of Buffalo. "Treatment of Fractures of the Patella by Continuous Extension, without Confinement in Bed," by Dr. J. D. Bryant, of New York. "Early Diagnosis of Tubercular Kidney," by Dr. Willy Meyer, of New York. "The Improved Cæsarean Section," by Dr. H. J. Garrigues, of New York. *Afternoon Session*.—"Congenital Dislocation of the Hip," with exhibition of case successfully operated, by Dr. T. Halstead Meyers, of New York. "Heteroplasty with Celluloid to Cover Defects in the Skull," by Dr. Willy Meyer, of New York. Discussion: "On the Present Status of the Surgery of the Brain." Opened by Drs. E. D. Fisher, A. M. Starr, S. D. Powell ("Surgery of the Skull"), B. Sachs ("Surgical Treatment of Epilepsy"), C. L. Dana ("Craniotomy for Imbecility and Epilepsy"), of New York; Drs. J. W. Putnam and W. C. Krauss, of Buffalo. Address, at 4 P.M.: "Irritation and Counter-Irritation," by Professor William H. Pepper, of Philadelphia. Address: "Deficient Excretion from Kidneys not Organically Diseased, in Some of the Disorders Peculiar to Women," by Professor James H. Etheridge, of Chicago. *Evening Session*.—President's Address: "On the Study of Pathology by Comparative Methods." To be followed by an informal reception in the State Library, and inspection of the new Medical Department of the Library. Annual dinner at the Kenmore House, 9:30 P.M.

THURSDAY.—*Morning Session*.—"Reorganization of the Coroner System," by Dr. W. G. Macdonald, of Albany. "Distinctive Fractures of Railroad Surgery," by Dr. R. S. Harnden, of Waverly. "Diabetes and Acetonuria in Children," by Dr. W. S. Cheesman, of Auburn. "Development of Muscular Atrophy on a Basis of Old Infantile Spinal Paralysis, a Favorable Type," by Dr. W. Browning, of Brooklyn. To be discussed by Dr. C. F. Barber. "The Equilibrium Function of the Ear," by Dr. Gaylord P. Clark, of Syracuse. "On the Surgical Treatment of Retroversions and Retroflexions, with Special Reference to Vaginal Fixation," by Dr. H. N. Vineberg, of New York. "Neuritis Complicating Dislocations of the Shoulder and Elbow," by Dr. M. A. Veeder, of Lyons. "Trephining for Injuries and Diseases of the Cranium," by Dr. W. W. Seymour, of Troy. "Difficult Perineal and Suprapubic Lithotomy," by Dr. W. Hailles, Jr., of Albany. "Abscess of the Frontal Sinus," by Dr. J. P. Creveling, of Auburn. "Some Notes on Trachoma," by Dr. M. L. Foster, of New York. "Tetanoid Hysteria," by Dr. Grace Peckham Murray, of New York. "Treatment of Oedema of the Lungs," by Dr. Louis Faugères Bishop, of New York. "Treatment of Sciatica with Nitroglycerin," by Dr. W. C. Krauss, of Buffalo. "Treatment of Aspiration Pneumonia by Drainage by Invasion," by Dr. W. W. Seymour, of Troy.

The Diaphragm Phenomenon.—Dr. Martius calls attention to the visible movements of the diaphragm, such as have been chiefly described by Litten. This important physical sign has not received the attention which it deserves. During the last three years the author has looked for it in nearly all cases frequenting his polyclinic, and his results completely accord

with those of Litten. This diaphragm phenomenon is really the result of the function of the complementary space formed by the lower part of the pleural sac. The walls of this space touch each other in ordinary breathing, but in deep breathing the diaphragm becomes flattened, and the diaphragmatic pleura is separated from the costal pleura, while the lung enters the space so formed. The sign is thus constituted by the up-and-down movement of the lower margin of the lung in this complementary space during forced breathing. The patient must lie in a horizontal position, with the feet toward a good window light; then in deep inspiration a shallow furrow will be seen travelling downward toward the insertion of the diaphragm, and during expiration it moves upward toward the classical mid-diaphragm position. The limit between the liver and lung can thus be traced. This phenomenon reveals (1) whether the medium position of the diaphragm is the normal one, (2) whether the complementary space is free, and (3) whether the breathing is sufficient. The author says that it may always be seen in normal individuals, except in great obesity and a few other cases. It is more marked on the right than on the left side. The wave follows shortly after the commencement of deep inspiration. It is absent in pleuritic adhesions, in exudations into the pleural cavity, in emphysema, etc. The high position of the diaphragm in cases of peritoneal effusions can be made out.—*Wiener med. Wochenschrift*.

The Medical View of Water Three Centuries Ago.

—It needed a very bold man, says *The Hospital*, to resist the medical testimony of three centuries ago against water-drinking. Few writers can be found to say a good word for it. One or two only are concerned to maintain that, "when begun in early life, it may be pretty freely drunk with impunity, and they quote the curious instance given by Sir Thomas Elyot in his "Castle of Health," 1541, of the Cornish men, "many of the poorer sort, which never, or very seldom, drink any other drink, be notwithstanding strong of body, and like and live well until they be of great age." Thomas Cogan, the medical schoolmaster of Manchester fame, confessed in his "Haven of Health," 1589, designed for the use of students, that he knew some who drink cold water at night or fasting in the morning without hurt; and Dr. James Hart, writing about fifty years later, could even claim among his acquaintance "some honorable and worshipful ladies who drink little other drink, and yet enjoy more perfect health than most of them that drink of the strongest." The phenomenon was undeniable, but the natural inference was none the less to be resisted. Sir Thomas Elyot himself is very certain, in spite of the Cornish men, that "there be in water causes of divers diseases, as of swelling of the spleen and liver." He complains oddly also that "it flitteth and swimmeth," and concludes that "to young men, and them that be of hot complexion, it doeth less harm, and sometimes it profiteth, but to them that are feeble, old, and melancholy, it is not convenient." "Water is not wholesome cool by itself for an Englishman" was the verdict of Andrew Borde—monk, physician, bishop, ambassador, and writer on sanitation—as the result of a life's experience. And to quote again the "Englishman's Doctor"—

Both water and small beer, we make no question,
Are enemies to health and good digestion.

But the most formal indictment against water is that of Venner, who, writing in 1622, ponderously pronounces "to dwellers in cold countries it doth very greatly deject their appetites, destroy the natural heat and overthrow the strength of the stomach, and consequently confounding the concoction, is the cause of crudities, fluctuations, and windiness in the body."

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Original Articles.

INFANTILE INTUSSUSCEPTION—A STUDY OF ONE HUNDRED AND THREE CASES TREATED EITHER BY INTESTINAL DISTENTION OR LAPAROTOMY; AND A REPORT OF TWO CASES.¹

BY FREDERICK HOLME WIGGIN, M.D.,

GYNECOLOGIST TO THE NEW YORK CITY HOSPITAL, BLACKWELL'S ISLAND.

It is a strange commentary on the advancement made by our science that at the close of this nineteenth century we are met to consider and decide, if we may, upon the comparative merits of the two methods of treatment for intussusception suggested many centuries ago, that of intestinal distention by air or water, by Hippocrates, and that of abdominal section, by Praxagoras. For while since their time much therapeutical ingenuity in the treatment of this disorder has been displayed, our greater pathological knowledge has pushed these remedies aside, and at this time we have only left for consideration a choice between enemata and laparotomy for the relief of this condition.

Some time since a case of infantile intussusception came under the writer's observation, and the questions which were raised led him to more fully investigate this subject. It was found that, while much attention had been given in England to this form of intestinal obstruction, and many cases had been recorded in the medical journals, it had received but scant attention here, and that there were comparatively few recorded cases to be found in American medical literature. The conclusion was reached that either this form of intestinal disorder is of much more frequent occurrence abroad, or that it often fails of recognition here, or that if diagnosed and treated it is not deemed of sufficient importance to be recorded. When it is realized that intussusception occurring in young infants is practically a hopeless condition when left to nature's care (ninety-eight per cent. of all cases terminating fatally when the immediate or remote effects of sloughing are considered), the importance of the answers to the questions, What is the scientific, and therefore proper, procedure for the relief of these little sufferers? and What is the prospect of the infant's recovery if this method is resorted to? manifests itself, and warrants a careful consideration of the results obtained by one or other of the methods previously alluded to, and a full statement of unrecorded individual experience in the discussion.

In so doing, it is evident that we must determine what foundation exists for the popular belief, both medical and lay, that the method of intestinal distention by air or water is one of safety and that, if unsuccessful, it in no degree interferes with the performance at a later period of laparotomy; or, on the other hand that an abdominal section performed on an infant twelve months of age, or under, must of necessity result fatally, and is, therefore, only to be

resorted to after long delay and the failure of the so-called milder measure to afford permanent relief. Until these questions are finally answered to the satisfaction of the profession at large, it is of the utmost importance that all cases of intussusception, whether treated by one method or the other, and with whatever result, should be fully reported. In this connection, the histories of the two following unreported cases, and the abstracts from the histories collected by the writer from the English and American medical literature since the beginning of the present century, will be of interest.

CASE XIV.—Intussusception successfully treated by enemata. On June 23, 1894, I was requested to prescribe for a female infant, aged four months. It was stated that she had vomited the previous day, that she was costive and very restless. As no further information was given at this time, the diagnosis of indigestion was made, and gray powder ordered. On June 24th, a message was received to the effect that the child had had two movements from the bowels, consequently no haste was made to reach her. When she was seen, the conditions were found to be different from what had been supposed, and the previous history, which was now drawn out, was as follows: The infant had been well from birth. She was nursed, but was given in addition cow's milk, to which sugar and lime water were added. She had been more or less costive from birth. Four days prior to my first visit the mother and child had taken an outing. The infant was fretful, and was in consequence jumped up and down constantly. During the evening she became more restless, and vomited greenish fluid. On June 20th the infant was given castor oil, which was rejected, nothing being retained by her stomach throughout the day. An enema was administered and a movement of the bowels resulted. On June 21st the vomiting persisted, and more oil was given, also another enema, which treatment was followed by a small stool. During the night of June 23d, the restlessness and vomiting became more marked. On June 24th, a physician who was called noticed that the restlessness was caused by colicky pains, and that a stool containing fecal matter and bloody mucus had been passed. The parents insisted that something should be done for the infant's immediate relief, and the physician administered an enema which contained glycerin. Bloody mucus followed, and a tumor, which soon receded, protruded from the anus. When the writer reached the patient, her bodily temperature was 102.4° F., and her pulse was 170. Palpation of the abdomen revealed a cylindrical tumor in the left inguinal and lumbar regions. It could also be felt on rectal examination. The case was diagnosed to be one of intussusception, probably of the ileo-cæcal variety. The infant was inverted and an enema given consisting of a quart of warm saline solution. The elevation of the reservoir was three feet. The enema was forcibly retained for some minutes, the abdomen meanwhile being palpated (not masséed) to prevent over-distention of the colon. When the liquid was allowed to escape, it was found that the tumor had partly disappeared. One hour later, a small fecal movement occurred, gas escaped from the

¹ Read at the meeting of the New York Academy of Medicine, January 2, 1896.

anus, and a second and larger stool was voided. Dr. J. Lewis Smith now saw the patient, and concurred in the diagnosis and the previous treatment. As the tumor had partially yielded to the former treatment, it was decided to repeat it, the reservoir this time to be raised to four feet, and the abdomen kneaded during the administration of the enema. Under these procedures the tumor disappeared. Two hours later a small faecal movement occurred, and five hours after the disappearance or reduction of the tumor the infant's pulse was 170, and the temperature had fallen to 101° F., its face had regained its natural expression and color, its cry was stronger, and two movements with free escape of gas had occurred. On June 25th, it was noted that the infant had slept during the night, that the tumor had not reappeared, that the temperature was normal, that the abdomen was flaccid, and that three soft, yellow, pasty stools had been passed. The further convalescence was uneventful.

CASE XV.—Intussusception successfully treated by enemata. The writer is indebted for the history of the following case of intussusception to Dr. Frank Overton, of Patchogue, L. I. The doctor reports that during August, 1895, E. H.—, a female infant, aged six and one-half months, came under his observation. She had been well from birth. On the morning of the first day she was visited, she cried violently, and apparently had colicky pains, which were accompanied by a rise of bodily temperature. This condition yielded to treatment. A few weeks later, September 25, 1895, the infant was again seized with severe abdominal pains, cried persistently, and refused to nurse. The mother gave the infant castor oil and paregoric and this treatment was followed by a natural defecation from the bowels. In the evening the child began to vomit and presented a peculiar apathetic appearance, crying continually. Her bodily temperature was 99.5° F. and her pulse was 120. There was no abdominal distention, and gray powder was ordered. Early on the morning of September 26th, she voided two ounces of blood and later a smaller quantity. She now cried constantly and vomited frequently; her temperature was 102° F., her pulse was 140, and intussusception was suspected. At 7 A.M. her temperature was 103° F. and her pulse had risen to 180. At 9 A.M. a consultation was held. Abdominal palpation revealed the fact that there was no distention of the bowels, but that there was a localized point of tenderness in the right side just below the umbilicus, and there a small tumor was finally felt. A reservoir was filled with warm saline solution and raised five feet above the infant's body, which was partly inverted. All the water possible without causing over-distention of the colon was injected into the bowel and forcibly retained. Massage was also applied to the abdominal wall. The child became quiet, and after five minutes had elapsed the water was allowed to escape. The tumor could now only be felt with difficulty, and the previously described procedure was repeated. After the escape of the second enema a large faecal movement was voided, containing bloody mucus. The tumor had now disappeared. The change in the patient's countenance was magical; the vomiting ceased, and she fell asleep. During the succeeding hours she nursed freely. On September 27th it was noted that the infant had slept all night, that her temperature was normal, and that a large faecal movement which contained neither blood nor mucus was voided. Convalescence was uneventful.

Cases of Infantile Intussusception Successfully Treated by Enemata or Inflation.—Table No. I.

CASE I.—In the *British Medical Journal* for 1894, vol. i., p. 345, is recorded, from notes furnished Mr. Barker by the University College Hospital, a case of intussusception of the ileo-cæcal variety which occurred

during 1879 in a male infant, aged six months. It was admitted to the hospital thirty-one hours after the beginning of the attack. Abdominal palpation revealed a tumor. Injections of air and water were made into the bowel, causing the disappearance of the tumor, which did not again appear.

CASE II.—Dr. Andrew records, in the St. Bartholomew's Hospital Reports for 1892, a case of intussusception occurring in a male infant, aged four months, which came under observation on the second day of the disorder. An enema of eight ounces of water was administered. This procedure caused the apparent disappearance of the tumor, which reappeared the next day. Enemata were given hourly for nine hours, finally causing the tumor to disappear permanently.

CASE III.—Sir William Savory records, in the St. Bartholomew's Hospital Reports for 1892, a case of intussusception occurring in a female infant, twelve months of age, which came under observation on the first day. An enema consisting of a pint of warm milk was administered within nine hours after the disorder manifested itself. This treatment was followed by the apparent disappearance of the tumor, which, however, reappeared the next day. The enema was repeated with satisfactory results, and there was no recurrence of the trouble.

CASE IV.—Mr. Beck records, in the *British Medical Journal* for 1894, vol. i., p. 346, a case of intussusception of the ileo-cæcal variety which occurred during 1885, in a male infant, aged five months. The case came under observation on the first day. Abdominal palpation revealed a tumor. Under chloroform narcosis an enema was administered, and while this was being done the tumor was manipulated between the finger and thumb. Reduction followed, and there was no further trouble.

CASE V.—In the *British Medical Journal* for 1894, vol. i., p. 345, is recorded from notes furnished Mr. Barker by the University College Hospital, London, a case of intussusception of the ileo-cæcal variety, which occurred during 1888 in a male infant, aged seven months, which came under observation six hours after the disorder began. Injections of air and water were tried with successful results.

CASE VI.—In the *British Medical Journal* for 1894, vol. i., p. 345, a case of intussusception of the ileo-cæcal variety is recorded from the notes of the University College Hospital, London, as having occurred in a male infant, aged nine months, during 1888, and which came under observation on the first day. Under chloroform narcosis the bowel was inflated with air, the abdomen being meanwhile manipulated. This treatment resulted in the gradual disappearance of the tumor and of all the symptoms of the disorder.

CASE VII.—In the *British Medical Journal* for 1894, vol. i., p. 346, the following case of intussusception of the ileo-cæcal variety occurring in a male infant, aged six months, is credited to the University College Hospital. The infant came under observation within the first twelve hours of the disorder. Abdominal and rectal examination revealed a tumor. Manipulation followed by enemata of air and water were tried with partial success, but the tumor soon reappeared. Reduction was finally effected by an enema, the reservoir being elevated three feet above the patient's body.

CASE VIII.—Mr. Gee records, in the *British Medical Journal* for 1894, vol. i., pp. 345 and 346, a case of intussusception which occurred during 1890, in a male infant, aged nine months. It came under observation on the second day. Abdominal and rectal examination revealed a tumor. Enemata were administered with successful results.

CASE IX.—Dr. A. Jeffery Wood reports, in the *Australian Medical Journal*, 1894, vol. i., p. 287, a case

of intussusception occurring in a male infant, aged six months, which came under observation on the second day. The infant, after being anesthetized, was partly inverted and the bowel distended with air, deep massage being meanwhile employed. Under this treatment the tumor disappeared. One quart of warm water was injected into the bowel. This was followed one hour later by a stool. During the night the infant had seven dejections from the bowels, none of which contained blood. The disorder did not recur.

CASE X.—University College Hospital reports, in the *British Medical Journal* for 1894, vol. i., p. 346, a case of intussusception of the ileo-cæcal variety, occurring during 1892, in a male infant, aged ten months. Abdominal examination revealed a tumor. The bowel protruded from the anal orifice. Inflation was tried with success, the tumor disappeared, and the infant recovered.

CASE XI.—Dr. Beeston records, in the *Australasian Medical Gazette* for 1893, vol. ii., p. 373, a case of intussusception occurring in a male infant, aged seven months, which came under observation on the second day. Insufflations of air were tried, but proved unsuccessful. On the fourth day the patient had copious stools, and passed a piece of fleshy-looking matter having a putrid odor. There was no further trouble.

CASE XII.—Mr. D. J. Caddy records, in the *British Medical Journal* for 1894, vol. i., p. 126, a case of ileo-cæcal intussusception occurring in a female infant, aged six months, which came under observation on the first day. Abdominal palpation revealed a tumor. The infant passed blood from the anus, and vomited soon after it was first seen. Water was forcibly injected into the rectum, causing the apparent disappearance of the tumor. Soon after, one ounce of blood escaped from the rectum. The next morning the infant was again seized with colicky pains, and cried violently. She passed more blood, and a further trial of enemata under increased pressure was made, with a successful result.

CASE XIII.—Dr. Williams records, in the *Lancet* for 1894, vol. i., page 537, a case of intussusception occurring in a male infant, aged eight months, which came under observation on the first day, giving a history of intestinal derangement for one week. Examination of the abdomen showed it to be much distended, and palpation revealed a tumor. Inversion combined with massage and an enema followed by insufflation of air were tried, all to no purpose. Two basins were procured, each containing eight ounces of warm water. In one a drachm and a half of citric acid was placed, and in the other two drachms of bicarbonate of soda. The acid solution was thrown into the bowel through a catheter, and was followed by the alkaline solution. The catheter was quickly withdrawn, and the nates held together for several minutes. The tumor could now no longer be felt, the vomiting ceased, and a natural defecation from the bowels occurred two days later.

CASE XVI.—Dr. Ruff reports, in the *Medical News*, vol. xl., p. 299, a case of intussusception occurring in a male infant, aged seventeen days, which came under observation five hours after the first seizure. The infant was partly inverted, and an enema of water was given and forcibly retained for five minutes. This proving unsuccessful, inflation was tried, and then alternating injections of air and water at intervals for two hours. This treatment proving ineffectual, chloroform was administered, and abdominal massage practised without benefit. Morphine was given, then alternating injections of air and water at intervals for six hours. This treatment was followed two hours later by a stool, and four hours after this occurred the infant started suddenly, and the tumor could no longer be felt. There was no reappearance of the disorder.

Cases of Infantile Intussusception Unsuccessfully Treated by Enemata or Inflation.—Table No. 2. CASES I. to VIII.—Mr. Gorham, in Guy's Hospital Reports, vol. iii., p. 330, records eight cases of intussusception occurring in infants whose ages ranged from three to eleven months. They were all treated in the first place by purgatives, and, this treatment proving ineffectual, by enemata. The cases all terminated fatally.

CASE X.—Dr. F. Taylor and Mr. Golding Bird report, in the Transactions of the Clinical Society of London, vol. xvi., p. 67, a case of intussusception of the ileo-cæcal variety occurring during 1881, in an infant, aged eight months, which came under observation on the first day. Abdominal and rectal examination revealed a tumor, and there were blood and mucus on the diaper. The bowel was distended with air, and the tumor under this treatment apparently disappeared only to return some hours later. Chloroform was then administered, and inflation again tried with increased pressure, but without avail, as the infant soon died. The necropsy revealed the fact that the invaginated bowel remained unreduced. Forcible inflation with air was tried (without result), and then with water, which reduced the ileum but left the colon inverted. This proved also to be gangrenous. Under the injection of water the peritoneal and muscular coats of the bowel gave way at several points, leaving the mucous coat intact.

CASE XI.—Mr. Andrews records, in the St. Bartholomew's Reports for 1892, a case of intussusception which occurred during 1881, in an infant, aged four months, which came under observation on the third day. Four enemata were administered. After the last one the tumor could not be felt. On the following day the infant died. The necropsy revealed the fact that the invaginated bowel remained unreduced. No evidence of peritonitis existed.

CASE XII.—Mr. Barker records, in the *British Medical Journal* for 1894, vol. i., p. 345, a case of intussusception of the ileo-cæcal variety, occurring in a female infant, aged four months, which came under observation during the first twenty-eight hours. Inversion and enemata of air and water were tried, causing the apparent reduction of the tumor, but it reappeared nine hours later. The enemata were repeated with apparent success. Two hours later the tumor could again be made out, and it was again apparently reduced by enema. The infant collapsed and died. The necropsy revealed the fact that the invaginated bowel had never been completely reduced, and that it was gangrenous.

CASE XIII.—Mr. Cripps records, in St. Bartholomew's Reports for 1892, pp. 97-111, a case of intussusception occurring during 1884, in a male infant, aged four months, who came under observation on the fourth day. Under chloroform narcosis, an enema consisting of one and a half pints of water was administered. While this was being accomplished, the infant vomited, inspired vomited material, and died. The necropsy revealed two lacerations of the bowel, probably caused by the enema.

CASE XIV.—Mr. Baker records, in St. Bartholomew's Reports for 1892, p. 97, a case of intussusception occurring during 1884, in a male infant, aged seven months, which came under observation on the eighth day. Two enemata were administered, and the last apparently reduced the invagination, as the tumor could no longer be felt. Five hours later, however, the infant died. No necropsy was made.

CASE XV.—Mr. Andrews records, in St. Bartholomew's Hospital Reports for 1892, a case of intussusception occurring during 1886, in a male infant, aged four months, which came under observation on the fourth day. Six enemata of oil and two of milk were

administered. This treatment was followed by the infant's death. The necropsy revealed the fact that the invagination had been only partially reduced.

CASE XVI.—Mr. Mortimer reports, in the *Lancet* for 1891, vol. i., pp. 1,145 and 1,146, a case of intussusception occurring in an infant, aged eight months, which came under observation on the fourth day. Under chloroform narcosis, abdominal palpation revealed a tumor. This procedure was followed by collapse. The infant was stimulated, and two enemata, each consisting of about two ounces of fluid, were administered. After the last one had escaped, the tumor could no longer be felt. Opiates were given, and for two days the only symptoms were occasional expressions of pain and increasing abdominal distention. At the end of this time, vomiting recommenced, and the tumor reappeared. Chloroform was administered a second time, and ten ounces of water were injected into the bowel, the reservoir being raised three feet. Following this three enemata were administered, and the tumor partially disappeared. The next day a pint of water was injected at a lower pressure than previously, and it was repeated on the succeeding day. A few hours later the infant expired. The necropsy revealed three points of rupture in the descending colon.

CASE XVII.—J. Aitken Clark, in the *Edinburgh Hospital Reports*, 1894, page 239, records a case of intussusception occurring on November 22, 1892, in a male infant, aged five months, which came under observation on the second day. Opium and enemata were administered frequently without result. It died on the sixth day of the disease. The necropsy revealed the fact that a double intussusception remained unreduced, one at the splenic flexure, and the other at the sigmoid flexure of the colon.

CASE XVIII.—Dr. Edward Deanesley records, in the *Lancet* for 1894, vol. i., p. 601, a case of intussusception of the ileo-cæcal variety occurring in a female infant, aged seven months, which came under observation on the fifth day after the bowel protruded from the anal orifice. A history of a month's previous illness was given. Two days prior to the infant's admission to the hospital, the mother returned the bowel inside the anus, and gave the infant castor oil. This treatment aggravated the symptoms, the bowel again appeared outside of the anus, and a small stool containing blood was passed. The bowel was returned with ease inside the anus, and on pushing it up the ordinary abdominal tumor was recognized. An anæsthetic was administered, and was followed by an enema of one pint of water having a head of two feet, the abdomen being meanwhile masséed. After the fluid escaped the tumor could no longer be felt. The bowels moved twice. The next day, as the infant was drowsy, the opiate was discontinued. Toward evening the infant vomited, and during the succeeding twenty-four hours the bowel once more protruded. Under chloroform narcosis it was reduced by enema, but it reappeared the following day, when reduction was again apparently effected by enema. Twenty-four hours later death occurred. Necropsy revealed the fact that the invagination remained unreduced, and that its reduction could easily have been effected by laparotomy.

CASE XIX.—Mr. Winter reports, in the *Lancet*, vol. i., p. 600, a case of intussusception of the ileo-cæcal variety occurring in a female infant, aged seven months, which came under observation on the second day of the disorder. At this time a tumor protruded from the anus. Under chloroform narcosis one pint of water was injected into the bowel, the receptacle containing it being raised two feet, and the abdomen meanwhile being masséed. Under this treatment the tumor disappeared. The next day a normal stool

occurred. Two days later the bowel again protruded. Chloroform was again employed, a second enema was administered, and reduction of the tumor was apparently effected. The following day the bowel again protruded. Under chloroform narcosis an enema was given with apparently satisfactory results, but on the succeeding day the infant died. At the necropsy it was found that the bowel protruded from the anus, as it had done prior to death. The intussusception was found to lie in the exact centre of the abdominal cavity. It lay alongside the spine, was closely attached to it by the meso-colon, and it passed straight downward from about the third lumbar vertebra to the pelvic outlet. The protruding mass was returned inside the rectum, and an attempt made to reduce it from above by pulling the entering part of the ileum, but it was impossible to do so. The reduction was ultimately effected with ease by encircling the bowel below the apex of the intussusception with the thumb and finger, and holding the bowel a few inches lower down. The apex was then pushed up with the fingers. No adhesions had formed between the opposed peritoneal surfaces of the entering and returning layers.

CASE XX.—J. Aitken Clark reports, in the *Edinburgh Hospital Reports* for 1894, p. 239, a case of intussusception of the ileo-cæcal variety, occurring during January, 1894, in a male infant, aged nine months, which came under observation on the third day. The infant was inverted and enemata administered at short intervals, but without result, death occurring on the evening of the third day. The necropsy revealed the fact that the invaginated bowel remained unreduced.

CASES IX., XXI., XXII.—Mr. Hutchinson cites (*Lancet*, 1891, vol. i., p. 1,146) three cases of intussusception within his own experience, where infants were treated by enemata of air and water, which treatment was followed by death. The necropsies revealed the fact that the invaginations in all cases remained unreduced.

CASE XXIII.—In the *Lancet* for 1891, vol. i., p. 1,144, Mr. J. D. Mortimer records a case of intussusception occurring in an infant, aged three months, which came under observation on the first day of the disease. The infant had vomited and passed blood from the anus. Rectal examination revealed a tumor. The bowel was inflated with air, and the tumor disappeared. Opiates were given. Some hours later the vomiting recommenced, and the abdomen became distended. Collapse followed, and the infant died. The necropsy revealed the fact that the invagination had not been reduced. A tube was tied into the rectum and connected with a reservoir containing water, and elevated two feet above the cadaver. The water was allowed to pass into the intestinal canal. In a few minutes the invagination was almost reduced, but about one inch of the ileum, the cæcum, and part of the vermiform appendix remained tightly ensheathed in the colon. After fifteen minutes of sustained pressure, the reservoir was raised from three to four feet, and a slight further reduction of the invaginated portion of bowel took place. This went no further, and in four minutes the colon ruptured in three places, just below the intussusceptum. The invagination, however, was readily reduced by manipulation from below without obvious damage. There was a little lymph on the peritoneal surfaces of the cæcum, and its mucous membrane was infiltrated and slightly shreddy. The valve was much swollen, and by its obstruction would probably have caused rupture at the moment of complete reduction had this been effected by the enema.

Post-Mortem Experiments.—Mr. Mole describes, in the *Bristol Medico-Chirurgical Journal*, 1894, p.

65, some experiments made on infantile cadavers. He found that when one and one-half pints of water had been injected into the bowel under a pressure of one and one-half pounds to the square inch (three feet) the liquid passed through the ileo-cæcal valve; also, that air could be made to pass the same point. His conclusions were: (1) That no harm can be done healthy intestine by enemata of fluids under a moderate pressure; (2) that hydrostatic pressure is more uniform, and therefore less likely to cause rupture of the bowel; (3) that the part most likely to be injured by over-distention is the transverse colon.

Cases of Infantile Intussusception Unsuccessfully Treated by Laparotomy.—Table No. 3. CASE I.—Ashhurst, in the course of an article entitled "The History of Laparotomy for Intussusception," *American Journal of the Medical Sciences*, vol. lxviii., p. 54, states that the first laparotomy performed on an infant for the relief of an intussusception was by Gerson, and reported by Hackman, of Hamburg. The operation was performed on September 18, 1828. The subject was a male infant, aged twelve weeks. An oblique incision was made in the direction of Poupart's ligament on the left side. While effort was being made to reduce the invagination the bowel gave way at a gangrenous point, the operation was abandoned, and the infant expired.

CASE II.—In the *American Journal of the Medical Sciences*, vol. lxviii., p. 54, Sir Spencer Wells reports a case of intussusception occurring in an infant, aged four months, which came under observation on the third day of the disease. The operation was performed on the following day, when the infant was in collapse. It died five hours later.

CASE III.—Mr. Barker credits Busch, in the *Lancet*, 1888, vol. ii., p. 262, with a case of intussusception occurring during 1869 in a male infant, aged seven months, which came under observation on the fourth day of the acute illness. Laparotomy was performed; the invaginated gut proved to be irreducible, therefore an artificial anus was made. Death occurred eight days later.

CASE IV.—Ashhurst credits Professor Weinlechner, of Vienna, in the *American Journal of the Medical Sciences*, vol. lxviii., p. 54, with a case of intussusception of the ileo-cæcal variety, which occurred during 1871 in a female infant, aged six months. Laparotomy was performed on the fourth day, and was followed by death a few hours later.

CASE V.—In the *Lancet*, 1888, vol. ii., p. 262, a case of intussusception of the ileo-cæcal variety occurring during 1873 in an infant, aged five months, is credited by Barker to Duncan. A history of several days' previous illness was given, but the day upon which the infant came under observation is not noted. Laparotomy was performed, but proved unsuccessful, death ensuing on the following day.

CASE VI.—Mr. Jonathan Hutchinson records, in the *Lancet* for 1875, vol. ii., p. 877, a case of intussusception of the ileo-cæcal variety occurring in an infant, aged six months, which came under observation on the third day. Enemata had previously been administered without result. The patient was failing, therefore laparotomy was performed at once. The invaginated portion of bowel was reduced with difficulty. The case terminated fatally six hours later.

CASE VII.—Mr. Barker credits Howse, in the *Lancet* for 1888, vol. ii., p. 262, with a case of intussusception of the ileo-cæcal variety occurring during 1876 in an infant, aged five months, which came under observation after a month's indisposition. Laparotomy was performed. Death ensued a few hours later.

CASES VIII., XIII.—In the *Lancet* for 1888, vol. ii., p. 262, Stage is credited with two cases of intussusception, one occurring during 1876 and the other in

1880. The first was a female infant, aged six months, which came under observation on the second day. Laparotomy was performed, and death ensued a few hours later. The second was a male infant, aged three months, which came under observation on the first day. Laparotomy was performed, and was followed by death two and one-half days later.

CASE IX.—Mr. Smith records, in the St. Bartholomew's Hospital Reports for 1892, vol. xxviii., p. 106, a case of intussusception of the ileo-cæcal variety occurring during 1877 in a male infant, aged eight months, which came under observation on the fourth day, giving a history of two days' previous illness, the chief symptoms of which were abdominal pain, vomiting, and the passage of blood from the anal orifice. No tumor could be felt on making either abdominal or rectal examination. Inflation on the second day had afforded slight relief. It was tried again on the third day, and followed on the fourth day by enemata, which seemed to give some relief. Laparotomy was, however, performed on the fifth day. There were no evidences present of peritonitis, although the ileum, which had slipped through the ileo-cæcal valve, was gangrenous. This portion of gut was excised, and an anastomosis effected. Death followed five hours later.

CASE X.—Mr. Beck is credited, in the *British Medical Journal* for 1894, vol. i., p. 346, with a case of intussusception of the ileo-cæcal variety occurring during 1877 in a female infant, aged eight months, which came under observation five and one-half hours after the beginning of the attack. Repeated enemata of oil and air were administered without result, and twenty-six hours from the beginning of the disorder laparotomy was performed. The invaginated bowel, while deeply congested, was easily reduced. The operation, however, was unsuccessful, being followed by death from septic peritonitis.

CASE XI.—The *Lancet* for 1888, vol. ii., p. 262, credits Sands with a case of intussusception of the ileo-cæcal variety occurring during 1878 in a male infant, aged six and one-half months, which came under observation on the second day. Laparotomy was performed, and was followed by death four hours later.

CASE XII.—The *Lancet* for 1888, vol. ii., p. 262, credits Corley with a case of intussusception of the colic variety, occurring during 1879 in an infant, aged nine months, which came under observation after several days' illness. Laparotomy was performed, and was followed by death four hours later.

CASE XIV.—Mr. R. J. Godlee reports, in the Transactions of the Clinical Society of London, vol. xvi., p. 67, a case of intussusception of the ileo-cæcal variety occurring in 1882 in an infant, aged fourteen weeks. Laparotomy was performed, and the invagination was reduced with difficulty. The infant died, and the necropsy revealed the fact that the reduction at the time of operation was only partial.

CASE XV.—Mr. Walsham is credited, in the St. Bartholomew's Hospital Reports for 1892, pp. 97-111, with a case of intussusception occurring during 1882 in a male infant, aged seven months, which came under observation on the third day. Distention of the bowel with air and water was tried. This treatment proving unsuccessful, laparotomy was performed, notwithstanding the fact that peritonitis existed. The invaginated bowel was reduced with difficulty. The operation was followed by death.

CASE XVI.—Marsh records, in the St. Bartholomew's Reports for 1892, a case of intussusception occurring during 1882 in a female infant, aged eight months, which came under observation on the second day. Inflation with air was employed, but without success. Laparotomy was then performed, and the invaginated bowel was easily reduced. Death ensued on the following day.

ONE HUNDRED AND THREE CASES OF INFANTILE INTUSSUSCEPTION TREATED
EITHER BY INTESTINAL DISTENTION OR LAPAROTOMY.

By FREDERICK HOLME WIGGIN, M.D.

TABLE I.

Cases of Infantile Intussusception Successfully Treated by Enemata or Inflation.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Remarks.
1	Univ. C. H., Lon.....	1879	M.	6	31	Ileo-cæcal		
2	Andrew.....	1880	M.	4	48			
3	Savory.....	1884	F.	12	24			
4	Beck.....	1885	M.	5	8	Ileo-cæcal		
5	Univ. C. H., Lon.....	1888	M.	7	6	"		
6	Univ. C. H., Lon.....	1888	M.	9	21	"		
7	Univ. C. H., Lon.....	1889	M.	6	12	"		
8	Gee.....	1890	M.	9	48			
9	Wood.....	1892	M.	6	48			
10	Univ. C. H., Lon.....	1892	M.	10	12			
11	Beeston.....	1893	M.	7	48			
12	Caddy.....	1893	F.	6	24			
13	Williams.....	1894	M.	8	24			
14	Wiggin & Smith.....	1894	F.	4	48	Ileo-cæcal		
15	Overton.....	1895	F.	7½	48			
16	Ruff.....	....	M.	17 days	5			

TABLE II.

Cases of Infantile Intussusception Unsuccessfully Treated by Enemata or Inflation.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Remarks.
1	Blizard.....	1808	M.	5	120		Cathartics.....	No record of necropsy.
2	Clark.....	1837	..	11-3wks.	...	Ileo-cæcal	".....	" "
3	Gorham.....	1838	..	4	19	"	".....	" "
4	Muriel.....	1838	..	3½	72		".....	" "
5	Monro.....	1838	..	4	68		".....	" "
6	Cunningham.....	1838	..	9	40		".....	" "
7	Ash.....	1838	..	9	60		".....	" "
8	Langstaff.....	1838	..	3	120		".....	" "
9	Hutchinson.....	1861	..	10				
10	Taylor & Golding Bird..	1881	..	8	24	Ileo-cæcal		Unreduced.
11	Andrews.....	1881	..	4	72			"
12	Barker.....	1884	F.	4	28	Ileo-cæcal		"
13	Cripps.....	1884	M.	4	96			Perforation.
14	Baker.....	1884	M.	7	192			
15	Andrews.....	1886	M.	4	96			Unred. ruptures.
16	Mortimer.....	1891	..	8	24			Unreduced.
17	Clark.....	1892	M.	5	48			"
18	Deanesley.....	1893	F.	7	120	Ileo-cæcal		"
19	Winter.....	1893	F.	7	48	Ileo-colic		"
20	Clark.....	1894	M.	9	72	Ileo-cæcal		"
21	Hutchinson.....	....	..	..	...			"
22	Hutchinson.....	....	..	..	...			"
23	Mortimer.....	....	..	3	24	Ileo-cæcal		"

TABLE III.

Cases of Infantile Intussusception Unsuccessfully Treated by Laparotomy.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Remarks.
1	Gerson.....	1828	M.	12 wks.	Some days	Ileo-cæcal		Operation incomplete.
2	Wells.....	1863	M.	4	96 hrs.	"		Collapsed at operation.
3	Busch.....	1869	M.	7	96			Artificial anus.
4	Weinlechner.....	1871	F.	6	96	Ileo-cæcal		
5	Duncan.....	1873	..	5	Some days	"		
6	Hutchinson.....	1875	..	6	72	"	Enemata.....	Reduction difficult.
7	Howse.....	1876	..	5	1 month	"		Artificial anus.
8	Stage.....	1876	F.	6	36	"		" "
9	Smith.....	1877	M.	8	120	"	Enemata.....	Resection.
10	Beck.....	1877	F.	8	26½	"	"	
11	Sands.....	1878	M.	6½	48	"		
12	Corley.....	1879	..	9	Some days	Ileo-colic		
13	Stage.....	1880	M.	3	24			
14	Godlee.....	1882	..	14 wks.				
15	Walsham.....	1882	M.	7	72		Enemata.....	Reduction difficult.
16	Marsh.....	1882	F.	8	48			Reduction easy.
17	Braun.....	1882	M.	3	120	Ileo-colic		Artificial anus.
18	Jacobi.....	1882	F.	2	18		Enemata.....	Reduction difficult.
19	Beck.....	1882	..	under 12	48	Ileo-cæcal		

TABLE III.—Continued.
Cases of Infantile Intussusception Unsuccessfully Treated by Laparotomy.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Remarks.
20	Godlee	1883	..	7	72	Ileo-cæcal	Enemata	Reduction difficult.
21	Symonds	1884	M.	5	20 days	"	"	Exhaustion.
22	Symonds	1884	F.	6	20	"	"	"
23	Beck	1885	M.	5	59 hrs.	"	Enemata	Irreducible.
24	Owen	1885	F.	3 days	72	"	"	Artificial anus.
25	Horsely	1885	M.	4	96	"	"	"
26	Horsely	1885	M.	5	19	"	"	"
27	Jacobson	1886	M.	5	3 wks.	"	"	Resection.
28	Jacobson	1887	..	11	1 mo.	Ileo-cæcal	"	Operation incomplete.
29	Van Arsdale	1887	..	5	...	"	"	Artificial anus.
30	Van Arsdale	1887	..	5	...	"	"	Operation incomplete.
31	Van Arsdale	1887	..	5	...	"	"	Artificial anus.
32	Pick	1887	..	6	96 hrs.	Enteric	Cathartics, enemata	Invag. not found.
33	Walsham	1888	..	8	24	"	"	"
34	Marsh	1889	M.	4	96	Ileo-cæcal	"	Reduction difficult.
35	Cripps	1890	M.	5	72	"	Enemata	Operation incomplete.
36	Walsham	1890	M.	9	72	"	"	Perforation.
37	Barker	1891	M.	4	72	"	"	Resection.
38	Sheppard	1892	..	7	48	Ileo-cæcal	"	Reduction difficult.
39	Bush	1893	..	4	72	Enteric	Enemata	Artificial anus.
40	Abbe	1893	..	2½	17	"	"	Reduction difficult.
41	Barker	1894	M.	5	72	"	"	Reduction easy.
42	Briddon	1894	..	8	48	"	"	Reduction difficult.
43	Erdman	1895	M.	3½	96	Enteric	"	Resection.

TABLE IV.
Cases of Infantile Intussusception Successfully Treated by Laparotomy.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Remarks.
1	Marsh	1875	M.	6	24	Ileo-cæcal	Enemata	Reduction easy.
2	Sands	1877	F.	6	12	"	Ene. air and water	Reduction difficult.
3	Godlee	1881	..	9	96	"	Massage and inflation	Reduction easy.
4	Snowball	1886	M.	8	24	"	Opium and belladon.inflat.	"
5	Howit	1888	M.	3	48	"	Cathartics and enemata	"
6	Univ. C. H., Lon.	1889	F.	5	48	"	Enemata	"
7	Kammerer	1889	..	6	60	"	Chloroform and enema	"
8	Savory & Marsh	1890	M.	9	48	"	"	Reduction easy.
9	Bush	1890	..	4	48	Ileo-cæcal	Enemata	"
10	McEwen	1891	..	9	...	"	"	Reduction difficult.
11	Pollard	1892	..	6	24	"	Enemata	"
12	Barker	1893	F.	7	36	Enteric	Enemata and manip.	Gut strang. but easily red.
13	Verrall	1893	M.	6	24	Ileo-cæcal	Enemata	Reduction difficult.
14	Beatley & Ridley	1893	..	11	24	"	"	"
15	Lockwood	1893	M.	8	28	"	"	"
16	Barker	1894	M.	4	48	"	"	Intestinal coats injured.
17	Ainsley	1894	M.	8	6	Ileo-cæcal	Chloro., invers., inflat.	Reduction difficult.
18	Pollard	1894	F.	7	24	"	"	"
19	Barker	1894	M.	5	22	"	Enemata	"
20	Roberts	1894	..	9	96	"	"	Reduction easy.
21	Howit	1894	M.	6	48	"	Cathar., enem., inflat.	Reduction difficult.

TABLE V.

Cases of Infantile Intussusception Treated by Laparotomy Since 1890 Other than Those in which the Bowel was Incised, Excised, or Perforated.

No.	OPERATOR.	Date.	Sex.	Age. Months.	Day of Operation. Hours.	Variety.	Previous Treatment.	Result.	Remarks.
1	Savory & Marsh	1890	M.	9	48	"	"	R.	Reduction easy.
2	Bush	1890	..	4	48	Ileo-cæcal	Enemata	R.	"
3	McEwen	1891	..	9	...	"	"	R.	Reduction difficult.
4	Pollard	1892	..	6	24	"	Enemata	R.	"
5	Sheppard	1892	..	7	48	"	"	D.	Reduction difficult.
6	Abbe	1893	..	2½	17	"	Enemata	D.	"
7	Barker	1893	F.	7	36	Enteric	Enem., manipulation	R.	Reduction easy.
8	Verrall	1893	M.	6	24	Ileo-cæcal	Enemata	R.	Reduction difficult.
9	Beatley & Ridley	1893	..	11	24	"	"	R.	"
10	Lockwood	1893	M.	8	28	"	"	R.	"
11	Barker	1894	M.	4	48	"	"	R.	Intes. coats injured.
12	Ainsley	1894	M.	8	6	Ileo-cæcal	Chloro., invers., infla.	R.	Reduction difficult.
13	Pollard	1894	F.	7	24	"	"	R.	"
14	Barker	1894	M.	5	22	"	Enemata	R.	Reduction easy.
15	Roberts	1894	..	9	96	"	"	R.	"
16	Howit	1894	M.	6	48	"	Cathartics, enem., inf.	R.	Reduction difficult.
17	Barker	1894	M.	5	72	"	Enemata	D.	Reduction easy.
18	Briddon	1894	..	8	48	"	"	D.	Reduction difficult.

The percentage of mortality of laparotomy performed since 1890 for infantile intussusception is 22.2%.

CASE XVII.—In the *Lancet* for 1888, vol. ii., p. 262, Braun is credited with a case of intussusception of the ileo-colic variety, occurring during 1882 in a male infant, aged three months, which came under observation on the fifth day. Laparotomy was performed, and as the invagination could not be reduced, it was excised, and an artificial anus made. Death ensued one hour later.

CASE XVIII.—Drs. Kudlich and Jacobi record, in the *MEDICAL RECORD*, vol. xxi., p. 299, a case of intussusception occurring during 1882 in a female, aged two months, which came under observation eighteen hours after the onset. Enemata and massage were first unsuccessfully employed, and were followed by laparotomy. Great difficulty was experienced in reducing the invaginated bowel, and the operation was followed by death.

CASE XX.—Mr. R. J. Godlee reports, in the *Transactions of the Clinical Society*, vol. xvi., p. 67, a case of intussusception occurring during 1883 in an infant, aged seven months, which came under observation on the third day. Abdominal palpation revealed a tumor in the right umbilical region. Enemata of air and water were first tried without success. Laparotomy was performed under chloroform narcosis. The invagination, which proved to be of the ileo-cæcal variety, was reduced with some difficulty. The operation was followed by death, due to septic peritonitis.

CASE XXI.—In the *Lancet* for 1888, vol. ii., p. 262, Symonds is credited with two cases of infantile intussusception. The cases occurred during 1884. The first was of the ileo-cæcal variety, and occurred in a male infant, aged five months. It came under observation on the seventh day of acute illness, following thirteen days of indisposition. Laparotomy was performed, and was followed by death.

CASE XXII.—The second case occurred in a female infant, aged six months, and came under observation on the twentieth day of subacute illness. Laparotomy was performed, and was also followed by death.

CASE XXIII.—Mr. Beck records, in the *British Medical Journal* for 1894, vol. i., p. 346, a case of intussusception of the ileo-cæcal variety occurring during 1885, in a male infant, aged five months, which came under observation fifty-five hours after the onset. Abdominal palpation revealed a tumor. Injections of air and water were tried, but proving unsuccessful, laparotomy was performed. The invagination proved irreducible, and the operation was abandoned. Death soon occurred.

CASE XXIV.—Mr. Edmund Owen reports, in the *British Medical Journal* for 1885, vol. i., p. 1,201, a case of intussusception occurring in a female infant on the day of its birth, which came under observation on the second day. Prior to this, castor oil had been given. Digital exploration of the rectum proved the bowel to be pervious. Under chloroform narcosis an enema was administered, but without result. On the following day (third) the enema was repeated, but without affording relief. Laparotomy was performed, and the first piece of small intestine which presented in the wound was seized, and an artificial anus made. No attempt was made to find the invaginated portion of intestine. The infant survived the enterectomy six days, dying on the ninth day after its birth.

CASE XXV.—In the *British Medical Journal* for 1894, vol. i., p. 346, Horseley is credited with two cases of infantile intussusception, occurring during 1885. The first was that of a male infant, aged four months, was of the ileo-cæcal variety, and came under observation on the fourth day. Laparotomy was performed, and the intussusception proving irreducible, it was excised, and an artificial anus was made. Death soon followed the operation.

CASE XXVI.—The second also occurred in a male infant, and was of the ileo-cæcal variety. It came under observation nineteen hours after the onset. Laparotomy was performed. Death followed thirty hours later.

CASE XXVII.—In the *Lancet* for 1887, vol. i., p. 1,179, are recorded two cases, credited to Jacobson, of intussusception. The first occurred in 1886, in a male infant, aged five months, which came under observation with a history of three weeks' previous illness. Laparotomy was performed, and the invaginated portion of bowel was found to be partly gangrenous and irreducible. The infant's condition at this time was fairly good, but after the excision of the invaginated gut it became very bad, and the patient soon expired.

CASE XXVIII.—The second case occurred in an infant, aged eleven months, which came under observation with a history of a month's previous illness. Laparotomy was performed, and the invaginated portion of bowel was found to be irreducible. The operation was concluded without resection of the tumor, in the hope that spontaneous cure would result by sloughing. Death ensued twenty-four hours later.

CASE XXIX.—Dr. Van Arsdale, in the *Annals of Surgery*, vol. xx., pp. 418 and 419, records the fact that he had resorted to laparotomy three times in the treatment of infantile intussusception. The operation was followed by death in all of the cases. Since this report the doctor has kindly furnished the writer with additional details of these cases. They occurred about 1887, in infants under six months of age. In one case peritonitis existed at the time of operation, and the bowels were much distended. The trouble was not satisfactorily located, and the operation was incomplete.

CASE XXX.—In another of the cases the intussusception was irreducible, and an artificial anus was made.

CASE XXXI.—The same treatment was adopted in the third case.

CASE XXXII.—Mr. Pick records, in the *Lancet* for 1891, vol. i., p. 1,313, a case of intussusception of the enteric variety occurring during 1887, in an infant, aged six months, which came under observation with a history of three weeks' previous indisposition, and the last two days of which had been acute. Abdominal examination revealed a tumor in the left inguinal and lumbar regions. The infant was given chloroform, inverted, and the bowel inflated with air. Under this pressure the fingers which had been placed on the abdomen over the tumor felt it suddenly melt away. Opiates were administered, but about nine hours later the infant did not appear as well and an enema of oil was administered. On the following morning the abdomen was tender and somewhat distended. A few hours later, Mr. Pick found the infant collapsed, and performed laparotomy. No invagination was found, but a piece of small intestine, six inches in length, which was collapsed and showed signs of having been constricted at either end, it looking paralyzed. The bowel immediately below this portion of gut was also empty and collapsed. The operation was well borne, but soon after the infant suddenly collapsed, and shortly thereafter died. Mr. Pick's explanation of this condition was that the first portion of gut found collapsed had been involved in the intussusception, that it had been reduced by the air pressure, but that the gut had been so long constricted that it could not recover itself after its release; therefore the symptoms continued unchanged after the reduction.

CASE XXXIII.—In the St. Bartholomew's Hospital Reports for 1892, Mr. Walsham is credited with a case of intussusception occurring during 1888, in an infant, aged eight months, which came under observation on the first day. Laparotomy was performed, and at the point of beginning of the invagination a small sessile

tumor was found. Death followed the operation, twenty-four hours later.

CASE XXXIV.—Mr. Marsh records, in the *St. Bartholomew's Hospital Reports* for 1892, p. 111, a case of intussusception of the ileo-cæcal variety, occurring during 1889, in a male infant, aged four months, which came under observation on the fourth day. A previous history of abdominal pain, vomiting, and passage of watery stools, which contained blood, was given. Abdominal and rectal examination revealed a tumor. Laparotomy was performed, and difficulty was experienced in reducing the invaginated bowel. Death ensued a few hours later from exhaustion.

CASE XXXV.—Mr. Cripps records, in the *St. Bartholomew's Hospital Reports* for 1892, vol. xxviii., p. 111, a case of intussusception of the ileo-cæcal variety, occurring during 1890, in a male infant, aged five months, which came under observation on the third day. A previous history of several days' illness was given, the chief symptoms of which were abdominal pain, vomiting, and the passage of blood-stained mucus from the bowel. Enemata of warm water failed twice to reduce the invagination. Abdominal and rectal examination revealed a tumor. Laparotomy was performed, and the gut was apparently reduced, but death occurred two hours later. The necropsy revealed the fact that the intussusception had been only partially reduced. There was no evidence of peritonitis.

CASE XXXVI.—Mr. Walsham is credited, in the *St. Bartholomew's Hospital Reports* for 1892, p. 111, with a case of intussusception occurring during 1890, in a male infant, nine months of age, which came under observation on the third day. Laparotomy was performed. The invaginated bowel was easily reduced. Death followed the operation. The necropsy revealed the fact that there was a small perforation in the transverse colon, and that death was due to septic peritonitis.

CASE XXXVII.—Mr. A. E. Barker records, in the *Lancet* for 1892, vol. i., p. 80, a case of intussusception occurring in an infant, aged four months, during 1891, which came under observation on the fourth day. An unsuccessful attempt to reduce the intussusception by inflation had been made. On examination the infant was found to be collapsed. It emitted a gangrenous odor. Under chloroform narcosis, rectal and abdominal palpation revealed a tumor. Laparotomy was performed. The gut was found to be gangrenous and was excised, and the divided ends joined. Death ensued ten hours later. The necropsy proved the sutures of the bowel to be firm, and they resisted strong pressure of water without leaking.

CASE XXXVIII.—Mr. F. J. Sheppard records, in the *Lancet* for 1892, vol. ii., page 1,155, a case of intussusception of the ileo-cæcal variety, occurring in an infant, aged seven months, which came under observation on the second day. Examination at this time revealed a dark-colored protrusion from the anus. Laparotomy was performed under chloroform narcosis. On account of the intestinal distention the invaginated gut was found with difficulty and reduced only after the intestine had been incised. The operation was followed by the infant's death, three hours later.

CASE XXXIX.—Mr. Paul Bush reports, in the *Bristol Medico-Chirurgical Journal*, 1894, p. 6, a case of intussusception occurring in an infant, aged four months, which came under observation on the third day of the disease. Enemata were administered without success. Laparotomy was performed. The intussusception proved to be of the enteric variety and irreducible. The tumor was excised and an artificial anus made. Peritonitis ensued, and the infant died twenty-four hours later.

CASE XL.—Dr. Abbé reported, in the *Annals of Surgery*, vol. xx., p. 419, a case of intussusception oc-

curing during 1893, which came under observation sixteen hours after the onset. Laparotomy was performed. The invaginated bowel was reduced with much difficulty on account of the strong adhesions which had already formed. Death followed the operation twenty-four hours later.

CASE XLI.—Mr. A. E. Barker records, in the *British Medical Journal* for 1894, vol. ii., p. 1,237, a case of intussusception occurring in a male infant, aged four months, which came under observation on the third day. Abdominal and rectal palpation revealed a tumor, and blood and mucus were passed from the anal orifice. Under chloroform narcosis warm water was injected into the bowel from a reservoir raised three feet above the patient's body. When five ounces had entered, the fluid began to escape, and the tumor could no longer be felt. An opiate was given, and the infant slept well all night. At 6 o'clock on the following morning it began to scream, and soon thereafter passed blood and mucus from the anus. Under chloroform narcosis, laparotomy was performed, the operation occupying only eight minutes. This was succeeded by collapse, and the infant died twenty-four hours later. Necropsy was negative.

CASE XLII.—Dr. Briddon, at the meeting of the New York Surgical Society, held on the evening of May 23, 1894, *Annals of Surgery*, vol. xx., pp. 418 and 419, reported a case of intussusception occurring in an infant, aged eight months, which came under observation on the second day, in a state of collapse. Laparotomy was performed. The invagination was reduced with difficulty. Death ensued five hours later.

CASE LXIII.—Dr. J. F. Erdmann records, in the *MEDICAL RECORD*, 1895, vol. i., page 475, a case of intussusception of the enteric variety occurring during January, 1895, in a male infant, aged eight and one-half months, which came under observation on the fourth day. Enemata had previously been unsuccessfully employed. Laparotomy was performed, and the invaginated portion of the ileum, which proved to be in a gangrenous condition, was removed (six inches), and an end-to-end anastomosis effected by means of a Murphy button. Septic peritonitis existed at the time of operation, and the infant died a few hours later.

Cases of Infantile Intussusception Successfully Treated by Laparotomy.—Table No. 4. CASE I.—Mr. Marsh reported to the Royal Medical and Chirurgical Society, at its meeting held December 14, 1875 (*Lancet*, 1875, vol. ii., p. 877), a case of intussusception occurring in a male infant, aged six months, which came under observation on the first day of acute illness, giving a history of thirteen days of previous indisposition. Examination revealed an abdominal tumor, and there existed a protrusion from the anal orifice. Enemata of air and water were employed without success. A few hours later, Mr. Marsh found the infant collapsed. Laparotomy was performed, and the invaginated bowel was readily reduced. Convalescence was uneventful.

CASE II.—Dr. Henry B. Sands records, in the *New York Medical Journal* of 1877, vol. xxv., p. 561, a case of intussusception of the ileo-cæcal variety occurring in a female infant, aged six months, which came under observation twelve hours after the onset. The infant was collapsed. Abdominal and rectal palpation revealed a tumor. Reduction of the invaginated bowel was first attempted by the fingers, by enemata, by the long rectal tube, by inflation, and again by enemata, and finally, as the tumor persisted in reappearing, abdominal section was resorted to. The invaginated portion of bowel was reduced with difficulty. The bowels moved two days later, and convalescence was uneventful.

CASE III.—Mr. R. J. Godlee reports, in the *Transactions of the Clinical Society of London*, vol.

xvi., p. 67, a case of intussusception of the ileo-cæcal variety, occurring during 1881, in an infant, aged nine months, which came under observation on the fourth day at which time the bowel protruded from the anal orifice. The pulse-rate was 200. Inflation with air and water was first tried, after the infant had been inverted, but proved unsuccessful. Laparotomy was performed, the invaginated portion of bowel was readily reduced, and recovery ensued.

CASE IV.—Dr. Snowball records, in the *Lancet* for November 3, 1886, a case of intussusception of the ileo-cæcal variety, occurring in an infant, aged eight months, which came under observation on the first day. Opiates and enemata having been tried unsuccessfully laparotomy was performed, and the invaginated bowel was reduced without difficulty, but the constriction was too tight to have admitted of its reduction by enema. Convalescence was uneventful.

CASE V.—Dr. Howitt, in a paper read before the American Association of Obstetricians and Gynecologists, 1894, records a case of intussusception of the ileo-cæcal variety occurring during 1888, in a male infant, aged three months, which came under observation on the second day of acute illness. Abdominal palpation revealed a tumor. Cathartics had been given, aggravating all the symptoms. Under chloroform narcosis, and with the pelvis elevated, an enema was administered. When a little more than a pint had been injected, the infant suddenly ceased breathing, and was resuscitated with difficulty. As the tumor had only been partially reduced by the enema, laparotomy was performed. The tumor was reduced with some difficulty. The cæcum and ascending colon gave evidence of having recently been involved in the invagination. Two hours later the bowels moved, and the convalescence was uneventful.

CASE VI.—The University College Hospital records, in the *British Medical Journal* for 1894, vol. i., p. 347, a case of intussusception of the ileo-cæcal variety occurring during 1889, in a female infant, aged five months, which came under observation on the second day. Abdominal palpation under chloroform narcosis revealed a tumor. Enemata were tried unsuccessfully. Laparotomy was performed, and the invagination was easily reduced. Convalescence was uneventful.

CASE VII.—Dr. Frederick Kammerer records, in the *MEDICAL RECORD* for 1890, vol. i., p. 113, a case of intussusception of the ileo-cæcal variety occurring during 1889, in an infant, aged six months, which came under observation sixty hours after the onset. The infant was narcotized with chloroform, inverted, and an enema administered under strong pressure, but without result. Laparotomy was performed, and the invaginated portion of bowel was easily reduced. Recovery resulted.

CASE VIII.—Sir William Savory and Mr. Marsh record, in the *St. Bartholomew's Hospital Reports*, 1892, vol. xxvi., p. 110, a case of intussusception occurring during 1890, in an infant, aged nine months, which came under observation on the second day. Abdominal palpation revealed a tumor. Laparotomy was performed, and the invaginated portion of gut was easily reduced. During the night following the operation, a stool was passed, which did not contain blood. Convalescence was uneventful.

CASE IX.—Mr. Paul Bush, in the *Bristol Medical-Chirurgical Journal*, 1894, p. 6, records a case of intussusception occurring in an infant, aged four months, which came under observation on the second day (May 21, 1890). Enemata had been administered without result. Under chloroform narcosis laparotomy was performed. The invagination was of the ileo-cæcal variety, and was easily reduced. The patient's recovery was uneventful.

CASE X.—MacEwen records, in the *Glasgow Medi-*

cal Journal for 1892, p. 276, a case of intussusception of the colic variety occurring during 1892, in an infant, aged nine months. When first seen it was collapsed. Laparotomy was performed, the invagination was with difficulty reduced, and in making the reduction the peritoneal coat of the gut was injured. Recovery ensued, and three months later the infant was shown in good health.

CASE XI.—Mr. Pollard records, in the *Lancet* for 1892, vol. ii., p. 880, a case of ileo-cæcal intussusception occurring in an infant, aged six months, which came under observation on the first day. Abdominal palpation revealed a tumor. Enemata repeated at intervals were given (with a head varying from two to three feet) unsuccessfully, as the tumor kept reappearing after short intervals. Laparotomy was performed, and the tumor was withdrawn. It seemed to consist only of the swollen ileo-cæcal valve, the intussusception having possibly been reduced by the enemata. Convalescence was uneventful.

CASE XII.—Mr. Barker records, in the *British Medical Journal* for 1894, vol. i., p. 345, a case of intussusception of the enteric variety, occurring during 1893, in a female infant, aged seven months, which came under observation thirty-six hours after the onset. Abdominal palpation revealed a tumor. Enemata combined with manipulation having failed to effect reduction, laparotomy was performed, and the invaginated bowel, although strangulated, was easily reduced by pressure from below. Recovery followed the operation.

CASE XIII.—Mr. Verrall records, in the *British Medical Journal*, 1893, vol. ii., p. 1,375, a case of intussusception of the ileo-cæcal variety occurring during 1894, in a male infant, aged six months, which came under observation on the first day of the acute attack. Abdominal palpation revealed a tumor. Under anæsthesia an enema of eight ounces of water was administered, the elevation of the reservoir being two feet. This procedure had no effect on the tumor. Laparotomy was performed, and the invagination was reduced with difficulty. The bowels moved naturally the succeeding day, and the infant recovered.

CASE XIV.—Dr. Beatley and Mr. Ridley record, in the *British Medical Journal* of 1894, vol. i., p. 911, a case of intussusception of the ileo-cæcal variety occurring during 1893, in an infant, aged eleven months. When it first came under observation, it was stated that the infant's bowels had been deranged for eleven days. Abdominal palpation revealed a tumor. Under chloroform narcosis enemata had been given at frequent intervals, but without result, and many hours of valuable time were thus lost. Laparotomy was performed. The tumor was reached with difficulty owing to the intestinal distention, but was easily reduced. Before the intestines could be returned within the abdominal cavity they had to be incised to allow the gas to escape. The bowels moved on the second day after the operation. The convalescence was retarded by the occurrence of a persistent diarrhœa.

CASE XV.—Mr. Lockwood records, in the *Lancet* for June 3, 1893, a case of intussusception occurring in a male infant, aged eight months, which came under observation twenty-eight hours after the onset. Enemata were unsuccessfully tried under chloroform narcosis. The first consisted of ten ounces of water with a head of two and one-half feet, and the second of twelve ounces with a head of three feet. Laparotomy was performed. The time required for the administration of the enemata and the performance of the laparotomy was thirty-five minutes.

CASE XVI.—Mr. A. E. J. Barker reports, in the *British Medical Journal* of 1894, vol. ii., p. 1,237, a case of intussusception occurring in a male infant, aged four months, which came under observation during

1894, on the second day. Abdominal palpation revealed a tumor. The infant's general condition being bad, enemata were omitted. Laparotomy was performed and the invaginated bowel pressed out of the intussusciens. This manipulation injured the peritoneal coat in several places. The cæcum was darkly congested, swollen, and devoid of polish. The operation was followed by little shock, and the bowels moved several times during the night, each movement containing less blood. Convalescence was uneventful.

CASE XVII.—Dr. Ainsley records, in the *Lancet* for 1894, vol. ii., p. 1,247, a case of ileo-cæcal intussusception occurring in a male infant, aged eight months, which came under observation on the first day. When seen, the infant was collapsed. Abdominal and rectal palpation revealed a tumor. Inflation was unsuccessfully tried under chloroform narcosis. Six and one-half hours after the onset laparotomy was performed, and the invagination reduced. The time required for the operation was forty minutes.

Commenting on this case, Dr. Ainsley said: "The difficulty in unravelling the bowel, as well as its congested and cedematous condition, makes us believe that had the operation been postponed even for a few hours the chances of success would have been very seriously jeopardized. I am also persuaded that prolonged inflation or injection of water could have done nothing but harm."

CASE XVIII.—Mr. Pollard records, in the *Lancet* for 1894, vol. i., p. 473, a case of intussusception of the ileo-cæcal variety occurring in a female infant, aged seven months, which came under observation on the first day. Rectal and abdominal palpation revealed a tumor. The dejections had a gangrenous odor. Laparotomy was at once performed. The invaginated bowel was reduced with some difficulty, the infant's bowels acted naturally twenty hours later, and convalescence was uneventful.

CASE XIX.—Mr. A. E. J. Barker records, in the *British Medical Journal* for 1894, vol. i., p. 345, a case of intussusception occurring in a male infant, aged five months, which came under observation during 1894. Enemata were administered with apparent success, as the tumor disappeared, but it soon returned. Laparotomy was performed, and the invagination was reduced. Recovery followed the operation.

CASE XX.—Dr. Roberts records, in the *Philadelphia Medical and Surgical Reporter* of 1894, p. 428, a case of intussusception of the ileo-cæcal variety, occurring in an infant, aged nine months, which came under observation on the fourth day. Enemata were first tried. Then laparotomy was performed, and the invagination was easily reduced. The time occupied by the operation was twenty-five minutes. The infant's convalescence was uneventful.

CASE XXI.—Dr. Howitt, in a paper read before the American Association of Obstetricians and Gynecologists, 1894, records a case of intussusception of the ileo-cæcal variety occurring in a male infant, aged six months, which came under observation on the second day. Cathartics and enemata had previously been unsuccessfully employed, as was Senn's plan of rectal insufflation with hydrog. gas. The infant's condition was bad. Laparotomy was performed, and the invaginated gut was difficult of reduction. The infant's bowels moved the same evening, and its convalescence was uneventful.

Remarks.—The total number of cases of infantile intussusception collected and reported in this paper is 103. Of these nearly 50 per cent. occurred during the fourth, fifth, and six months, in nearly equal proportions; 75.4 per cent. of the cases occurred in males, and 89 per cent. were of the ileo-cæcal variety. Pritchard in his paper on intussusception called attention to the probable part played by external vio-

lence in the causation of this disorder during early life, particularly the careless manner in which infants are picked up and doubled over the arm of those caring for them, thereby injuring and causing a temporary paralysis of some portion of the intestinal canal. Jacobi has also called attention to this matter, particularly to the way in which infants are violently jumped up and down to quiet their cry. This seems to have been the prime factor in the causation of the invagination in the writer's case. The age during which the infant is most liable to be affected by this disorder seems to substantiate these views. In one case the invagination was caused by an intestinal tumor.

In these cases there seems to be nothing of unusual interest in the symptomatology to record. The disorder manifests itself by means of a sudden onset of severe abdominal pain, followed by vomiting and the passage of stools containing blood and mucus. Tenesmus was present to a marked degree only in those cases where the gut protruded from the anal orifice, or where the tumor was down in the rectum. The symptoms varied in intensity in the usual manner, in direct proportion to the degree of constriction the bowel was subjected to, as indicated by the character of the pain and the amount of blood passed from the anus. The sign of the disorder, an abdominal tumor, was seldom absent, as was to be expected in such a large proportion of cases of the ileo-cæcal variety. Several of the reporters call attention to the necessity in all suspected cases of this trouble of making a conjoined abdominal and rectal examination, for in some instances a tumor was revealed by this means after abdominal or rectal palpation alone had failed to discover it.

A protruding anal tumor occurred in the usual proportion—about six per cent. of the cases.

Cure by sloughing, which is exceedingly rare in these cases, was met with twice, in Beeston's case and in one recorded by Mr. Cripps in the St. Bartholomew's Hospital Reports for 1892, of which a few particulars will here be given, it not being included in the collection.

The case occurred during 1882, in a female, aged three months, which came under observation on the fourteenth day, with a gangrenous mass of gut protruding from the anus, a portion of which was removed. The rest sloughed off, and the patient recovered.

Thirty-nine of the cases were treated only by means of inflation, or enemata, or both. Of these, sixteen, or forty-one per cent., recovered. The average hour after the onset when the treatment began was the forty-first. The histories of these cases are so deficient as to the details of the quantity of fluid or the amount of pressure employed that no deductions can be drawn in regard to these points from this group. In two cases, eight ounces of water were used; in two cases, one pint; in two cases, one quart with a head of from three to four feet; and in one case, three quarts under a head of five feet was reported as having been the amount injected into the intestinal canal of an infant seven and one-half months of age. In one case, nine enemata were required to bring about a permanent reduction of the invagination, as evidenced by the disappearance of the tumor and the subsidence of the symptoms. Chloroform narcosis was employed in three cases while the distention of the bowel was being effected.

The cases of this group which terminated fatally were twenty-three in number, a mortality of fifty-nine per cent. The average age of the infants was about five months. The average hour following the onset when treatment was begun was the sixty-ninth. In one case while the enema was being administered under chloroform narcosis, and in the inverted position, the infant vomited, inspired the vomited material, and died. In several cases, collapse followed the admin-

istration of the enema, and in nearly all cases there is the same story of the inefficiency and uncertainty of the method, the tumor disappearing only to return after a short interval, and the treatment repeated again and again, the occasional repeated administration of chloroform with alternating injections of air or water combined with massage, often roughly applied, till finally death mercifully came to the infant's relief. In all of these cases where notes of a necropsy were found, the same tale was told of gangrenous, unreduced, invaginated bowel; invaginated bowel easily reduced by internal manipulation or traction; or bowel lacerated as a result of the violence caused by the over-distention of the diseased intestine. In one instance, the gut was found to have become gangrenous twenty-eight hours after the first onset.

If all the cases are counted in which intestinal distention was practised to reduce the invaginated bowel, some of which cases were afterwards treated by abdominal section, we will find that their number is 72. Of this number, failure to effect reduction occurred in 54 instances, or 75 per cent., which percentage would have represented the mortality of this method of treatment had not other means been afterward tried, taking them out of this category. These figures approximate closely to those given by Hare as the percentage of mortality following this method of treatment. In one instance where laparotomy was performed after enemata had apparently failed to effect a reduction, as evidenced by a continuance of the symptoms, it was thought that the swollen ileo-cæcal valve had, after the reduction of the invaginated bowel, simulated the tumor; and in another case it was supposed that the invagination had been reduced by the distention but that the bowel had become paralyzed and had been unable to recover itself.

While the experiments of Forrest, Curtiss, and others prove that there is little or no danger of injuring healthy infantile intestine by a hydrostatic pressure of six pounds to the square inch, the experiments of Mortimer and Mole and the practical experience set forth in this paper demonstrate conclusively that the conditions are very much altered when we have to do with a portion of gut that has been severely constricted, even for a few hours. Battey and Mole have proved by their experiments that water under a moderate pressure can, when no obstructions exist, be made to pass through the ileo-cæcal valve, and Mole has proved that one and one-half pints of water injected under a pressure of one and one-third pounds to the square inch, into an infantile colon, will fully distend it, and that it will pass the valve. Therefore, it would appear that if it is desired to treat a case of infantile intussusception by means of intestinal distention (which the writer freely admits, after a careful study of this subject, notwithstanding the fact that the only case which has come under his personal observation was successfully treated by enemata, he would be unwilling to employ) at least one and one-half pints of tepid saline solution (one teaspoonful of salt to the quart) should be placed in a reservoir which is not to be elevated above three feet; and if this is not successful after one trial the method should be abandoned, and other means to effect a reduction employed. If it is thought that reduction has occurred under this method, as evidenced by the apparent disappearance of the tumor, the infant should be placed in its crib and quieted by other means than by opiates or motion, to the end that if reduction has not really been effected the fact may be made manifest by the symptoms at the earliest possible moment, so that other treatment may be attempted while the chances of a successful outcome, though diminished, are not absolutely gone. It is well to recall the fact that in those cases which were successfully treated by enemata the average hour after

the onset at which treatment was begun was the forty-first, and in those cases which terminated fatally it was the sixty-ninth.

Mr. Mortimer, in the course of a paper entitled, "On the Treatment of Intussusception by Injection or Inflation, and its Dangers," *Lancet*, 1891, vol. i., p. 1,144, said: "That in his opinion the chief advantage of this method of treatment lay in the slight parental opposition to its employment." In alluding to the objections of this method, he said: "A serious objection to the operation (enema) is that the conditions under which it is performed can only be roughly guessed at. An invagination of a fairly healthy intestine may at one time remain unreduced, when a little more pressure would have completely unfolded it, while at another time a very slight force may be enough to cause rupture. There is always afterwards a deceptive lull of some hours, due to effects of shock, to the anæsthetic, cessation of feeding, as well as to the opium which is usually given. Such delay may so alter the general and local conditions as to render hopeless any further procedure. It is also true that an experienced operator may blindly do as much damage as the merest tyro. I need not dwell on the obvious value of being able to feel and see what one has to deal with, both as regards the intussusception and the various complications which may accompany it. There is seldom hesitation in performing an operation, perhaps a serious one, in the most unfavorable cases, say of ruptured aneurism or obstructed labor, or in ascribing a fatal ending less to the operation than to the condition which necessitated it. To this class acute intussusception in the late stage belongs."

In the course of the discussion which followed the report of Mr. Mortimer's case of intussusception unsuccessfully treated by enemata, Mr. Bryant said: "In my opinion under all circumstances the treatment by intestinal distention is dangerous, although successful cases may be occasionally recorded, and it is only justifiable within the first three days, and in cases not presenting symptoms of acute strangulation." The speaker also considered manipulations through the abdominal wall during the administration of enemata as being dangerous.

Mr. Pritchard, in the course of his paper entitled, "Intussusception," *Bristol Medico-Chirurgical Journal*, 1894, p. 7, said: "I think a child would stand a far better chance of getting well after an abdominal section and the disentangling of the invagination by the fingers than by the influx of water, if the irrigator had to be elevated higher than three feet to bring about a reduction;" and finally Dr. Charles K. Briddon, surgeon to the Presbyterian Hospital, in a recent communication to the writer, said: "From what I have seen of the cases brought into hospital *in extremis* and the great difficulty of reducing the parts at that time, I should judge the use of intestinal enemata as simply trifling with a very grave condition, only to be combated by the institution of radical measures at the outset."

The history of the treatment of infantile intussusception by the method of intestinal distention, by either air or water, as evidenced by the testimony which has been presented, is certainly a dark page in that of our science. It is a story of empirical, rather than scientific, endeavor, one of hope deferred, of uncertainty, of prolonged torture, none the less cruel because it was performed in all kindness, and was generally considered to be the gentlest method of dealing with the disorder, and finally of a mortality of seventy-five per cent. of disaster.

Laparotomy was performed in this group of cases 64 times for the relief of infantile intussusception. It resulted successfully in 21, or in 32.8 per cent. of the cases operated upon. The average age of these in-

ants was about six and one-half months. The average hour from the onset till the time of operation was the forty-fourth. In 17 of the cases inflation and enemata, or both, had previously been tried without success. In 8 cases the invaginated bowel was readily reduced, and in 10 cases it was reduced with difficulty. In 3 of the histories nothing was stated regarding this point. The length of time required for the performance of the operation was in one instance stated to be eight minutes, and in another thirty-five minutes, which latter included the administration of an enema.

Laparotomy was followed by death in 43 of the cases, giving a mortality of 67.2 per cent. The average age of these patients was about five months, the youngest upon whom enterectomy was performed being only three days old. It lived six days thereafter, probably dying of inanition, as the operator opened the first piece of bowel which presented itself in the wound. Had he sought for and reduced the invaginated bowel, it seems almost certain that the infant would have recovered. If these cases are subtracted from our list of unsuccessful abdominal sections in which either the operation was abandoned, the bowel incised and an artificial anus made or resected, and an anastomosis effected, we shall have 45 cases, of which number only 24 resulted fatally, reducing the mortality to 53.4 per cent.

If we count only the operations, successful and unsuccessful, that have been performed since the perfected technique of abdominal surgery has become generally known—say, since 1889—and throwing out as before the cases in which the operation has not been completed, the bowel incised or excised, we have a total of 18 cases, of which 14 were successful, and 4 were unsuccessful, giving a still lower percentage of mortality, or 22.2 per cent., which the writer believes is a fair estimate of the risk to-day of abdominal section performed on a young infant for the relief of this disorder, if performed within the first forty-eight hours of the onset.

It would seem that if an infant suffering from this disorder were first seen in collapse, it would be wise before attempting the operation to stimulate the infant, and if it responded, to proceed; otherwise it would be useless to do so. The operators in these cases have almost invariably employed the median incision satisfactorily. The best method for reducing the invaginated portion of bowel seems to be that wherein the tumor is encircled below its apex by the finger and thumb, while the intussusciens or sheath is held a few inches lower down, the apex of the tumor being pushed in an upward direction. Traction from above the tumor should not be employed. If, however, the tumor prove irreducible (although so far as the writer has knowledge there is no recorded case of intestinal resection or an artificial anus in an infant under twelve months of age which has proved successful), it is the writer's belief that the method devised by the late Prof. H. Widenham Maunsell, which is shown in Fig. 1, is the best that has been devised for treating this most unfortunate complication, caused by delay.

A slit is made in the intussusciens and gentle traction made on the intussusceptum until its neck appears outside the opening in the intussusciens. The base is then transfixed with two straight needles armed with horsehair, and the intussusceptum is amputated a quarter of an inch above the needles, leaving a fair stump beyond them. The sutures are now passed through the invaginated bowel, caught up in the interior of the bowel, divided and tied. This having been accomplished, the invagination is reduced, and the longitudinal slit is closed.

Disastrous as we have already proved the treatment of infantile intussusception by means of intestinal distention to be, the results obtained from 1828 to 1889,

when abdominal section was finally resorted to, seem to have been even more so, giving as it did a higher percentage of mortality, or 84 per cent., as against 75.4 per cent. But it must be borne in mind that it was always a last resort, only employed after the little patient had become collapsed by days of severe pain, inability to take and retain food, persistent, often hourly, torture by inversion, the administration of anæsthetics, enemata of air and water, massage, to which not unfrequently was added the so-called long rectal tube. Nothing more surely could be devised to unfit an infant or adult to withstand the nervous shock which must necessarily accompany the administration of an anæsthetic, the opening of the peritoneal cavity, and the manipulation of the intestines. As one case of section proved unsuccessful, and its result was reported, it almost certainly added danger to the next case that came under the surgeon's care. In an editorial comment in a number of the *Lancet* for 1891, on a case of intussusception treated by enemata, which resulted

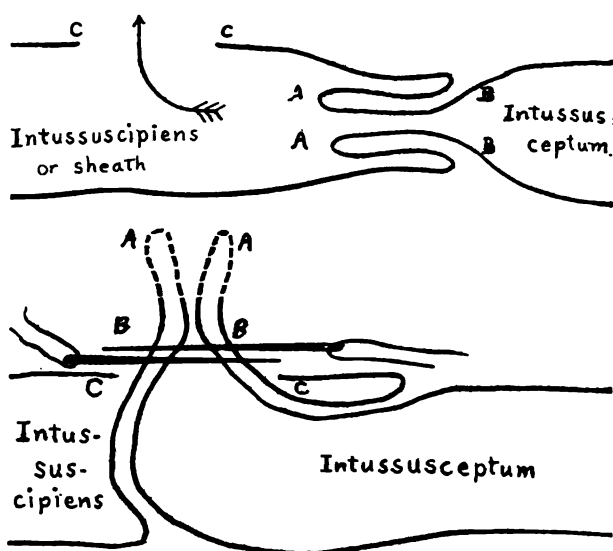


FIG. 1.—Diagram of longitudinal section of intestine, showing an acute irreducible intussusception, and the method of its treatment. C C, longitudinal opening made in the superior border of the intussusciens; A A, apex of intussusceptum; B B, neck of the intussusceptum.

fatally, it was said: "It is true that the invagination can always be reduced, at all events in the early stages of the disease, by the operation of laparotomy, but this operation is attended by such a large percentage of mortality when undertaken in infants that the surgeon shrinks from performing it until all other means have been tried and failed." Mr. Lawson Knaggs, in the course of his able article entitled, "Resection for Gangrenous and Irreducible Intussusception," *Lancet* for 1887, vol. i., p. 1,179, said: "This waiting policy, this surgery of hope, has so far been a dismal failure, nor should we forget that in all cases that last chance is far too poor to be relied upon for permanent success, and that in infants it practically does not exist."

Rydygier, of Cracow, in discussing intestinal invagination at the last meeting of the German Surgical Congress, held in Berlin during April, 1895, is reported to have said: "The cases are usually treated too long by internal remedies, and accordingly come too late to the surgeon. The mortality is, therefore, very high, seventy-five per cent, especially in acute cases."

Further testimony or argument would seem to be unnecessary, and we must at last begin to realize the important part played by delay in these cases, as it has in all other forms of intra-abdominal disease, in affecting the prognosis unfavorably.

If by this clinical demonstration of the disease, and of the results of its treatment from 1828 to 1895, the

general profession and the laity could be impressed with the facts that acute intussusception is in reality a form of strangulated hernia; that the subacute variety is an irreducible hernia; that enemata are far from being devoid of danger in their administration; that abdominal section performed under modern conditions and during the first forty-eight hours of the disorder, has a chance of success represented by seventy-eight per cent., which would speedily rise to ninety per cent. as the cases came more frequently under operation during the first twenty-four hours, it would not be long before we should come to look upon the treatment of this disease by enemata of air and water much as we do to-day upon the puking, purges, doses of metallic mercury, of gold and silver balls, of mixtures of bird-shot and olive oil, and blood-letting which were soberly employed by good men not so many years ago for the relief of this distressing disorder, made more painful by reason of the heroic treatment considered necessary for its relief.

With the light turned fully on what modern surgery has already accomplished in this direction, it is a safe prediction that before the dawn of the twentieth century it will be generally acknowledged that our science has fully and finally triumphed over another of her malignant foes, infantile intussusception.

55 WEST THIRTY-SIXTH STREET.

BICARBONATE OF SODA IN THE TREATMENT OF A "COMMON COLD."

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HAVING very recently again broken up what threatened to be a very severe "cold" in myself by the method of treatment to be described, I wish to present the matter briefly to the profession, even at the risk of writing on a subject with which all are supposed to be familiar. I may add that I have practised this method for something over two years, both professionally among my patients and casually in my family and among my friends and acquaintances, and am well satisfied of its value.

The observation as to the control of bicarbonate of soda over a "common cold" came to me quite accidentally. I had experienced the general symptoms of shivering, coryza, sneezing, etc., and expected its full development as usual, as I had always been, perhaps more than is common, subject to "colds."

Happening to have a little stomach acidity, I took a fair dose of bicarbonate of soda in some water. Half an hour later, as there was still some acidity, I repeated the dose of soda, which gave the required relief to the unpleasant stomach symptoms. About an hour later I noticed that I felt less of the symptoms of the "cold," and the thought occurred that possibly the repeated doses of soda had something to do with it.

Recognizing that all individuals are not equally "subject to colds," and also that the same individual may exhibit a stronger tendency thereto at one time than at another, I have long felt that the susceptibility to this affection depended upon some state or condition of the system, commonly present or occasionally developed. Observation had also long convinced me that while it is not persons with a marked gouty diathesis, or in an active gouty state, that are mainly subject to "colds," these latter are more frequently seen in those exhibiting minor forms of acidity, and in those in whom it has quickly developed from some cause or other.

It therefore occurred to me at once that the slight relief to my "cold" had been indeed from the soda, neutralizing the acidity which had developed from the

deranged stomach action. I therefore took another good amount of the remedy about an hour from the last dose, and, finding that the symptoms of "cold" were steadily lessening, I took still another full dose, about an hour later (as far as I can remember, for this was two years and more ago), and thought no more of the "cold," as it had passed away.

Some time after, having again a "cold" which was troublesome, I remembered my former experience, and took the soda repeatedly, with the same effect. I then used it a number of times in members of my family, always with advantage, and since that time have recommended it to patients and friends with increasing confidence.

It is important, I think, that the soda should be taken just rightly, and a definite plan carried out thoroughly; for I have never seen any effective results from a desultory use of the remedy.

After many trials I have settled down to the following plan for an adult of medium size and weight. Twenty to thirty grains of the bicarbonate are given in two or three ounces of water, every half-hour, for three doses, and a fourth dose at the expiration of an hour from the last one. Two to four hours are then allowed to elapse, to see the effect, and the four doses are repeated if there seems to be necessity, as is frequently the case. After waiting two to four hours more, the same course may be taken again, although this is not often necessary, if the treatment has been begun early in the course of the "cold." I have known the doses to be repeated four times, with final good result.

As intimated, the method of treatment under consideration relates more especially to the early stage of a "cold." To be promptly effective, it should be begun with the earliest indications of coryza and sneezing, and in my experience has rarely failed to break it up, even in those much inclined to the same. After the second or third day it acts less promptly, and more frequent repetitions are needed, but I have seen very good results even much later in the trouble.

When the influenza has more of the contagious character, now recognized as "grippe," it is less efficacious, but is still often of service. In these cases I have combined phenacetin, five to ten grains, with ten to twenty of soda, and given the powders, with hot water, every two hours continuously for a day or two. I have had a large number of very striking instances of the benefit of this plan of treatment, both in the past two years and during this fall and winter; in some cases the treatment has been begun several days after the commencement of the disease, and in one instance after it had lasted about four weeks. The latter case occurred quite recently, and the almost immediate relief to many distressing symptoms—headache, cough, malaise, etc.—was very striking. The patient was a remarkably intelligent gentleman, aged forty-five, who had been under varied treatment for the entire time.

I have little to add in regard to the *modus operandi* of the treatment. It is based, as already stated, upon the idea that there is an acid condition of the system developed, which is sufficient to irritate the terminal endings of the nerves in the skin and mucous membranes, and so to render them susceptible to impressions of cold, by a derangement of the capillary circulation. As this acidity is neutralized, the normal conditions return. All are familiar with the favorable effects of diaphoretics, whether medicinal or mechanical, as in the case of hot-air baths, or hygienic, as in frictions and exercise, in breaking up a "cold." The soda seems to act in relieving the internal cause of the surface irritation, and has always been used singly and alone, without the aid of other measures.

In regard to the dosage, twenty to thirty grains, so

often repeated, I may say that I have never seen cause to regret the employment of this method, and have never known any later ill effects therefrom. The dose of bicarbonate of soda is stated to be from ten to sixty grains, while some of the other preparations of soda may be taken in very much larger quantities—notably the sulphate of soda, often given in from one-half to one-ounce doses.

In presenting this brief mention of a plan of treatment which has become a very common one with me, I trust that it may be given a careful and fair trial by the profession; if faithfully used as directed, I feel confident that it will often be found serviceable, not only in giving relief to what is frequently a very annoying trouble, but also in averting later complications which may follow in the wake of a "common cold."

CONGENITAL DOUBLE FISTULA OF THE LOWER LIP SIMULATING A SUPERNUMERARY NOSE.

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CONGENITAL fistula of the lower lip is one of the most rare as well as the most curious of physical defects even when found in infantile life, but in this instance of congenital double fistula of the lower lip so markedly resembling a supernumerary nose in an adult patient one would seem to have a unique case.

Even in infantile life we are able to find on record only three cases of congenital fistulæ of the lower lip and only one of those was double and could claim any marked resemblance to this case.

Demarquay was the first to notice and describe a case of single congenital fistula, close to the middle of the lower lip.

Next, I quote from Keiting's "Cyclopedia of the Diseases of Children," "Fritche has reported an extraordinary instance in the case of a female infant of five months. He found an opening on the margin of the lower lip; from this a sinus ran downward and inward in the thickness of the lip and cheek and terminated underneath the mucous membrane, which appeared to be lined with mucous membrane and which when the child cried appeared to open and discharge some drops of fluid. A communication with the mouth could not be found."

The third case, which, had the child lived to years of maturity, might have more closely resembled my own case, is thus described: I again quote from Keiting:

"In a case reported by Rose were seen two symmetrical fossæ which led down into fistulæ whose passage terminated by a blind extremity, about three centimetres from their opening. The two fistulæ ran in the thickness of the lip somewhat nearer the mucous membrane than the skin. In this case there were other congenital defects, including a well-marked fissure of the upper lip."

My patient is a young lady, seventeen years of age, of German parentage, and aside from the condition in question has a cleft of the soft palate involving two-thirds of that organ, with a uvula, or one-half of a uvula, on either side. Otherwise she appears healthy and well developed. When her mouth was closed, from a habit she had contracted of holding the under lip in with the upper incisor teeth, none of the deformity appeared, but as soon as the lips were opened, there was presented in front of the lower incisors what looked like two nostrils, as though a nose by some plastic operation had been placed on the inner side of the lower lip.

These openings which appeared like nostrils extended down into the thickness of the lip over two centimetres. As in Rose's case they were lined with mucous membrane, but unlike his terminated in separate cul-de-sacs and were very widely separated, there being a raphe between them on the inner side of the lip. And instead of a doubled fissured upper lip, resembling a well-known form of hare lip, in this case there was a partial cleft of the soft palate.

To remove this deformity of the lower lip, after anæsthetizing with ether, I simply took out a V-shaped piece from the inner wall of each fistula, dissected out the lining membrane, and stitched down the flaps thus formed.

Aside from the rareness of this condition of the lower lip and the wonder that in this case such a deformity should have been left undisturbed till adult life, as Keiting suggests, the nature of these fistulæ is very hard to explain; they are lined with membrane, although it is not generally known that they secrete any fluid.

By themselves he says they constitute a defect of slight importance, a statement which he would not have made had he seen this case; but, as he adds, they are of extreme interest from an embryological point of view. It would seem to be a significant fact, however, that two out of the four cases reported presented elsewhere some mark of imperfect development; the one on the upper lip and the other on the soft palate. Yet there is no condition of embryonic life with which I am acquainted whereby this could be considered a result of imperfect development.

If any one can enlighten me on the etiology of congenital fistulæ of the lower lip I should be pleased to hear from him.

Clinical Department.

SUSPENSION IN THE RESUSCITATION OF THE NEW-BORN.

By MARK I. KNAPP, M.D.,

NEW YORK.

ON the morning of December 18th I was called next door to complete the second stage of labor in a case attended by a midwife. The cause of my having been summoned was that the child's head had been out of the vagina for about thirty-five minutes, while the rest of the body had remained unborn. The head of the child, which was markedly cyanotic, was facing the mother's right thigh. Searching for the cause of the arrested progress of the labor, I found a coil of the umbilical cord surrounding the child's neck. Time was precious. So instead of any other manipulation I at once endeavored to secure the liberation of the child, tied the cord and then cut it. An attempt to extract the child by its head proved futile, so my next step was to free the lower arm, which I succeeded in doing by helping it along with my left index and middle fingers in the rectum of the mother. This arm out, the rest of the child followed quickly. But unfortunately, as I expected, the child made no attempt either to breathe or to cry. A hasty auscultation, probably faulty, revealed no heart beat. I do not remember to have felt for pulsation in the cord in that excitement. Now, what method of resuscitation? The alternate use of hot and cold water suggested itself to me first, and after a trial of about two minutes' duration my efforts were awarded by a shallow gasp. I discarded this as too tiresome. An attempt at Sylvester's method did not promise to be effectual. Suspension by the feet, as reported by Dr. Bissel in the

MEDICAL RECORD of November 30th last, I thought to be in place here, and wrapping the child in warmed flannel sheets I had the father hold it by the legs, head down. The expected result began at once to manifest itself. A few gasps were followed by irregular breathing first, then regular, interrupted at every ninth or tenth breath by an attempt to cry, which sound was short, abrupt, flapping, and of a somewhat sighing nature. With the regular breathing the color of the child changed gradually to normal. I several times introduced my fingers into the child's mouth with the view of clearing it, and once I felt the child suckle at it, and on withdrawing my finger it attempted to cry. Thinking now that my finger irritated the child into crying I repeated my experiments, with good results. I kept the child suspended for about forty or fifty minutes, and whether necessary or not I extended and then flexed the head upon the sternum at the beginning of the suspension. The child, after it once began to cry lustily, was placed at the mother's side and it has remained well.

I should like to call attention to the irritation of the pharynx, which proved to be useful in my case, as causing the child to cry.

Whether the gravitation of the blood to the head alone, or, in addition, the mechanical pressure of the abdominal viscera upon the diaphragm and the phrenic nerves, is to be held responsible for stimulating respiration is a matter of speculation.

141 SUFFOLK STREET.

A MONSTROSITY.

By WM. A. B. TREADWAY, M.D.,

STAMFORD, CONN.

To the list of monstrosities reported by Dr. Bowman, of Ontario, and Drs. Hinman and Wood, of Michigan, I present a case in which the liver and intestines protruded through a ventral opening.

There was a denudation of the dorsal and cervical spines and base of the brain, a remarkably short cord, and an enormous quantity of liquor amnii from the uterus which contained the monstrosity. The mother had given birth to five healthy and well-formed children, four of whom are alive now. There was no family diathesis that could be learned.

The writer having been called to relieve the patient from pain on account of a greatly distended abdomen, found, upon examination, a slightly dilated but rigid os. The patient said that she was in her last month of gestation. Palpation failed to outline the position of the uterine contents, and on auscultation I was unable to detect the foetal heart sounds. Hypodermic injections of morphine relieved the woman's distress during the night, and in the morning the protruding membranes were ruptured by the finger, when the liberated liquor amnii more than filled a large-sized water-pail at the side of the bed. Immediately after the rupture of the membranes the head descended, the face presenting, and delivery took place. The placenta was of normal size and appearance.

WHEREIN ANTITOXIN PROVED A VALUABLE DIAGNOSTIC MEANS.

By J. D. HERRMANN, M.D.,

EASTMAN, GA.

On November 15, 1895, at 5 P.M., I was hurriedly called to see a child one year old, to remove a foreign substance from the wind-pipe. Upon arrival I obtained the following history:

On the day previous, while at dinner, the child be-

came suddenly choked, the mother stating she had removed with her finger a small piece of the breastbone of a chicken but was satisfied that a small portion still remained and was lodged in the windpipe. The child's dyspnoea and appearance seemed to bear out the history. Upon examination of the throat I found that both halves of the tonsils and uvula had a decided diphtheritic appearance. This, of course, aroused my suspicion, but I was still doubtful of the diagnosis, for, as the mother had tried repeatedly to remove the bone, it was possible that she had injured the soft parts.

The child had suppression of urine, and a microscope not being available, I was prevented from arriving at a diagnosis. The child was put under the usual treatment for diphtheria until the next morning, awaiting developments. In the mean while the dyspnoea increased to such an alarming extent that tracheotomy was almost decided upon.

Being yet undecided as to the foreign substance, at 11 P.M. three cubic centimetres of antitoxin was injected between the shoulders. At 6 P.M. of the same day the condition remained unchanged, influenced only by the action of the antitoxin. At 7 A.M. the following day the child's dyspnoea was much improved and the membrane was disappearing rapidly. At 6 P.M. the child's breathing was almost normal and the membrane had almost completely gone. The patient was kept up on whiskey and strychnine and other supportive treatment during her entire sickness, and she made an uninterrupted recovery.

To-day I saw the child, one month from the day I was first called, and found her perfectly well, with no indications of any foreign substance in the windpipe.

The point of interest in the case is that, had it not been for the administration of antitoxin, tracheotomy might have been performed, without benefit and very probably with disastrous results.

A CASE OF CANCRUM ORIS FOLLOWING CAPILLARY BRONCHITIS—DEATH.

By WALTER B. WINE, M.D.,

STANFORD, MONT.

A. S.—, white, male, aged nine months, family history good, previous history excellent, came under my care December 30, 1894, suffering from capillary bronchitis. The usual treatment was prescribed. Recovery was uneventful, and the case was dismissed on January 5, 1895.

February 5th.—I was again called and found the following: Respiration and pulse rapid, temperature $103\frac{1}{2}^{\circ}$ F.; there was slight diarrhoea; the child was fretful and refused to nurse; its lower lip was slightly swollen, everted, and fissured near the median line; the breath was fetid.

February 6th.—Temperature is slightly increased. There is an ulcerated spot of the gums in left lower molar region; necrosis of the maxilla is also beginning at this point and emits a very fetid odor.

February 7th.—Symptoms graver, lower lip slightly everted, presenting a circumscribed gangrenous area about size of a dime, which is dry, indurated, and cold.

February 8th.—Temperature 104° F., respiration and pulse very rapid; nearly the whole of the lower lip is now gangrenous, involving also the lower part of the left cheek.

No attempt was made at cauterizing the necrotic tissues, as some authors recommend, and the case terminated fatally. This case is reported here because of its infrequent occurrence.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE EVOLUTION OF THE DOCTOR.

ONE can hardly fail to believe that the contemporary English physician is a very superior kind of a man, for he is nowadays getting so many pleasant things said about him. We recently quoted a eulogy on the doctor by the well-known author, Ian Maclaren. Now from another source come statements equally gratifying to the self-esteem of the physician. The Rev. August Jessop, of Norfolk, says in the *Nineteenth Century*:

"It is becoming plainer and plainer to some of us that of all the learned professions the medical profession has of late years risen higher than any other in the public estimation, and that the *status* of the medical man is tending to become recognized as entitled to precedence above that of any other class in the community. For myself, I incline to believe that this is inevitable."

This is the kind of sentiment which we ourselves have expressed, and in which we believe. The doctor of to-day, who has passed through the educational work which makes him a thoroughly competent physician, has gained thereby a knowledge which cannot fail to make him a man of value in any community and of importance in all communities which are civilized and intelligent. At the present day the medical man can rarely succeed unless he has merit. In olden times it was largely a question of bearing and a wise look, peculiarities of dress, fashion, and manner, which took the people. Now it is expected that he show knowledge and skill, or else acknowledge that the problem is too great for him. "The average doctor stands before his fellows as a plain embodiment of the mastership of truth and knowledge on the one hand, and perfect simplicity of character and conduct, on the other." The *Hospital*, from which we quote this last, adds, however, a fear lest the bright prospects of the future be marred by the now increasing taint of commercialism. It says that doctors are becoming too fond of money, and are too much inclined to advertise and place their work upon a basis of trade. This is the kind of fear which has been expressed for many years, and which we have never seriously shared. There is something in the character of the work done by the physician which will always make his calling a distinct one, tinged perhaps with commercial methods, but not genuinely identi-

fied with such pursuits. As long as the physician is competent and honest, we do not fear that his desire for money will lower his professional standing. The greatest artists in music, in painting, in architecture have never denied themselves the sweet solace of large fees for their work. The most successful financiers or statesmen have not been thought the less great because they won large sums of money, or because pecuniary gain was one of the main objects of their life.

SCIENTIFIC COOKERY.

WE are inclined to think the medical profession owes something to the city of Philadelphia, on account of its producing a particularly enlightened and progressive student of the noble art of cookery in the person of Mrs. Rorer. This lady has published cook-books which, we are informed, are trustworthy, and has contributed to periodicals, teaching those housewives and cooks who are humble enough to be willing to learn the sane and rational methods of cooking and presenting food. Mrs. Rorer also has time to lecture and instruct in the different cities of this country, and, while we are not quite sure that all the lady says will be accepted by sanitarians and professional hygienists, yet she undoubtedly throws off some sparks of wisdom which ought to illumine wide areas in this dyspeptic country. Potatoes, as we understand Mrs. Rorer, are little better than poison if eaten in any excess. One potato a day seems to be the Rorer limit. Medical experience, in a measure, confirms the fact that the potato is not the best type of vegetable for brain workers—at least, for the neurotic type of individual—though it does well enough for those who work outdoors all day. To eat pickles is to show a lack of education, according to the Rorer gospel. To eat them in this country rather shows that the person is in a stage of adolescence, or is suffering from certain hysterical tendencies. Pickles and candy seem to be the two things to which the nervous activity of maturing young people naturally tend. To eat them shows rather a lack of balance than of training. Cooked apples are more easily digested, but not so good for the health, says the lady. The sugar in fruit is digestible, but the sugar of commerce is an abomination. Oatmeal is a valuable food if cooked for three hours and well masticated, and all starchy foods must be cooked for hours. These are truths which medical experience abundantly corroborates. Dr. McCall Anderson, for example, states that oatmeal, which causes eruptions and pruritus in some people, can be eaten without any unpleasant results if it is cooked for three or four hours. Cabbage and onions meet approval, provided they are cooked so that they have no odor. When there is odor they are ruined for food. And the art of cooking them without odor consists in keeping them in water that is just below the boiling-point. Mrs. Rorer seems to think that Welsh rarebits are better and more digestible than bread and butter, and she herself eats one every day for lunch.

The art of medicine is closely allied to that of

dietetics and cooking, and we make no apologies for calling the attention of our readers to some of the striking dietetic ideas of Mrs. Rorer.

MEDICAL COLLEGES AND THE MISSOURI STATE BOARD OF HEALTH.

THE Missouri State Board of Health has passed a resolution which, according to *The General Practitioner*, is "loaded," and is likely "to scatter feathers and fly fur." This resolution is to the effect that, as a condition for the recognition of any medical college in good standing, the colleges shall furnish the secretary of the State Board of Health, on or before January 1st of each year, a complete list of all their matriculates, together with the basis upon which each applicant matriculated, giving the name of the institution from which the degree or certificate of graduation was obtained, or the name of the State official conducting the examination, or the college previously attended, together with the date when the degree or certificate was issued. This list is to be sworn to by the executive officer of the college, and attested by the secretary under the seal of the college.

The object to be accomplished by this resolution is the prevention of students matriculating and only partially attending courses, as well as to prevent the colleges accepting students who have been sent away by other colleges, and we add, in the words of *The Practitioner*, "It will prevent some of the hurrah institutions from lying about their registration list to every student that comes to the city."

BLOOD CHANGES IN DISEASES OF THE STOMACH.

THE changes in the blood resulting from chronic disorders of the stomach have recently occupied the attention of Dr. Blindermann. He has made careful examinations in eighteen cases of this kind, including various affections from gastritis and ulcer of the stomach to advanced cancer. The results of the observations are published in the *Wiener Medizinische Blätter*, October 31, 1895.

The author was unable to discover any hæmatic changes in acute gastric disorders. But in chronic catarrh of the stomach and dilatation some slight diminution in the proportion of hæmoglobin was noticed. Nevertheless Dr. Blindermann expresses his surprise at this, since it is well known that chronic catarrhal affections of the stomach react profoundly on the general health. Without going into the details of the author's observations, his conclusions may be stated in the following propositions:

It is possible to establish a differential diagnosis between cancer of the stomach and the less serious affections of that organ by blood examination.

With rare exceptions the distinction between ulcer of the stomach and carcinoma is greatly facilitated by examination of the blood.

It is especially noteworthy that in cancer there is a

steady diminution in the proportion of hæmoglobin, whereas in simple ulcer this is not observed.

There can be no doubt that gastric affections are often quite obscure, and if the systematic examination of the blood can aid us in arriving at an early diagnosis it clearly should never be omitted. We must remember, however, that Dr. Blindermann's cases are hardly sufficiently numerous to warrant far-reaching generalizations.

CAFFEINE IN DISEASES OF THE RESPIRATORY ORGANS.

ALTHOUGH esteemed by some as of great value in certain cases, the employment of caffeine has always been rather limited in extent. The drug is regarded as a serviceable heart tonic and a diuretic, and also as efficacious in the relief of certain forms of migraine, but this is about the limit of its application. According to Dr. E. M. Skerritt, however (*The Practitioner*, Vol. liv., No. 4), caffeine is possessed of considerable virtue in respiratory affections, especially in those where the element of spasm is prominent. It is in asthma especially that Dr. Skerritt has obtained good results with caffeine, and he believes that the drug is deserving of much wider recognition than it has hitherto obtained in the management of this intractable and erratic complaint. Success does not always attend its use, he says, but its failures are perhaps fewer than those of any other remedy; and he has often remarked that when drug after drug and specific after specific have proved unavailing, caffeine has afforded relief.

The action of the remedy in any individual case cannot be predicated, although as a rule the writer found more certain effects in adults than in children. The results were more uniform also in those cases in which there were no evident sources of peripheral irritation, such as dyspepsia or nasal polypi. The drug was given in five-grain doses, repeated every four hours during the paroxysm until relief was afforded, and then at longer intervals.

But it is not only in asthma that the writer above mentioned has observed good effects from the administration of caffeine, for they are exerted, he says, in any morbid condition in which muscular contraction of the bronchial tubes is a factor, and they are proportionate to the amount of such spasm which is present in any given case. Thus, in acute bronchitis, when the existence of dry râles points to a narrowing of the tubes from contraction of the muscular fibres in their walls, as well as to inflammatory swelling of the lining membrane, caffeine will tend to cause relaxation of the spasm, and consequently relieve dyspnœa in so far as it is due to this element, but there will be no change in the physical signs indicating tumefaction of the mucous membrane or the presence of secretion in the bronchial tubes. There is often an element of true spasm in chronic bronchitis and emphysema; and upon this, Dr. Skerritt says, caffeine will be found to exercise a beneficial influence, allowing greater freedom in the passage of air, thus relieving the dyspnœa and adding much to the comfort of the patient.

Caffeine has occasionally been found of service in

acute respiratory affections where heart failure threatens, as in pneumonia and capillary bronchitis; and it has been especially praised by various observers in the treatment of the former disease. It is also well spoken of in atelectatic and hypostatic conditions of lung. "It is obvious that its action as a heart tonic as well as a relaxer of bronchial spasm makes it doubly useful in many morbid conditions of the respiratory organs; and it undoubtedly gains additional value by its influence as a general stimulant to nerve centres—in cerebrum, in cord, and in medulla."

HARVARD AND THE ADVANCE IN MEDICAL EDUCATION.

THE position recently taken by the Faculty of the Medical School of Harvard University is of great interest to medical educators and to the profession in general. It is a step really in advance of anything that has been done by other colleges, for, though Johns Hopkins has preceded it, Johns Hopkins is not a school that has yet cut any figure in the education of medical students. We believe that the sentiment of the profession will be one of strong approval of the action taken by the Harvard Faculty. It would be unwise, and, indeed, impossible for all medical colleges to imitate this step at the present time, but it will benefit the profession, as a whole, to have in the country institutions adopting so high a standard as that now adopted at Cambridge. We shall expect, not only that this course will be a stimulus to other schools, not only that it will tend to provide a larger number of thoroughly educated physicians, but it will add to the dignity and respect in which the medical profession is held by the world at home and abroad. It cannot be denied that compelling a medical student to get a degree in arts or science before he begins the study of medicine, means that he will have to undertake this study late in life, and that he will not be able to begin the practical work of his profession until he is nearly thirty years of age. Still, we have so many members of the medical profession that the public will not suffer if the newcomers are carefully sifted.

News of the Week.

Dr. Louise Fiske Bryson.—The many friends of Dr. Louise Fiske Bryson will gladly join us in our congratulations on the prospects of a speedy recovery from a recent and severe operation.

Jefferson Medical College.—Dr. George Dock, formerly Professor of Pathology in the University of Texas, and more recently in the Ann Arbor University, has been elected Professor of Pathology and Bacteriology in the Jefferson Medical College.

Manhattan Hospital.—Dr. Rodenstein, the founder of the Manhattan Hospital, and a contributor to the building fund to the extent of some \$12,000, it is said, has been forced to resign by the action of the Board of Lady Managers, in stripping him of his official position of chief of staff. There seems to have been some

misunderstanding between the chief and the head nurse, and while the managers upheld the latter, some thirty members of the board who sided with the doctor sent in their resignations. The name of the hospital has been changed to the "J. Hood Wright Memorial." Mrs. Wright is president of the Ladies' Board.

New York Consolidated Library.—Dr. John S. Billings, formerly of the United States Army, and lately Professor of Hygiene in the University of Pennsylvania, has been appointed librarian of the New York Public Library. This library already has over 360,000 volumes and property amounting to several millions.

Death of an Aged Physician.—Dr. Stephen Van Rensselaer Bogert, ninety-one years of age, once Governor of Sailor's Snug Harbor, died on the 10th instant of old age, at his home in Livingston, S. I. He was a graduate of the Western New York College of Physicians and Surgeons. Dr. E. S. Bogert, Medical Director of the United States Navy, is his son.

Dr. Yeretzian's Murder.—A letter, dated December 9th, has just been received here by Dr. Farnsworth, describing the massacre in Cesarea in which the Armenian missionary, Dr. Yeretzian, who took his medical degree in Philadelphia, was shot down after his house was set on fire by the mob; his wife and son perishing with him in the flames.

A New Healing Serum.—Dr. Marmorek, a young physician of Vienna, after four years of bacteriological research has succeeded in cultivating a healing serum that is not only efficacious in the cure of erysipelas, but is equally so in infectious connective-tissue inflammations, infectious bronchitis, and even in puerperal fever. The serum is a product of the streptococcus, cultivated along the same lines as the anti-toxin for diphtheria. The investigations have been made in the Pasteur Institute in Paris, and have been observed with great satisfaction by some of the leading physicians of that city, among whom are Drs. Chautemesse, Bar, Cuffer, Sevestre, Pozzi, and Dieulafoy. Dr. Marmorek is quite satisfied with the results of the injection of this serum, but believes they are more particularly promising in post-mortem wounds and those infectious punctures so often received in surgical operations. This serum in the hands of Dr. Chautemesse gives, for erysipelas, a mortality of 2.59 per cent. based upon 500 cases, as against 3.79 per cent. for 554 patients treated by the most approved methods without serum injections. The general condition improves some hours after the operation; nervous manifestations and especially the delirium are very favorably influenced.

Mount Sinai Hospital, New York.—There is a vacancy in the attending staff in the Medical Department of Mount Sinai Hospital, and applications for the same will be received by the board of directors up to the first of March.

Variolo-Vaccine was opposed as a substitute to Jennerian vaccination by Dr. Hervieux in the French Academy at its meeting of December 24, 1895, on the

ground that being simply the attenuated virus of variola it would always remain an agent to be feared, while on the other hand vaccination has stood the test of time.

Scarlet Fever in Bellevue Hospital and the Island Institutions.—Scarlatina continues to break out among the inmates as well as to attack the nurses and physicians of the hospital, two new cases having developed on the 12th. Three weeks ago Dr. Robbins and twelve nurses were taken to the Willard Parker with the disease, and now Dr. Taft of the surgical staff has joined them. The disease has extended from Bellevue to the city institutions on Blackwell's and Randall's Islands. One of the resident physicians, a nurse, and an attendant have been removed, it is said, to the Willard Parker Hospital.

Obituary Notes.—Dr. Pio Rengifo, who once practised for two years in this city and subsequently in Lima, Peru, died of apoplexy in Panama on January 12th. General Julio Rengifo, Columbian Chargé d'Affaires in Washington, D. C., is his brother. Dr. Abraham M. Lozier, of this city, who retired from practice some eight years ago, died on January 14th of heart disease. He served as surgeon during the Civil War in the army of the Potomac, and was at one time dean of the New York City Medical College and Hospital for Women. Dr. Harriet Kane, of the city of Kane, Pa., died on January 9th, while at church. She was forty years old and had suffered from disease of the heart.

Thrown From His Buggy.—Dr. Levi G. Battdorf, of Avon, Pa., was seriously injured on January 7th by being thrown from his carriage in consequence of his horse taking fright at a train of cars.

Chester Co. (Pa.) Hospital.—The Chester County (Pa.) Hospital has received from Mrs. Sarah T. Johnson, of Philadelphia, a check for \$3,500. This, in addition to a previous donation of \$2,500, is to be applied to the maintenance of a room in the hospital, to be furnished by the same patron as soon as it is ready.

The Manhattan Hospital Bill.—The bill for the transfer of the New York City asylums for the insane to the State, known as the Manhattan State Hospital bill, has been introduced in the Senate by Mr. Cantor, and in the Assembly by Mr. O'Grady. The bill is the same as that which was passed unanimously by both branches of the Legislature of 1895, but which Mayor Strong failed to sign, differing only in change of dates and a few verbal alterations. All reference to the payment by the city of the taxes due to the State for the support of the insane has been omitted, as the Court of Appeals has recently decided this case.

A Fellowship in Anatomy in honor of the late Dr. Leidy is to be established in the University of Pennsylvania.

Banquet of Eastern (N. Y.) Medical Society.—The first annual banquet of the Eastern Medical Society was held at the Central Opera House, New York, on the evening of January 10th. Two hundred guests

were present, including the wives of some of the members. Dr. Browd was chairman. The following gentlemen responded to toasts: Drs. Zwisohn, Valentine, Louis Fischer, Carl Beck, Garrigues, Gottheil, Milliken, Burstein, Browd, and others.

The Harvard Medical Faculty Vote to Require a Degree for Admission.—At a meeting of the Faculty of the Medical School of Harvard University, held January 4th last, the following vote was passed with little less than unanimity:

"In and after June, 1901, candidates for admission to the Medical School must present a degree in arts, literature, philosophy, science, or medicine from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by a special vote of the Faculty taken in each case.

"All candidates, whether presenting a degree or not, are and will be required to satisfy the Faculty that they have had a course in theoretical and descriptive (inorganic) chemistry and qualitative analysis, sufficient to fit them to pursue the courses in chemistry given at the Medical School."

In the annual report for 1892 the Dean of the Medical School called attention to the diminution in the proportion of college-bred men who had entered the school since 1884, in which year the maximum of 53.9 per cent. was reached. This diminution went on steadily until in 1892 the ratio was only 28.2 per cent., a ratio which with one exception was less than in any year since 1872. Since 1892, however, the ratio of graduates of colleges and scientific schools generally has been again on the increase, and in 1895 the proportion of students having such degrees as are to be required was 40 per cent.

Annual Meeting of the Massachusetts Cremation Society.—At the annual meeting of the Massachusetts Cremation Society, which was held last week, it was reported that eighty-seven bodies have been cremated at the Forest Hills Cemetery during the last year, which is an increase over the previous year's work. The officers of the previous year were re-elected.

Deaths Under Anæsthesia.—A death is reported as having occurred at Guy's Hospital, from the use of nitrous oxide and ether. The patient was a married woman, aged twenty-six. Another death at Guy's Hospital occurred recently from the administration of chloroform. This case was that of a young woman twenty years of age.

Dr. Jameson, of Transvaal fame, is said to have been for a long time a successful practitioner and the leading surgeon in the country of his adoption.

The New Year's honors bestowed by the British Government upon medical men include six names. None of them are known beyond the limits of the British isles, except, perhaps, Sir Joseph Fayrer.

New Jersey State Board of Medical Examiners.—Dr. E. L. B. Godfrey, of Camden, has been elected Secretary of the State Board of Medical Examiners of New Jersey, in place of Dr. William Perry Watson, of Jersey City, resigned.

Photographing Retinal Impressions.—A strange, not to say marvellous, discovery is reported by Mr. W. Inglis Rogers, in the *Amateur Photographer* of November 22d. Mr. Rogers asserts that he has been able to photograph the retinal image of an object. His first experiment was done alone; the second was in the presence of three other men, one being a physician. A small object, in one case a shilling, in the other a postage stamp, was placed in a good light before the writer, who gazed fixedly at it for one minute; the light was then shut off, and the test object replaced by a rapid photographic plate, at which the author looked steadily for a period (in the second experiment) of twenty minutes, concentrating his thoughts meanwhile wholly upon the image of the object he had been previously fixing. During the substitution of the plate for the last object, the observer's eyes were closed. The plate was then developed in the ordinary way, and reproductions of the psychograms are given in the journal. In the first case, in which a shilling was the test object, the print shows an ill-defined circle on the plate, and in the second, when a postage stamp was employed (and a larger plate used than before), "two impressions were obtained, one from each eye, and at respectively the same distance from each other as the eyes." These impressions (in the reproduction), according to the *British Medical Journal*, bear a distinct resemblance to a postage stamp; more than this we cannot at present admit. These experiments, or similar experiments, can be carried out by any one with a little assistance. The discovery is announced under the head of "Psychography, or Photography without a Camera, the Dawn of a New Science."

St. Mary's Free Hospital for Children realized the sum of \$2,500, as the result of a benefit performance recently given at the Fifth Avenue Theatre.

Unsolved Crimes.—There is a good deal of discussion now as to the number of "unsolved crimes" that have occurred in this city under present and previous police administrations. There are 3,000 doctors in this city, and against every one there is, we venture to say, an average of two unsolved crimes in the shape of stolen overcoats, instruments, books, etc. The census of unsolved crimes against medical property in New York cannot have been far from 5,000 in the last decade. We have never heard of the wonderful detective force under the late inspectors solving any of the humble problems that affect the property of the doctor—who has no "pull."

American Medical Men and American Newspapers.—We learn a great deal from England about Venezuela, New York, and other remote provincial localities. The following interesting bit of news is published in the *Medical Press*: "Physicians," as all medical men are grandiloquently called in America, are made the means of bringing in the almighty dollar for American newspaper proprietors. The *New York Tribune* recently offered a prize of a 'buggy' to the 'physician' who received the largest number of votes in a competition in which the subscribers to the journal were asked to give the name of the practitioner

who in their opinion enjoyed the greatest popularity. At the end of the competition it was found that a 'homeopathic' (American spelling) practitioner was the winner, with 33,000 votes. We are familiar with a similar method of adding to the circulation of newspapers in this country, but so far, in this connection, medical men have escaped the ordeal."

Physicians Shall Not Disclose Confidential Communications.—Mr. Morrill has introduced a bill in the Senate providing that in the courts of the District of Columbia no surgeon shall be permitted, without the consent of the person afflicted, to disclose any information which he shall have acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity, whether such information shall have been obtained from the patient or his family, or from the person or persons in charge of him; provided that this act shall not apply to evidence in criminal cases where the accused is charged with causing the death of or inflicting injuries upon a human being, and the disclosure shall be required in the interest of public justice.

The Originator of the Quinine Industry.—*The Agricultural Gazette*, of New South Wales, states that there is still living at Kenmore, in excellent health, Mr. Charles Ledger, the man who, forty years ago, after most perilous adventures, introduced the variety of cinchona calisaya known as ledgeriana into the island of Java. Messrs. Howard & Sons, the great quinine firm, say that the supply of Peruvian bark from Java is almost all from the ledgeriana trees, the only complaint against this variety being that it has turned out so rich that the trees are supplying too much quinine for the world to consume. Perhaps the quantity of bark which is now produced every year from seed furnished by Mr. Ledger cannot be short of ten million pounds, and to him, more than any one else, perhaps, is due the fact that quinine has been brought within the means of the very poorest.

The Mysterious Epidemic of 1893, it seems, has again made its appearance near Paris. Its source was then attributed to infected parrots brought from South America. M. Nocard has discovered, it is said, an extremely virulent microbe in the wings of birds which died during the voyage from Buenos Ayres. Mice, fowls, and rabbits inoculated with it died within forty-eight hours, while a healthy parrot, in the bottom of whose cage the dry wings were placed, died within twenty hours. Dujardin-Beaumetz thinks imported parrots may have something to do with the mysterious sickness and deaths which have occurred in the department of the Seine-et-Oise.

Laboratories in Hospitals.—We have frequently taken occasion to say a word against the excess of hospitals and dispensaries and their abuse in this city. Condemnation, even when most deserved, always savors more or less of the rude and unpleasant. It is, therefore, with a feeling of satisfaction that we mention the fact that one of our long-established hospitals (St. Luke's) intends in its new location, funds permitting, to complement its charitable or purely hos-

pital work by enlarging its laboratory and carrying on original research. No doubt all of our large hospitals furnish much material and excellent opportunities for widening and perfecting the healing art, which, under present methods and for want of sufficient laboratory facilities, cannot be fully utilized.

An Unsuccessful Brain Operation.—An interesting case of brain tumor, from Krafft-Ebing's clinic, in Vienna, was recently submitted to operation by Professor Gussenbauer. Jacksonian symptoms developed primarily in the right hand and spread to the arm, lower extremity, and face, followed eventually by aphasia. The severity of the later symptoms gradually diminished, with persistence of the primary focal manifestations. Under these encouraging conditions for the removal of a limited growth in the hand area, the operation was performed. A large area of the left hemisphere was exposed by elevation of a triangular flap of the skull and adherent scalp. No superficial lesion beyond slight congestion was noted. On palpation of the cerebrum, deeply seated resistance was discovered, extending diffusely toward the occipital lobe. In the absence of fluctuation, exploration was not attempted, and further operative interference was abandoned.

The Prevention of Ophthalmia Neonatorum.—At the last meeting of the Medical Society of the State of New York, a special committee—Drs. Lucien Howe, of Buffalo; Peter A. Callan, of New York; and W. C. Wey, of Elmira—was appointed to call the attention of nurses and midwives to the law regulating their duties in cases of purulent ophthalmia of infants, and to report to the proper authorities cases in which this law is violated. This law is a part of chapter 361 of the Laws of 1892, and reads as follows:

"Being a midwife, nurse, or other person having the care of an infant within the age of two weeks, neglects or omits to report immediately to the health officer, or to a legally qualified practitioner of the city, town, or place where such child is being cared for, the fact that one or both eyes of such infant are inflamed or reddened whenever such shall be the case, or who applies any remedy therefor without the advice, or except by the direction, of such officer or physician," etc.

In New York City, the Society for the Prevention of Cruelty to Children has, at the instance of several physicians, prosecuted cases of violation of the statute. The following are taken from the Records of the Society:

"Case No. 77,605.—Mrs. Minnie Schneider, of 508 East Twelfth Street, attending a child of Mrs. Louis Wageman, of 356 East Tenth Street, was tried for violating this law, was obliged to give bail for \$300, and was fined \$5."

"Case No. 80,156.—Wilhelmina Schenlin, of 457 West Forty-ninth Street, attended a child of Mrs. Mary Wildey, of 507 West Forty-eighth Street, was found guilty of its violation, April 11, 1894, and fined \$25."

"Case No. 81,821.—Anna Kotil, 218 East Third Street, attended a child of Anna Biza, of 120 East Third Street, pleaded guilty, June 22, 1894, and was fined \$100."

"Case No. 94,949.—Fanny Greenstein, 295 Stanton

Street, attended the infant child of Mrs. Kate Daub. The child became practically blind. The midwife pleaded guilty and was fined \$25.

These cases of blennorrhœa of the new-born child were undoubtedly all sacrificed through the ignorance of the attending midwife, and might have been saved had they received prompt treatment. The value of the law of 1892 is here amply demonstrated, and it is a fortunate thing for this great city that the Society for the Prevention of Cruelty to Children stands ready to prosecute offenders under this statute.

Proposed Memorial to Sir Andrew Clark.—Mr. Henry C. Burdett, of London, writes: "The paragraph you publish in your number of December 7th, page 827, under the above heading, contains a quotation from *The Medical Press and Circular*, which cannot in justice be allowed to pass without protest. The quotation runs as follows: 'It would be absurd to ask the general practitioner, who finds a good deal of difficulty in making both ends meet, to subscribe to a memorial to a man who was making £15,000 a year, and who, although immensely rich, left nothing to the London Hospital, to which he owed so much of his success.' Everybody is agreed that Mr. Gladstone's proposal to invite the general practitioners as a body to subscribe to this memorial is impracticable for many reasons. The statement, however, that Sir Andrew Clark, 'although immensely rich, left nothing to the London Hospital, to which he owed so much of his success,' is, I venture to feel and to say as an intimate friend of the deceased physician, a statement unworthy of any respectable medical journal. It is well known that Sir Andrew Clark was struck down by paralysis in the midst of his work, unexpectedly and suddenly; that he was at that time in his sixth year of office as President of the Royal College of Physicians, and that he had every right to anticipate that he had several years of useful life before him. I am confident, in fact I may state that I know, that had Sir Andrew Clark lived to make a distribution of some portion of his wealth among charities, as he undoubtedly intended to do, the London Hospital and other great charities would have largely benefited by his munificence (for he was a liberal giver), and that fate alone prevented him from carrying out this intention. If further proof of this fact be necessary, I would point to the circumstance that when he received £5,000 from a patient for distribution among charities, having already refused it as a fee, he devoted a large portion of it to the London Hospital. I would further remind your readers of the medical profession that the Governors of the London Hospital have officially declared with much force and truth: 'Sir Andrew Clark first came to London in 1853, to join the London Hospital. From that time to the hour of his death he was enthusiastically devoted to its service.' It will therefore be seen that if, as was undoubtedly the case, Sir Andrew Clark owed much to the London Hospital, he was ever ready and willing to acknowledge his indebtedness, and to repay it to the utmost of his ability by the unstinted devotion of his time, talents, and gifts to its service, during forty years of his successful career."

Society Reports.

ASSOCIATION OF AMERICAN ANATOMISTS.

Annual Meeting, Held in Philadelphia, December 27 and 28, 1895.

(Special Report for THE MEDICAL RECORD.)

The Duty of the Medical Profession to Civilization and to Science.—DR. THOMAS DWIGHT, of Boston, Mass., in his opening address as president of the Society, spoke of the horror which the general public have for human dissection, and the aversion of the popular mind to this very necessary part of medical research. This prejudice, he believed, was founded first in the popular belief that sepulchres were violated, and second that the remains were subjected to wanton insult.

"It is idle to hope that, while human nature remains as it is, this aversion to dissection will ever disappear. Our wisest course is to recognize it and to soften it by removing all just cause of complaint. It should be made clear to the public that dissection can and should be followed by decent burial. I, myself, would go so far as to have the bodies of Protestants and Catholics buried in their respective cemeteries when the creed of the deceased is known. It should also be understood that no wanton insult is permitted in reputable schools. . . . The policy which will lead to the most satisfactory results is one of complete openness. Above all we should avoid a timidity which shirks discussion of this topic. When we shall show so clearly as to carry conviction that we have nothing to conceal, a great step will have been taken.

"A radical defect in the laws of many States, otherwise well drawn, is that the delivery to medical schools of unclaimed bodies is optional with superintendents, boards of trustees, and municipal authorities. The result of this is that those in authority very naturally hesitate to do anything for the advancement of science which not only can be of no possible advantage to themselves, but may involve them in serious difficulties."

German anatomists have recently adopted a report, prepared in company with representatives of other European countries, prepared with the idea of establishing a more satisfactory and at the same time more scientific nomenclature than is at present in use. It is for us to decide whether their report is satisfactory, and, if so, whether we shall join hands with our foreign colleagues, or if such is not the case, whether we can devise an American nomenclature which shall be so much better as to be distinctly superior to that at present in use.

Anatomical Material and Preservatives.—The committee appointed by the association to investigate this subject made their report. A circular letter had been sent to the professors of anatomy in one hundred and forty-eight colleges in the United States, twenty-five to foreign countries, and twenty-five copies to the medical journals in this country and abroad. Of the replies received the following is a summary:

1. Anatomical material is received wholly under the provisions of the law in 30 States and countries, in part by law in 7, and without law in 5.

2. The provisions of the law were satisfactorily complied with in 10, fairly so in 10, not satisfactorily in 12, and no replies were received from 10. In 8 the provisions of the law were stated to be obligatory, and in 6 the provisions were optional.

3. The material was received in good condition in 20 institutions, only fair in 21, and in 1 bad.

4. The remains were reported as buried in 27, cremated in 10, and thrown away in 4.

5. Carbolic acid stood first among the preservative agents, glycerin and arsenic next in their order of popularity. All three of these agents were best employed in combination. Chloral hydrate, chloride of zinc, and the bichloride of mercury came next in the order of popularity. Alcohol, either pure or in combination, the carbonate of potassium, the bicarbonate of sodium, chloride of sodium, methyl spirit, formalin, nitrate of potassium, brown sugar, and boracic acid were employed in varying proportions.

Chloride of zinc in a solution of fifty-per-cent. strength and of neutral reaction was found very useful, but it had the great disadvantage of hardening the tissues and causing a change of color. If subjects have been immersed for a long time in a saturated solution of common salt, it has been found advantageous to soak them in water for twenty-four or forty-eight hours in order to soften the tissue.

6. Injections were made in 2 instances into the heart, in 19 into the common carotid artery, and in 6 into the common femoral artery.

7. The cost of reception and preservation varied from \$1 to \$25.

8. The number of students assigned to each subject varied from 4 to 16.

Conclusions.—1. Anatomical material for the promotion of medical study should be obtained wholly under legal enactment. The provisions of the law should be compulsory upon all officers of the State and county institutions and municipal governments.

2. Of the anatomical laws which are in force in this country the committee is of the opinion that the law of the State of Pennsylvania is the best.

3. The committee believes that it would contribute to the best interests of anatomical teaching in this country if concerted action were taken by this association to secure the enactment in every State of a law controlling the collection and distribution of anatomical material, and it heartily recommends such action.

4. While many of the agents employed have been successfully used to a greater or less extent, no perfect method of preservation has as yet been secured. The cold-storage plan, however, approaches nearest to perfection, and some such method will no doubt come into general use when the expense can be reduced. At present the great objection to the use of the cold-storage plan and formalin as well is the great expense involved.

DR. B. G. WILDER, in discussing the report of this committee, said that, after an experience of over twenty-seven years, he was still wedded to the use of alcohol. Brain tissue, he finds, is best preserved by a combination of formalin, bichloride, and salt. For muscles and viscera, alcohol has been found the best preservative. There are two objections to its use: first, the cost, and, second, the property which it has of bleaching the tissues.

DR. G. S. HUNTINGTON agreed fully with Dr. Wilder in regard to alcohol. He recommended, also, the cold-storage plan, which, after an experience of three years, had been found to give good results. Any injection should be made before freezing. Immersion in cold water is the best method of removing the ice from the interior of the body, and hastens the uniform melting of the parts. Arsenite of soda was used chiefly for washing the blood out of the body. Injections were made into the carotid artery, and the blood was allowed to flow until the water which made its escape was no longer tinted with blood.

DR. BEVAN said that he had had excellent results with a combination of cold storage and a preliminary injection of alcohol, glycerin, and bichloride. In handling the bodies while in cold storage, he made use of a pair of tongs, which can be made by any

blacksmith for about a dollar, in such a way as to fit into the external auditory meatus of each side. He has found a solution of formalin and Müller's fluid to be useful in the preservation of brain tissues; the substance so prepared hardens rapidly, and may be used for class demonstration; to within three days the color is well preserved, and it is possible to distinguish the gray and white matter at a distance of fifty feet. He uses a five-per-cent. solution of formalin in Müller's fluid, enough of the solution being employed to immerse the specimen.

Contribution to the Myology of Lemur Bruneus.—

DR. GEORGE S. HUNTINGTON, of New York City, read an interesting communication on this subject. He confined his attention to the muscles of the trunk, pectoral girdle, and upper extremity. His results differ in many respects from the descriptions published by Murie and Mivart in their memoir of the Anatomy of the Lemuraidea and others.

The paper dealt especially with the following points, which have heretofore been undescribed:

1. The presence of an axillary arch from the latissimus dorsi to the pectoral insertion, replacing the cutaneous muscular slips described by Murie and Mivart.

2. The arrangement of the pectoral insertion. The peculiarities of the humeral attachment of the pectorals may be arranged as follows:

- (a) Connection as already stated with a slip from latissimus dorsi reproducing the condition found in a distinct variety of the humeral axillary arch.

- (b) Connection of the abdominal division of pectoralis major with the pectoralis minor at insertion into lateral humeral ridge.

- (c) Folding of insertion tendon of sternal division of superficial pectoral.

- (d) Insertion of clavicular portion into superficial aspect of sternal tendon and fusion with deltoid.

All the conditions referred to can be properly regarded as presenting strong simian and anthropoid affinities.

3. The coraco-brachialis presented a division into an upper, middle, and lower part; the latter was inserted into the root of supracondylar arch. The musculo-cutaneous nerve perforated the middle division.

4. The presence of a large and distinct epitrochleoanconeus from the supracondylar process to the internal condyle and the ulnar margin of the olecranon.

5. The union of the brachialis anticus and the lateral head of the triceps, both extending to the head of the humerus and arising from the outer aspect of the bone.

6. Among the trunk muscles the arrangement of the supracostalis is especially to be noted, extending from the cartilage of the first rib to the third, fourth, and fifth cartilages at their juncture with the sternum.

The entire group of deep thoracic muscles presented a typical carnivore aspect. The supracostalic thoracic extension of the rectus abdominis to the first rib, a continuation of the serratus anticus with the levator scapulæ, the thoracic extension of the scaleni group and its relation to the external oblique, all conform almost absolutely with the type presented by a plantigrade carnivore as *Taxidea Americana*. On the other hand the pectoral girdle and brachial muscles conform to the simian type. Thus far *Lemur bruneus* is especially marked in the arrangement of the pectoral group.

In the abdominal muscle groups the arrangement of the external oblique aponeurosis clearly foreshadows the structures found in the higher primals, especially in relation to the construction of the external abdominal ring, Gimbernat's ligament, and the triangular ligament of human anatomy.

History of the Ciliary Muscle.—DR. FRANK BAKER, of Washington, D. C., read a paper on this subject.

Following the usual description he divided this muscle into two parts, one set of fibres being directed meridionally along the eyeball, and the other set equatorially. The former portion is spoken of as Brücke's muscle or Bowman's muscle, because it is usually supposed that the first description of this part came from one or other of these anatomists. To the second portion has been given the name of Heinrich Müller (Müller's annular muscle), after the celebrated ophthalmologist of Würzburg who described it in 1857. In his lectures on the parts concerned in operations on the eye, published in New York in 1849, Bowman gives a clear description of this muscle. Brücke gave it the name of tensor chorioideæ; of the two descriptions Bowman's is much the best. (Read before the Berliner Physikalische Gesellschaft in May, 1846.) It is to an American, however, Dr. William Clay Wallace, that the credit for priority of description should be given. He described the muscle in *Silliman's Journal* for 1835, eleven years before Brücke or Bowman. The same writer, in his treatise on the human eye published in New York in 1839, again describes it. In a series of lectures which appeared in the *Boston Medical and Surgical Journal* for 1884, he writes of the muscular fibres of the ciliary muscle (see also "Lectures on Myopia," *Boston Medical and Surgical Journal* for 1844, xxx., 288; and the *London Medical Gazette*, 1842-43, i., 412). He supposed, however, that the striations of the orbiculus ciliaris were tendinous. The celebrated copper plates of Eustachius, who lived between 1520 and 1574, gives a description of these parts, which is much more elaborate than is generally supposed. Had it not been for the strange disappearance of these copper plates after the death of this great anatomist, credit would have been given to him for the first description of many structures now ascribed to other observers, such as the Gasserian ganglion, etc. One hundred and fifty years after the death of Eustachius Pope Clement XI. presented these copper plates to Lascisi, who at once recognized their value and caused them to be published. In the explanation of plate 40 of this superb work, the following description appears: "Figura VI. pupillam cum crystallino humore, et ligamento, seu mesculo ciliari." This figure plainly shows the radiating ciliary processes surrounding the iris. It was published in Amsterdam in 1722. Fallopius differed with Eustachius and believed that this structure was simply ligamentous.

Plempius ("Vospiscus Fortunatus Ophthalmographia," Amsterdam, 1632, p. 169) describes muscular fibres in the ciliary region. Descartes ("L'Homme de Rene," 1664) reproduces a drawing to show its position. G. Bidloo ("Anatomia Humani Corporis," Amsterdam, 1685) also describes it. William Briggs, ("Ophthalmographia," 1686), ascribes to the muscular fibres found in the ciliary region the property of changing the shape and character of the lens. Porterfield's "Treatise on the Eye," published in 1759, gives many valuable references on this subject, and is referred to by Bowman.

Absence of the Fibrous Pericardium of the Left Side.—DR. ADDINELL HEWSON, of Philadelphia, presented an interesting specimen of this condition, which he had found in the dissecting-room of Jefferson College. The specimen was removed from the body of a man, English by birth, aged fifty-four years, who had been an inmate of an insane asylum for four years previous to his death. By occupation he had been a scrivener. There was distinct absence of the fibrous pericardium on the left side and an adherence between the apex of the left ventricle and the lower anterior margin of the left lobe of the lung. The specimen showed in front the pleura enclosing the internal mammary artery and the left phrenic nerve displaced anteriorly from its normal position. An incision had

been made in the median line to expose the vessels. The aorta practically had no arch and was near the median line. The innominate artery was wanting. The subclavian artery on the left side was found at the highest part of the arch. There was a wide space between the subclavian artery at its origin and the point where it crossed the first rib. The vena azygos major made a very decided arch coursing over the right half of the chest wall.

While the patient had been confined in the asylum he had been in the habit of sitting with his knees drawn up and his head between his knees. This position being the one assumed by him for the most part may account for the adhesions which were present. The course of the phrenic nerve on the left side was normal. The posterior veins were inside of the posterior fold of the pericardium.

Nomenclature of Nerve Cells.—DR. FRANK BAKER, of Washington, D. C., spoke on this subject. He regarded the term, *neur*, as the best phrase to use in describing these cells, because the word lends itself readily to combinations. Thus cells which form nerve roots might be called *rizoneures*, and cells of the cerebro-spinal axis might be called *axoneures*. If necessary these cells can be divided into other groups. Short path cells might be called *zigoneures* or *commissural cells*, and the long path cells of the cortical surface might be called *macro-dromic neur*. In this way sensory fibres might be called *æsthesioneures*. Other cells which have their origin in the spinal cord and are especially connected with the muscles might be called *dynamoneures*. . . . The term proposed by Kölliker, or *neurodendron*, is too long. Other neurologists, among them Dr. Fish, prefer the term *neurosite*. As neurologists and psychologists are giving considerable attention to this subject, it is reasonable to suppose that a better terminology will be adopted than the one now in use.

The Cerebral Fissures of Two Philosophers.—DR. B. G. WILDER, of Ithaca, presented a paper on this subject, which was illustrated by specimens and a number of photographs. The paper referred to Chauncey Wright, of Cambridge, a philosophic writer, critic, and mathematician, and James Edward Oliver, Professor of Mathematics in Cornell University. The brain of the former was very different from the average pattern, and the two brains presented a distinct contrast, probably due to the greater activity and larger breadth of the former's scientific research. The reputation of the former was wider and better known than that of Oliver. One peculiarity of both brains was the simplicity of structure.

The writer called attention to the fact that there was no decided standard of comparison for the normal adult American brain, and he suggested that the members of the Association unite in an effort to secure some such standard.

The Human Paroccipital Fissure—Should it be Recognized and so Designated?—DR. Wilder also read a paper on this subject. Ten years ago the same writer suggested that the occipital portion of the long fissure, called *intraparietal* by Turner, *interparietal* by Ecker, and *parietal* by Pansch, be regarded as a distinct fissure under the title *paroccipital*, referring to its constant and marked relation to the dorsal end of the occipital (*parieto-occipital*). The "U" shaped area between the two or first annectent gyrus he proposed to call the *paroccipital gyrus*.

The grounds for this suggestion have been given in the "Reference Handbook of the Medical Sciences," viii., 155, as follows:

(1) In about half the cases examined by the writer there are two fissures separated by an isthmus of greater or less width; (2) when the two are continuous there is always a *vadum* (shallow) at the point

corresponding to the isthmus; (3) each of the two portions, whether separate or continuous, is usually deepest at or near its middle; (4) at their first appearance in the *foetus* they are always completely independent. While this division is recognized by some observers, it is thought needless by others, and has not as yet received the sanction of the German Committee on Anatomical Nomenclature.

The present paper was intended to review all the accessible literature on the subject, as well as the material accumulated by Dr. Wilder in the interval, especially comparing these parts with similar fissures found in apes and monkeys.

On practical grounds the writer believes that the fissure should be recognized, and called the *paroccipital* division of a "fissural complex." Among eight educated persons the complete isthmus occurred seven times, in all but one on the right side. In only one case did the isthmus occur on the left side and not on the right, and that was the case of an insane Swiss patient.

Practical Histology for Large Classes.—DR. CHARLES S. MINOT, of Boston, presented a communication, in which he said that in Boston they had entirely given up allowing students to make their own preparations, and had found the change to be an advantageous one. Every student is obliged to make a perfect drawing of each preparation, and the drawing is judged on its accuracy. The geometrical faculty is especially developed. In the second half-year they are given practical work, and they then begin the study of the embryo. In commencing the work they are given specimens of the liver, heart, spleen, etc., instead of beginning with a connective tissue, a piece of bone, or the like. It had been found advantageous to teach embryology as a help to anatomy, and as offering an explanation to a great many relations that would otherwise be obscure.

Some Novel Methods of Description of the Human Skull.—DR. HARRISON ALLEN, of Philadelphia, in a paper on this subject, said that his method is to secure a formula for each skull. He begins with the supraorbital ridge, and draws a line between this point and the outer part of the external auditory process. The nasal bone may be divided into three parts, the upper part, the frontal; the main portion, the maxillary, and the third part, the pre-maxillary. In the human skull the third portion is not well defined. The frontal portion is very variable. Holding the bone in such a position as to examine it in profile it is possible to tell the proximal from the distal portion. The latter it is well to call the *radix*, and below that the *salient*. Variations in these portions serve to identify the individual.

In two skulls of Sandwich Islanders which Dr. Allen presented, the one had a well-developed incisor crest and the other had not. . . . The anterior nasal spine is simply the end of the incisor crest. It has received the name of *infantile*, but Dr. Allen prefers the word *pidomorphic*.

The writer believed that the hard palate has not received the attention which it deserves in its posterior part. In negroes the middle lacerated foramen is very much narrowed and is frequently closed.

The temporal fossa may be divided into two parts, the fronto-temporal ridge and the parietal temporal. They are distinctly different. The former is very apt to be closed, and is very rarely continuous with the same line as the parietal temporal. No two skulls show a similar arrangement. In a study of the temporal bone the remains of a suture are sometimes found between the squamous and petrous portion. For the lower portion of this suture the name *retro-tympanic* has been proposed. In speaking of the lacrymal bones Dr. Allen said that scarcely any portion of the

lacrymal bone is in advance of the crest. In the North American Indian and in the Sandwich Islander they are apt to be very small.

Observations on the Fossa Capitis and a Tubercle in the Trochanteric Fossa.—DR. F. J. BROCKWAY, of New York City, presented a carefully prepared paper on this subject. The fossa capitis, which in the human femur is found at the extremity of that bone and gives attachment to the ligamentum teres, presents ordinarily a well-marked depression. In certain of the lower animals this depression does not exist. The ligamentum teres and the fossa capitis are absent in the elephant and hyrax, the rhinoceros and tapir, the hippopotamus, hedgehog, the seal, sea otter, and walrus. They are absent in the monotremes, the echidna, and ornithorynchus, of the marsupials, the great kangaroo, of the edentates, the three and two sloth, and ant-eater. It is also lacking in one rodent, and in one of the insectivora, etc.

While a study of comparative anatomy frequently leads to valuable deductions as to the function of parts of human anatomy, the writer dealt more especially with the human femora. He examined 900 human femora, of which the pedigree of over 400 was known. Moser, in his article in Schwalbe's "Arbeiten," vol. ii., p. 36, says that only one-half of the fossa capitis that he examined presented vascular foramina. Dr. Brockway, however, found that in the 900 adult specimens which he examined, 84 per cent. presented these vascular openings. Twenty-six specimens (2.8 per cent.) presented no fossæ at all, and in 5 cases there was a distinct tubercle in place of a fossa for the insertion of the ligamentum teres. In 5 cases there were double fossæ occurring on one head. In 2 cases there was a combination of a fossa and a separate tubercle on the same head. In 36 cases the fœtal condition persisted, *i.e.*, there was a fossa and a distinct postero-inferior groove descending nearly to the margin of the articular surface, and always pointing toward the line passing up from the lesser trochanter to the inferior border of the neck of the femur. Thus it is possible to determine to which side of the body the femur belongs by noting the direction of this groove; holding the fossa facing the observer the groove points to the side to which it belongs.

Twenty-eight cases showed the presence of a fossa and a connected tubercle. The ligamentum teres is not inserted into the whole floor of the fossa, but into its upper half and upper margin. The lower part of the floor is free and the ligamentum teres simply rests upon it. Therefore the vascular foramina are usually confined to the deepest and lowest portions of the fossa. The synovial membrane has a more extensive insertion than the ligament proper. The author described three types of the fossa: first, oval; second, triangular; and third, round. They are all practically the same, whether they contain vascular foramina or not. The most common type of all is the oval form (forty-five per cent.); the next most common the triangular form (thirty-four per cent.), and finally the round type (twenty-one per cent.).

Old people are apt to have shallow fossæ, but their foramina are not more apt to be absent than in adult life. Out of 22 people over sixty, 13 had shallow fossæ. The character of the foramina and fossæ are not symmetrical on both sides. Out of the 900 bones examined only 4 could be called "pilastered." Twenty-eight specimens showed a good third trochanter (three per cent.) not counting an exaggerated gluteal line. Six of these showed also a tubercle in a digital fossa. From a study of these specimens the linea quadrati would seem to be a myth, as Dr. Brockway has never seen it as a distinct line representing the full length of attachment for the quadratus femoris.

A Case of Polyorchis.—DR. D. S. LAMB, of Washington, D. C., showed a colored sketch illustrating this condition. There were three testicles in the right scrotum and one in the left. They varied somewhat in size, but showed nothing abnormal in the texture of each. Three cords could be distinctly seen and felt passing separately through the external abdominal ring. The patient was a male, white, aged forty-five; well developed and enjoyed good health. He was a widower with two children. He has offered to submit to operation if sufficient remuneration was offered.

A comparatively small number of cases of supernumerary testicles have been reported. A number of them, if not the majority, have been questionable. Armstrong, Blumener, Bulaboff, Hauser, Hewitt, Hough, Jacobovics, Kennow, Hetard, MacCann, McElmoil, Mercklin, Franken, Sibbern, Stewart, and Vanchrin, have reported cases. Dr. Hewitt's case seems to be well authenticated and is as follows: The patient was a soldier with two distinct testicles and cords in the left scrotum. The cords united before entering the abdominal ring. This man is alive at the present time, and the condition has existed since birth.

Dr. Lamb also presented a "Note on the appearance of a unilateral tuberosity in place of the trochanteric fossa," with specimen.

The Descriptive Anatomy of the Human Heart.

—DR. WILLIAM KEILLER, of Galveston, Texas, read a paper on this subject. The work of Braune and His has within the past decade revolutionized descriptive and topographical anatomy. By a study of the parts in frozen sections their true relations have been arrived at much more accurately than it is possible to do by a study of the organs immediately after their removal from the dead body. Thus, instead of the primitive text-book description of the liver, which describes that organ as having two borders, two surfaces, and no impressions at all, it has now five borders, as many surfaces, and eight impressions. Dr. Keiller uses a solution of gelatin as an injecting mass for the right common carotid artery or the femoral artery.

His description agrees in all essential particulars with His' model. Thus viewed, the heart is an irregular four-sided pyramid, whose base rests on the diaphragm and whose apex has been removed to afford attachment for the ascending trunks of the great vessels. It presents for examination five surfaces (including the base), a number of borders separating these, and the anatomical apex and a clinical apex.

The anterior surface is triangular in shape, slightly convex, directed forward and a little upward. In sagittal mesial section it is parallel with the sternum. It includes the greater part of the right ventricle, portions of the left ventricle, the left auricular appendix, the entire right appendix, and part of the right auricle. It is bound below by the sharp antero-inferior border (margo acutus), on the left by the oblique convex and slightly rounded left anterior border (the left border of clinicians), and on the right by the nearly vertical and convex right anterior border (the right border of clinicians). Its superior angle marks the anatomical apex, and here the surface merges in the anterior walls of the aorta and pulmonary artery. Its left inferior angle forms the clinical apex. On this surface are seen the anterior or right coronary artery in the anterior auriculo-ventricular groove, while its marginal branch runs along the antero-inferior border, and in the anterior interventricular groove is the descending branch of the posterior or left coronary artery accompanied by the great cardiac vein. Separated from it by the pericardium are the margins of the lungs and pleura, the sterno-pericardial liga-

ments, triangularis sterni, internal mammary vessels, and sternum.

The right surface is markedly convex, quadrilateral, lies almost vertically, and is directed toward the right. It includes the greater part of the right auricle. Its anterior, posterior, and inferior borders are only slightly rounded, and are therefore fairly well defined. At its superior extremity the surface blends with the wall of the superior vena cava, and at its posterior inferior angle it is similarly related to the inferior vena cava. It is separated by the pericardium from the right phrenic nerve and vessels, the pleura, and inner surface of the right lung.

The left surface is a convex triangular area directed mainly upward and toward the left. It includes about one-half of the free surface of the left ventricle and the left auricular appendix. It presents the proximal extremities of the descending branch of the left coronary artery and great cardiac vein, the marginal and transverse branches of the same artery, and the posterior cardiac and coronary veins. It is separated by the pericardium from the left phrenic nerve and vessels, the left pleura and inner surface of the left lung.

The posterior surface (dorsal surface) is called the base in text-book descriptions. It is four-sided, rather narrower above than below, is convex, vertical, and directed backward. It is formed by the left auricle, and by the portion of the right auricle which joins the two venæ cavæ behind. It presents the openings of the coronary vein (right and left), the great coronary vein and coronary sinus, and the oblique vein of Marshall which runs downward over the surface to enter the left extremity of the coronary sinus. It is only partially invested by the serous layer of the pericardium; it is separated by the pericardium from the bronchi, œsophagus, vagi, descending aorta, vena azygos major, and thoracic duct.

The inferior surface (diaphragmatic surface or base) is quadrilateral, slightly convex, or almost flat when the ventricle contains blood. . . . It is formed by a small portion of the right auricle and the opening of the inferior vena cava; the rest of the surface being about equally divided between the right and left ventricles. . . . In addition to the inferior caval opening it presents the inferior extremities of the right (anterior) and left (posterior) interventricular grooves with the right coronary artery embedded in the former and the coronary sinus in the latter. Crossing it diagonally is the inferior interventricular groove with the descending branch of the anterior or right coronary artery and middle cardiac vein. The posterior cardiac vein runs along its posterior border. The apex of the pyramid is formed by the aorta, pulmonary artery, and superior vena cava. These structures arise from the heart on a level with the upper margin of the third costo-sternal articulation, extending an inch and a half to the left and one inch to the right of the middle line.

The clinical apex is indicated by a point between the fifth and sixth ribs, three and one-half inches to the left of the middle line. The antero-inferior border may be indicated on the chest wall by an oblique line extending from the clinical apex on the left across and slightly upward to a point one inch to the right of the middle line at the level of the sixth chondro-sternal articulation. Along this line the cardiac blends insensibly with the hepatic dulness. . . . On a level with the fourth chondro-sternal articulation the area of the heart's dulness extends three inches to the left and one and three-quarter inches to the right of the middle line.

It would seem more consistent with the above description to make certain changes in the cardiac nomenclature. Thus the interventricular grooves are

seen to be superior and inferior, the right coronary artery might be called anterior, and its branches respectively infundibular (as at present), right ventricular (now marginal), and inferior interventricular (now descending); the left coronary artery would be better named posterior, and its branches superior interventricular (now descending), left ventricular (now marginal), and auriculo-ventricular (now transverse).

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 2, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Annual Reports of Officers and Committees.—By the report of the trustees it appeared that eighteen regular and special meetings had been held during the year; the academy building had been kept in repair; several valuable improvements had been made in the engine room, electrical plant, etc.; the building had been kept insured; through the counsel the taxes on the academy for the years 1894 and 1895 had been set aside under the exemption law; the funds had been invested; the new library stack had proved entirely satisfactory; the electric plant had caused a decided saving during the year, and had given more light than the street current had formerly done. The outstanding bonds amounted to \$10,000.

By the report of the Committee on Admissions it appeared that 71 applications had been received, 48 resident fellows had been elected, 13 non-resident fellows, 4 applications had been tabled.

In the report of the Corresponding Secretary it was stated that there had been no foreign correspondence. The report of the Statistical Secretary showed an unusual number of deaths, 22 fellows having died during the year.

Report of the Library Committee.—Different English medical journals on file 80, American 7, French 140, German 167; medical journals in other languages 56; total 650. New books, 2,039. Duplicate copies of books 1,006. Pamphlets, 3,167. Total number of volumes in the library 33,140, being an increase during the year of 2,739. Readers registered during the year 6,574, or 590 more than for the year 1894. The total amount at the disposal of the Library Committee during the year had been \$5,458. A deficit had been left of \$79. For the year 1896 the committee asked for \$5,000, which was \$500 more than had been appropriated in 1895. The committee reiterated what had been said of the necessity for an endowment fund for the library.

Bureau of Nurses.—By the report of this bureau it appeared that the number of nurses who had registered was 103, and the number who had re-registered was 152. Cash received, \$1,237; cash to the credit of the bureau, \$371. Number of nurses sent out, 496.

The Reports of the Treasurer of the Academy and the Treasurer of the Trustees were read by title.

The Council recommended an appropriation of \$4,500 for the use of the library for 1896. The recommendation was adopted.

In accord with a change made in the by-laws the names of fellows in arrears of dues will be posted.

Infantile Intussusception: A Study of One Hundred and Three Cases Treated by Intestinal Distention or Laparotomy.—DR. FREDERIC HOLME WIGGIN read the paper (see p. 73).

Statistics of Intussusception Deceptive.—DR. A. JACOBI, in opening the discussion, said he thought statistics in connection with intestinal intussusception were very deceptive. Compared with the number of cases that really occurred, those which were reported

in the journals, as stated by the author, were very few. He certainly had seen a good many during the forty years which had elapsed since he first published a case, and he had not published another since. This was probably true of other physicians as well. It was probable also that many cases were not seen by the general practitioner; that they, especially of recent years, went direct to the surgeon. This would account for the fact that Dr. Jacobi had seen fewer cases during the past twenty years than before.

Invagination a Preventable Disease.—Dr. Jacobi believed that intestinal invagination was, in a large number of cases, a preventable disease. The healthy intestine was not apt to become invaginated. It was true the possibility was greater in the child than in the adult, for the reason that the attachment of the mesentery and peritoneum in the ileo-caecal region was looser at the earlier period. But this alone was not sufficient reason for invagination except in the few cases where it was aided by violence without previous intestinal disease. One case had been reported in which the invagination had occurred during a violent paroxysm of whooping-cough. Here the cause was purely mechanical, as it was when the intussusception had taken place while jumping the baby up and down in more or less violent manner. But another preventable cause was chronic diarrhoea. An enteritis which was cured early affected only the inner surface of the intestine. But if it were allowed to go on, the deeper layers, even including the peritoneal coat, became involved just as occurred in patches in typhoid fever. The gut in these spots showed grayish-yellow discoloration, was thickened and stiffened, so that invagination was not alone encouraged, but was likely to result in perforations when it did take place. In one of his cases which had come to autopsy he found the tumor and five or six perforations at spots of the kind described. It had occurred in a child two years' old who had suffered from diarrhoea both summers.

Regarding treatment, Dr. Jacobi was of opinion that if enemata, properly employed, had no effect within a very few hours, a surgeon ought to be notified. The pressure by enema ought not to be too great. The intestine was not like an iron pipe. Even in the normal condition it would not bear high pressure. But it was frequently diseased, and weaker in some places than in others. Therefore he had long ago given up using the whole length of the fountain syringe, but used pressure of only a foot or two fall. With the baby on its belly, the hips raised, chloroform anaesthesia, that amount of pressure would suffice. He had always advised the use of opiates immediately after reduction in order to keep the bowel absolutely quiet and prevent recurrence.

Improved Statistics Due to Earlier Interference.

—Dr. B. F. CURTIS said that according to some statistics which he had collected in 1887 he had found the mortality-rate from operations in intussusception on both infants and adults to be seventy-six per cent. These statistics, with some which he had collected since, gave a mortality-rate of fifty-eight per cent., which showed a very great improvement. He supposed there had been still further improvement, but he doubted whether the mortality-rate had yet fallen as low as twenty-two per cent. as stated by Dr. Wiggan. Probably few of us would be able to save more than one child in three in view of the late hour at which we were usually called to the case. He thought the improvement noted was due to operating at an earlier period more than to any improvement in operative technique during the past few years, for abdominal surgery had now been at a high standard for some time. Dr. Wiggan's comparison of the cases to those of hernia was a just one, the lighter or reducible cases being likened to cases of reducible hernia, the worst

cases to those of strangulated hernia. The general practitioner should not be refused the privilege of early reducing a hernia, but in doing so he should remember that he was dealing with a surgical case. In intussusception, as in appendicitis, the physician and surgeon should come together as early as possible, for if the surgeon were permitted to see the case in the beginning he would be able to form a better judgment as to an operation. It might be possible at the beginning to determine whether the case were reducible or irreducible. Where there was acute collapse, there should be no delay in operating. On the other hand, if the case developed slowly, rectal injections might be tried.

Regarding relapses, even operative interference did not insure against this, for a number of cases were on record where relapse had occurred after laparotomy, in some within a few hours. Hence Dr. Senn had suggested stitching the folds of the mesentery together in such a way as to prevent intussusception of this portion of the bowel. Dr. Curtis thought that if injections would succeed at all, they would succeed early. If they had to be repeated, it was an indication for operation. He thought a fountain syringe ought to be used, and with an elevation of water of not more than three feet, which was two feet less than what he had formerly thought was permissible.

The operation should be done as speedily as possible. A large opening was not necessary. One sufficient to admit two fingers, or three at most, would enable the operator to make reduction within the abdominal cavity. All unnecessary interference should be avoided. He would advise against resection, especially that by use of suture.

Intussusception Becoming Less Fatal.—Dr. J. LEWIS SMITH thought that during the past twelve years intestinal intussusception had become less fatal than formerly. Twenty-five years ago it was unusual to be called to a case which had not been rendered worse by administration of purgatives at the hands of the parents and physician. He mentioned a case in which a distinguished physician had given half an ounce of quicksilver to a child with a foot of the bowel protruding from the anus.

An early diagnosis was extremely important and could usually be made. One ought to be able to differentiate between dysentery and intussusception within two days at most. In intussusception, after a few hours there was no discharge of fecal matter, but of mucus and blood, with tenesmus. Earlier diagnosis and omission of purgatives would account for the diminished mortality in the last few years. For distention, water was to be preferred to gases. Where peritonitis had spread from the region of the tumor, operation offered little hope.

Does Colicky Pain Mean Intussusception?—Dr. RICHARD VAN SANTVOORD remarked that any one who had made many autopsies on infants must know how frequently small invaginations of the intestine were present. It had been the custom to attribute these to the death agony, but on what ground was not plain. Perhaps it was Treves who had suggested that ordinary colicky pains were due to intussusceptions of the small intestine which came and went. While this was difficult to prove, it had the practical bearing that when one met a case of diarrhoea with colic it was desirable to control it.

Dr. WIGGAN closed the discussion. His objection to the use of opium was that if the intussusception had not been entirely reduced it would cover up the symptoms for a number of hours. If it were given in small doses it would, according to Nothnagel, increase the intestinal peristalsis and thus do harm. The cases cited in his paper had shown the importance of early treatment, for the mortality both from enemata and

from laparotomy had been much higher when there had been procrastination beyond the forty-fourth hour. He did not claim to have presented complete statistics. As far as they went they corresponded closely with Dr. Curtis's, and yet they justified the statement, he thought, that the mortality from laparotomy done within two days should not now be more than about twenty-two per cent. The incision should be a small one. He did not think it was common for recurrence to take place after laparotomy. At the time when he treated his case by enemata he thought it was the proper course to pursue, and although it proved successful, he had been convinced by subsequent study of the subject that it was a dangerous method and should give way to laparotomy.

Officers.—The election of officers resulted as follows: *Vice-President*, Egbert H. Grandin; *Trustee*, J. E. Janvrin; *Members of Committee on Library*, vacancy of four years, H. L. Collyer, term of five years, B. F. Curtis; *Member of Committee on Admissions*, R. A. Murray; *Delegates to the State Medical Society*, Gottheil, Parsons, Richardson, Sayre.

SECTION ON PUBLIC HEALTH.

Stated Meeting, January 10, 1896.

HENRY D. CHAPIN, M.D., CHAIRMAN.

Subject: The Milk Supply of New York City.

THE CHAIRMAN remarked, after the reading of the minutes of the previous meeting, at which the subject of tuberculosis in cattle was discussed, that a proper sequel would seem to be the discussion of the milk supply of New York City at the present meeting. During the past ten years much had been done to render milk safe as a food, but the steps taken had consisted chiefly in sterilization and Pasteurization. This was good in its way, but, after all, it was not going to the root of the matter, and he believed the opinion was growing in the profession that if we could get good pure milk, and could be assured of its cleanliness and purity, it would not be necessary either to sterilize or Pasteurize, for superheating certainly had disadvantages.

The Present Status of the Milk Supply of New York City.—DR. GEORGE B. FOWLER, health commissioner, spoke upon the milk supply of New York City from a statistical standpoint. One set of charts showed the average receipts of milk from different States, counties, by what railroads delivered, etc. Including milk, cream, and condensed milk, the daily receipts were at least 766,560 quarts. Seventy-eight per cent. of this amount came from New York State, a significant fact as bearing upon the question of legislation, for if the State Board of Health should take steps looking to the supervision of the milk supply from this State it would lead neighboring States to do the same in order not to lose the market. The milk supply came from about 100,000 cows, and he supposed about 90,000 of them were in New York State. The State Board of Health had been allowed only \$20,000 for the payment of salaries and to compensate the owners of cattle killed on account of tuberculosis and of horses killed because of glanders. They had only five inspectors. One could readily see how impossible it was for these to cover the State and how imperfectly the work must be done. The Board should have \$400,000, and should have perfect supervision of all milk coming to New York City. There should be certified milk—certified that the cows from which it had come had been properly tested and were free from tuberculosis. It was proposed to try to obtain such legislation.

The city of New York under the supervision of the

chemical department, or department for foods, was divided into six districts. A chart showed the number of venders of milk in these districts, their business, and the number of quarts which they sold daily. For instance, in one district there were 413 grocers who sold milk, and the whole number of grocers in the city who sold milk was 4,737, while the whole number of whatever business who sold this food product was 6,579, or about 1,000 less than those who sold gin. Another schedule showed that the number of specimens of milk examined during the past year was 99,086, citizens' complaints investigated 166, quarts adulterated destroyed 2,677, arrests 408, trials 364, fines \$12,260, days in jail 87.

The amount of milk from the different counties in the State was not in proportion to their distance from the city, although Orange County furnished the most, 3,000 quarts; many of the counties in almost the extreme west furnished a large quantity, being encouraged by the railroads, which charged the same price for transportation, regardless of distance.

Methods for the Prevention of Sale of Adulterated Milk.—DR. EDWARD W. MARTIN and DR. ERNEST J. LEDERLE, of the Health Department, spoke upon this subject.

Dr. Martin said the city was divided into six districts, and each inspector was supplied with such instruments as a lactometer, thermometer, etc., and with a blank book for recording the date, hour, street, number, business of the dealer, amount of milk examined, its temperature, appearance, etc. If he thought it was watered or adulterated in any way he took a sample, sealed it, and gave a like sample to the dealer, who, if he wished, could have an independent chemical analysis made of it. His own sample was sent to the analytical department, where also a careful record was kept of all the facts connected with the analysis. If there were sufficient facts to justify arrest, a warrant was taken out and the dealer was tried in court and fined. The amount of fines the past year had been over \$12,000. A record was also kept of each dealer. An unusual case was that of one who sold 800 quarts of milk a day, had been fined six times in amount from \$100 to \$250, and still continued in business. The usual form of adulteration was the addition of water or skimming the milk; less frequently some antiseptic, like borax, was added. The inspections were carried on continuously, over 75,000 having been made during the past year of milk at depots, on wagons, in stores, etc.

Method of Chemical Analysis.—Dr. Lederle said chemical analysis of milk was most delicate work, and must be done by a trained analytical chemist. Every step must be watched and noted. The first thing was to see that an average sample was taken. For this purpose the milk must not be acid, else there would be more or less separation of casein; it must not be churned, yet the cream must be fairly incorporated, which was effected by a dozen reversions of the bottle without violent action. Five cubic centimetres were taken up in a pipette and allowed to run into a small flat dish of lead and tin or of platinum, the platinum dish being used when it was intended to test for ash, which required the application of heat. In testing for cream and solids, the dish was placed on a water bath and after evaporation the residue represented the total solids. Of course the weight of the dish, of the milk, and of the difference after evaporation was carefully ascertained. The solids consisted of two parts, fat and solids not fat, such as casein, albumin, milk sugar, and salts. After the water bath came the air bath, temperature not below 100° F. nor above 105° F. In New York the law called for total solids 12 per cent., but it should be higher, as required by some States. At this season of the year it should be 12.5 or 13 per

cent. If it were now desired to determine the amount of ash, the solids just obtained were subjected to a low red heat. The average amount should be 0.75 per cent., rarely falling below 0.7 or rising above 0.8. The addition of water would reduce the proportion of salts, the addition of solids would increase it. The latter was especially true if carbonates were added. If they found increased amount of salts and on adding a strong acid the milk effervesced it showed adulteration by addition of carbonates, for these were not natural to milk.

The test for fats was a delicate one, and was carried out by placing the milk, absorbed in a piece of blotting paper, over boiling ether, all, including siphon, enclosed in a glass apparatus. The vapor of ether dissolved and extracted the fat. The percentage of butter fat required by the law of this city was only 3 per cent.; it should be 3.5 or 4 per cent. The fact that the standard was so low was an inducement to adulteration.

Value of the Lactometer.—This instrument was a form of hygrometer, intended to test the specific gravity of milk as compared with that of water—water represented by 100, milk should not fall below 102; if it fell to 90 it indicated 10 parts water, if to 75 it indicated 25 parts water. A fair sample must be obtained, and the lactometer must not be dropped into it, but allowed to gently settle until it floated. Removal of cream increased the specific gravity; addition of water decreased the specific gravity. For this reason the instrument had been severely criticised, but there was not the least necessity for being deceived by these facts. If cream were taken away, thereby increasing the specific gravity, less fat would adhere to the instrument, which would come away cleaner, without the white color of normal milk. If, further, water were added to raise the specific gravity, these points would become more striking, so that no tyro would hesitate in saying the milk was adulterated. In using the lactometer one was not required to shut out his senses and judgment.

The lactoscope was used for estimating the amount of butter fat contained in the milk, being constructed on the principle that pure milk was less transparent than watered milk. Then came an optical test, watered milk looking blue, rich milk looking white.

The Centrifugal Machine.—A most important instrument for rapid measurement of the fat of milk was the centrifugal machine, the health office making use of a Danish model, while that most employed in this country was the Babcock. By the one shown twenty samples could be tested at once, and only about ten minutes' running of the machine was required. It was a much quicker test than the analytical, was sufficiently accurate, and was accepted in the courts of some States, but as yet not in New York.

The Significance of Micro-Organisms in Milk.—DR. ROWLAND G. FREEMAN read a brief paper bearing this title. Sterile milk could be obtained from the healthy udder by the introduction of a sterile catheter. Bacteriological examination of milk furnished this city showed it teeming with micro-organisms, numbering from hundreds of thousands to millions to the cubic centimetre. They could be classed as pathogenic and as non-pathogenic. The non-pathogenic, however, had a deleterious influence in hastening fermentation and perhaps in producing diarrhoeal and other troubles. They got into the milk from the hair of the cow, the udder, the hands of the milkman, the dust about stables, from unclean pails. In other words, the reason why our city milk contained so many germs was that it came from dirty cows, kept in dirty barns, milked by dirty men, the milk transported in dirty vessels, churned for hours or days by the motion of cars and wagons, during which time the

germs multiplied. When the milk was drawn by a clean method, cooled rapidly, and delivered within twelve hours, it usually contained only one hundred thousand bacteria, contrasted with millions in the other case.

The same methods which favored contamination with non-pathogenic bacteria acted in the case of the pathogenic variety. Besides, the tubercle bacillus was apt to be contained in the milk independent of contamination, if the cow were tubercular. Many epidemics of typhoid fever, diphtheria, foot-and-mouth disease, etc., had taken place through milk, although positive proof was difficult to obtain because the sample for examination was usually taken after the infection and not at the time.

That which most concerned us this evening was transmission of tuberculosis through milk. It had been estimated that seventy per cent. of all the cattle in the State were tubercular, and recent research, he said, went to show that the milk of tubercular cattle, even when the udder was not known to be diseased, contained tubercle bacilli. Unless present in large numbers it was difficult to find them. Positive results could not be obtained by inoculation until after a month. The tuberculin test showed infection of cows which appeared healthy on physical examination. He thought tuberculin might now be made use of in this State, properly regulated by law, to obtain a safe supply of milk.

The Results of Certifying Milk.—DR. HENRY M. COIT, of Newark, spoke of a plan of obtaining certified milk, carried out by Newark physicians, and of its practical results. He had first tried to obtain a better supply of milk for his State by appealing to the State Medical Society, the State Board of Health, and Commissioners of Agriculture for their influence on legislation. Receiving only discouragement, he formulated a plan which provided for a contract between a committee of physicians and a responsible dairyman whereby a limited supply of milk could be furnished a limited area. The physicians were to have no financial interest in the undertaking, while the dairyman was required to carry out the instructions of three or four experts relating to cleanliness, food, etc., and to certifying the milk. Financially, for the dairyman the scheme had been a success; for two years ago he was turning out only 600 quarts of uncertified milk a day, while at present he was selling to the patrons of these physicians over 2,000 quarts of certified milk daily. Moreover, it had led to raising the standard of the general supply of milk of Newark. Scientifically the results had not yet been sufficiently determined, but in the diarrhoea of infants there had been improvement, something had been determined with relation to the constituents of the milk and the chemistry of the food, and the number of bacteria in the milk had been reduced from over one hundred thousand to the cubic centimetre, the number for a fair milk supply, to a few hundred on special occasions, and to a comparatively small number constantly.

This method of certified milk was being duplicated in Buffalo, and was likely to be copied in other cities. It was highly promising.

The Bacillus Coli Communis in the Mouth.—At a recent meeting of the Therapeutical Society of Paris, Dr. Gembert gave the results of a number of bacterioscopic examinations of the mouth. In 60 healthy persons examined, the bacillus coli was found in the mouth in 27 instances, that is to say, 45 per cent. The tonsils appear to be the chief locality in which the bacilli are to be found. In 36 investigations made for the purpose of determining this point, in no less than 19 cases the bacillus was detected, or 52.7 per cent.

Progress of Medical Science.

Pilocarpine as a Prophylactic in Diphtheria.—Some ten years ago the use of pilocarpine was advocated by a number of more or less enthusiastic observers as a curative agent in diphtheria. But the vaunted specific effects of this drug were not sustained by the general verdict of the profession. A Hungarian physician, Dr. Sziklai, has again taken up the jaborandi alkaloid, and on the strength of his observations recommends it in the *Wiener Medizinische Presse* as an efficient prophylactic in true diphtheria, as well as in pseudo-diphtheritic affections and croup. He urges the employment of pilocarpine more particularly in families where one case of diphtheria has already appeared, and he evidently prefers its use to that of antitoxin. He believes that pilocarpine may actually prevent the formation of false membranes. As a safe prophylactic he advises a one-per-cent. solution to be given in ten-drop doses three times a day. For infants less than one year old, half this quantity is sufficient. Dr. Sziklai has never observed any untoward effects from pilocarpine, and believes its use in diphtheria will yet come to be regarded in the same way that quinine is looked upon in malaria.

Nitrite of Amyl in Pneumonia.—Dr. Hayem recently read a paper upon the use of nitrite of amyl in pneumonia. He says this drug can be given in much larger doses than is usually believed, for he has more than once given from fifty to one hundred drops to be inhaled at once, without meeting with any dangerous symptoms. The following is his method of exhibiting the remedy in pneumonia (*Medical Press*): Fifteen drops were poured on a compress and inhaled in the recumbent position without effort; a few seconds afterward the same dose was renewed, and yet fifteen drops more, so that in the space of five minutes about fifty drops were inhaled. The effects produced are those of nitrite of amyl: redness of the face, acceleration of the pulse, precipitation of the respiratory movements. These phenomena soon give place to a slight cough, a thready pulse, dyspnoea, lividity of the face, and cyanosis of the extremities and of the lips. In ordinary cases only one series of inhalations was given daily, while two (morning and evening) were ordered where the symptoms were grave. It did not appear to M. Hayem that the treatment had any marked effect on the duration of the malady, or on the thermic cycle; the effects seemed to have been entirely local, consisting in a decrease of the dyspnoea, a modification of the expectoration, and in an attenuation of the stethoscopic signs. The nitrite of amyl did not destroy the virulence of the pneumococci; its chief influence was on the pulmonary circulation, producing a strong flux which facilitated the return of the blood into the alveolus and hastening the absorption of the exudation. During the last two years the speaker treated seventy-seven cases of pneumonia, with sixteen deaths, by inhalations of the nitrite. Several of the fatal cases occurred in hard drinkers.—*Jour. des Praticiens*, 1895, p. 254.

Living Tissues Cannot be Disinfected.—Dr. Haenel asserts as the result of experimental researches that it is not possible to disinfect living tissues by chemicals. He thinks the best way to treat infected wounds is by free drainage and open dressings. His experiments were conducted on forty-four guinea-pigs. The wounds entered the muscular tissues and were infected by tampons containing a virulent fluid, having in it both streptococci and staphylococci. The tampons remained in for times varying from four to eighteen hours. The wounds were then washed out and dressed

with solutions of either three-per-cent. carbolic acid or six-per-cent. of sodium chloride, and were then dressed with tampons and moist gauze dressings soaked in the respective solutions. Six cases were dressed with aseptic dressings without tampons. Under conditions as similar as possible no distinction was found between the course of healing, whether carbolic acid or sodium chloride had been employed in the solutions. If the virulence was marked, the animals died of acute infection.—*Deutsche Medicinische Wochenschrift*.

The Radical Cure of Hernia in Children.—Dr. Broca, of Paris, has performed the radical operation for the relief of hernia in children under fifteen years of age in 450 cases. Only one death occurred in this series of operations, and this was due to septic peritonitis. Of the total number of cases reported, 14 were umbilical hernias. The others were inguinal hernias, 41 in girls and 395 in boys. Dr. Broca urges that, whenever possible, the operation should not be performed until the infant has been weaned. But operations for strangulated hernia have been successfully done on infants a few days to several weeks old. The technique of the operation is the same as in adults. The time needed for its performance is generally only about ten minutes.—*Lyon Medical*.

Stone in the Bladder and Pregnancy.—A case of large vesical calculus complicating pregnancy has been observed by Dr. Rosenfeld. The woman, aged twenty-seven, was four months pregnant. She had retention of urine and was complaining of severe pain in the bladder. A large stone was found obstructing the urethra. Trendelenburg's operation was promptly performed. It was found that the stone was so bulky that the incision had to be prolonged down to the neck of the bladder. There was free hemorrhage. Abortion took place two days after the operation, and the patient died of complicating pneumonia. At the autopsy peritonitis was not found, but the woman had pyohydronephrosis.—*Münchener Medicinische Wochenschrift*.

False Lupus in the Nasal Cavity.—Dr. Simonin has recently made an elaborate study of so-called lupus pseudopolypus. His conclusions may be briefly summarized as follows: The pathological condition generally described as lupus pseudopolypus is not a true variety of lupus, but a rare form of tuberculosis. The virulence of this form of tuberculosis is, however, less pronounced than that of any other variety. The proper treatment for this affection is purely surgical. The growths are to be removed by the wire snare or curette, followed by cauterization.—*Deutsche Medizinische Zeitung*, December 23, 1895.

Melancholia Following an Attack of Cholera.—That cholera may result in various psychoses is a well-established fact. A Russian physician has recently observed a case of pronounced melancholia in a young man, aged nineteen, who had just recovered from a moderately severe attack of cholera. The patient had to be sent to an insane asylum, where appropriate treatment resulted in complete recovery in less than five months.—*Deutsche Medizinische Zeitung*, December 23, 1895.

Unilateral Weeping in Facial Paralysis.—A case of this kind has been recently observed by Dr. Francke, of Greifswald. It proved conclusively that the facial nerve is the secretory nerve of the lacrymal gland. If, as in the case recorded, the secretion of tears is entirely suppressed, the seat of the lesion must be central and near the ganglion geniculi. On the other hand, if lacrymation is not interfered with, the lesion is sure to be peripheral.—*Schmidt's Jahrbücher*, December 15, 1895.

Pyogenic Action of the Gonococcus.—After a catheterization in a man with gonorrhœa a chill was followed by four intramuscular abscesses situated near the shoulder-joint, popliteal space, inner aspect of leg, and above the malleolus. Culture of the evacuated pus upon serum-agar showed a pure growth of gonococci.—BUJWID, *Centralb. f. Bakt. und Parasit.*, vol. xviii., No. 15.

Aural Vertigo.—Relief was afforded by the subcutaneous injection of pilocarpine nitrate in one-per-cent. solution, the equivalent of grain $\frac{1}{4}$ being administered before breakfast, the patient remaining abed till the sweating had ceased.—LEMAIREY, *Ann. des Mal. de l'Oreille, etc.*, vol. xx., No. 11.

Sexual Tuberculosis.—Primary tuberculosis of the genital organs in both sexes is indisputable, and the presence of bacilli in the genital secretions is possible, so that infection may take place if they come into contact with the mucous membrane of the genital tract. Tuberculous foci in the genital tract of tuberculous individuals are rare, and as infection probably takes place only when such foci exist, it must be of uncommon occurrence, though it may exist without symptoms for a long time. Investigation has shown that transmission in sexual intercourse is possible even in the absence of genital tuberculosis.—DOBROKLOUSKI, *Rev. de Tuberc.*, 1895.

Actinomycosis.—This disease differs in man and animals. In the former the lesions are associated with suppuration; in the latter there are small hard tumors resembling sarcoma. The micro-organism in each case is identical. In man the lesions are most frequent upon the neck in the form of an abscess containing yellow granules (the parasite). This has resulted from a round-celled growth provoked by the parasite, some of the cells having undergone degenerative changes. The tendency is toward the surface, but the deeper tissues are also invaded. The growth in the lungs is either peribronchial or intrapulmonary, and varies in size from a millet seed up to a cherry or even an apple. In the alimentary canal, if superficial, the parasite invades Lieberkühn's glands, forming plaques; if deeper, the results of its penetration may simulate appendicitis. It often begins behind the angle of the jaw in the neighborhood of a carious tooth, forming indurations and subsequent fistulæ. In the apex of the lung it may pass for tuberculosis. The chest wall may be invaded.—CHOUX, *Archives Générales de Médecine*.

Complications of Soft Chancre.—Balzer mentions two varieties of gangrene. The first is a reddish, ecchymotic phlegmonous gangrene; the second a blackish form. In the first, the pyogenic organism is present; in the other form, the septic vibrio of Pasteur is found. In this latter form, the disease spreads rapidly; general symptoms are marked, so much so that the patient seems to be in typhoid state. Fournier has made mention of another form of gangrene as the fulminating form. One cannot always find the point of departure of the lesion. Finding the gangrenous condition, it is best to incise the prepuce. If the sheath be found gangrenous, scarify it in many places. Then apply antiseptic dressings. Balzer speaks of phagedæna, complicating the soft chancre, as being itself a large, soft chancre, which has arisen from improper care and developing in patients who present favorable conditions for growth, as the alcoholic, cachectic, etc. Symptoms are the same as are those of soft chancre, except they are more intense. The extension is usually on the surface and serpiginously rather than deeply into the tissues. It is slow in progress, with improvements and relapses at times. Cachexia develops, and patient

is depressed. Treatment should be tenacious and unceasing. Balzer mentions cold baths, cauterization with chloride of zinc, with crystals of carbolic acid, iodoform, aristol, etc. Fresh air, good food, and hygienic surroundings are of great importance. Bubo, which is so frequent a complication, may be caused by pyogenic microbes or by the microbes of the soft chancre. Diagnosis is to be made from the ordinary adenitis by the appearance of the pus. In the syphilitic lesion, the pus is usually phlegmonous, thick, and the bacillus of Ducret may be found. Pus that is creamy and serous is more often non-specific. The treatment in these cases is rest, cold applications, tincture of iodine, mercurial ointment, antiseptic injections into the bubo, as of nitrate of silver. The bubo may be excised, the surfaces curetted, and then deep sutures taken.—*Journal des Maladies Cut. et Syph.*, 1895, p. 405.

Poisoning Due to Applications of Bismuth Subnitrate.—M. Gaucher and M. Baki, at a recent meeting of the Société des Hôpitaux, gave an account of several cases of poisoning manifested by a stomatitis and a streak on the gums analogous to that of plumbism; also manifested by slate-colored patches resembling tattooing on inner surface of the cheeks, on the tongue, and on the gums. Also present were symptoms of more or less acute stomatitis with swelling of the buccal mucous membrane.—*Gazette Médicale de Paris*, December 7, 1895.

Pylephlebitis and Abscess of the Liver Consecutive to Typhoid Fever.—Lannois reports such a case, pus from both associated changes showing the bacilli of Eberth. From a pathologic point of view three varieties of abscess are to be recognized: (1) Metastatic, the abscess originating from a focus of suppuration in some distant part of the body, especially in the subcutaneous tissue; (2) from typhoid ulceration of the biliary passages; (3) in consequence of pylephlebitis, secondary to the intestinal lesion.—*Revue de Médecine*, 1895, No. 11.

Treatment of Chronic Urethritis.—J. Janet goes into detail in his article and holds that it is of the greatest importance, before resorting to any instrumentation, to observe the following: 1. To search for the presence of gonococci, to locate their habitat, then to suppress the gonococcus completely. We must rid the urethra of the gonococcus if we wish to avoid accidents not infrequently set up by instrumentation, as an epididymitis. This is comparatively easy by means of large irrigations of entire urethra with warm solutions of permanganate of potash, preceded by massage of prostate and urethra to empty the follicles. Fistulous tracts are to be opened and scraped. Irrigations should be continued ten or twelve days, when search should be made for the gonococcus. 2. To suppress so far as possible the secondary infections, other microbic invasions, which are often engrafted on an old gonorrhœa, and continue after the gonococci have disappeared; then to take measures that these do not return, or are kept down. To suppress the secondary infections is often difficult, because they are not easily reached by the irrigations. The method for this is to use irrigations of bichloride of mercury, 1 to 20,000, for entire urethra and bladder, then instillations of silver nitrate and copper sulphate. The bichloride of mercury may be used in conjunction with the permanganate of potash. 3. After this the urethra or bladder symptoms may be treated according to the lesions left behind and the means appropriate to them. Treat the urethral lesions by endoscope, sounds, massage of urethra and prostate, etc.—*Ann. des Mal. des Org. Gén.-Urin.*, 1895, p. 481.

Correspondence.

OUR PHILADELPHIA LETTER.

(From our Special Correspondent.)

THE AMERICAN PSYCHOLOGICAL ASSOCIATION—ASSOCIATION OF AMERICAN ANATOMISTS—VITAL STATISTICS OF PHILADELPHIA—FUNCTIONS OF THE NEURON—ELECTION OF OFFICERS OF COLLEGE OF PHYSICIANS—IRVING BENEFIT FOR JEFFERSON MATERNITY HOSPITAL—ASSOCIATION FOR THE EMPLOYMENT OF THE INSANE—ELECTION OF OFFICERS OF AMERICAN PHILOSOPHICAL SOCIETY.

THE several visiting scientific bodies brought their sessions to a successful close on Saturday, December 28th.

At the concluding session of the American Psychological Association a discussion on the subject of "Consciousness and Evolution" was participated in by Professors William James, E. D. Cope, J. M. Baldwin of Princeton, C. S. Minot of Harvard, G. T. Ladd of Yale, G. S. Fullerton of the University of Pennsylvania, J. H. Hyslop of Columbia, and Drs. D. S. Miller of Bryn Mawr, and Wesley Mills of McGill. Prof. W. R. Newbold reported "A Case of Dream-reasoning."

Before the Association of American Anatomists Dr. B. G. Wilder, of Cornell, described the "Cerebral Fissures of Two Philosophers." One of the brains was that of Chauncey Wright, of Cambridge, and the other that of James Edward Oliver, of Cornell. The following officers were elected for the ensuing year: *President*, Dr. Frank Baker, of Washington, D. C.; *First Vice-President*, Dr. B. G. Wilder, of Ithaca, N. Y.; *Second Vice-President*, Dr. F. J. Shepherd, of Montreal, Canada; *Secretary and Treasurer*, Dr. D. S. Lamb, of Washington D. C.; *Delegate to Congress of American Physicians and Surgeons*, Dr. Addinell Hewson, Philadelphia; *Alternate*, Dr. D. K. Shute, of Washington, D. C.; *Executive Committee*, Dr. A. S. Bevan, Chicago; Dr. Theodore N. Gill, of Washington, D. C.; Dr. George S. Huntington, of New York City, and the President and Secretary, *ex-officio*.

For the week ending December 29, 1895, the total number of deaths in Philadelphia was 445, a decrease of 29 as compared with the previous week. Of the whole number 159 occurred in children under the age of five years. One-third of the mortality was due to affections of the throat and lungs. There were reported 90 cases of diphtheria and 15 deaths, 25 of scarlet fever and 2 deaths, and 39 of typhoid fever and 4 deaths. For the year the total number of deaths was 23,797, as compared with 22,680 during 1894. Of the whole number 5,487 occurred in children under the age of one year; 1,411 between one and two years; 1,503 between two and five years. The largest number of deaths were attributed to "inflammation of the lungs" (2,582); and the next largest to "consumption of the lungs" (2,449). After these came disease of the heart (1,424), cholera infantum (1,126), marasmus (1,031), diphtheria (1,020).

The Board of Health has adopted a resolution directing that all midwives, nurses, and others having the care of new-born infants be required to report cases of sore eyes within six hours after discovery, according to the law "for the prevention of blindness." The Clerk of the Bureau of Health will keep a record of all cases reported, and will send to every nurse reporting a case circulars giving directions for the treatment of infants' eyes.

Dr. Samuel G. Dixon has been elected President of the Academy of Natural Sciences, Dr. Edward J. Nolan, Recording Secretary, and Dr. Benjamin Sharp, Corresponding Secretary.

At the stated meeting of the College of Physicians on January 1st, Dr. F. X. Dercum read a paper "On the Functions of the Neuron, with Especial Reference to the Phenomena Presented by Hysteria," in which he contended that the neuron (including the cell-body and its processes) has functions other than a merely trophic one, and that it has the property of mobility, which is manifested in accordance with its state of functional activity and fatigue and its nutritive condition. To derangements of the normal relation of the several parts of the neuron with other portions of the nervous system, it was argued, are to be attributed various morbid states and conditions. The annual election resulted in renewed choice by the college of Drs. J. M. DaCosta and John Ashhurst, Jr., as President and Vice-President respectively. Dr. Thomas R. Neilson was elected Secretary; Dr. C. W. Dulles, who had served in this capacity so efficiently for six years and declining to serve again, was, together with Dr. F. A. Packard, elected to Council. Dr. William Hunt retired from the Board of Censors and from the Committee on Müller Museum, his place on the former being taken by Dr. A. V. Meigs and on the latter by Dr. George B. McClellan. Otherwise there were no changes in the elective positions. Dr. P. S. Donnellan and Dr. Henry Toulmin were elected to Fellowship, and Dr. Ernst Leyden of Berlin, and Sir T. Grainger Stewart of Edinburgh, to Associate Fellowship.

Dr. George Dock, Professor of the Practice of Medicine and of Pathology in the University of Michigan, has been elected Professor of Pathology and Bacteriology in Jefferson Medical College. Professor Dock is a graduate of the University of Pennsylvania, and was formerly Professor of Pathology in the University of Texas.

At a recent theatrical performance given by Sir Henry Irving and Miss Ellen Terry and their company for the benefit of the Jefferson Maternity Hospital more than \$3,000 was realized.

It is announced that of 76 applicants for licence to practise medicine in Pennsylvania, examined by the State Board a short time ago, 22 failed to make the required average and were refused the license.

Application is about to be made for articles of incorporation for an "Association for the Employment of the Insane," which was organized several years ago by a number of charitable women who undertook to relieve the monotony of life experienced by the insane women at the Philadelphia Hospital by giving them needlework to do.

Dr. Leonard Pearson has been appointed by the Governor State Veterinarian at an annual salary of \$2,500.

At the annual election of the American Philosophical Society held January 3d, Dr. William Pepper was elected one of the Vice-Presidents, Dr. J. Cheston Morris one of the Curators, and Drs. Charles S. Wurts and Henry Hartshorne Councillors for three years.

THE GROWTH OF TUBERCLE BACILLI IN ACID MEDIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 21, 1895, appeared an article on the "Chemical and Experimental Research in Antiphthisin" (Klebs), by Drs. Trudeau and Baldwin.

The principal deduction drawn from their experiments is the following: "Since cultures of the tubercle bacillus become acid as they grow, and, furthermore, since the addition without heat of a little alkali to a filtered culture medium, upon which bacilli have ceased to grow, renders it again fit for the development of a

second crop of germs so long as any nutriment remains, it may be inferred that the limitation of the growth of the tubercle bacillus in such a culture medium is most likely due to the acidity induced in the medium, rather than to any specific germicidal substance produced therein."

According to the recent researches of Sander, confirmed by Lubinsky, in an article on "The Methods of Cultivation, Biology, and Morphology of the Tubercle Bacillus,"¹ this deduction of Drs. Trudeau and Baldwin is entirely erroneous. It is contrary to the accepted view to assert that the tubercle bacillus requires for its growth a slightly alkaline, or at least a neutral, medium. Lubinsky verifies the observation of Sander, who states that an acid reaction does not in the least interfere with the growth of this organism.

The tubercle bacillus grows upon non-neutralized potato-meat-pepto media (bouillon and agar) the acid reaction of which is caused by the acidity of the potato and meat, just as well as upon the same media possessing a weakly alkaline reaction; and the bacillus of aviary tuberculosis alone is exempt from growth upon acid media.

Among other enumerated characteristics of this acid medium is that the virulence of the cultures is reduced to one-half the strength of the ordinary tuberculosis cultures; as is proved by guinea-pigs dying in forty to forty-two days after intra-peritoneal inoculation.

JOSEPH MUIR, M.D.

34 WEST THIRTY-THIRD STREET,
NEW YORK, December 30, 1895.

A CHEMICAL AND EXPERIMENTAL RESEARCH ON ANTIPHTHISIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: From a paper by Drs. Trudeau and Baldwin, purporting to be "A Chemical and Experimental Research on Antiphthisin (Klebs)," and published in the MEDICAL RECORD on December 21, 1895, it appears that these gentlemen have attempted to produce "antiphthisin," a substance which I have separated from the mature tubercle culture, and having obtained something which they believed identical with my product, they proceeded further to control my experimental work, as recorded in my book, "Die causale Behandlung der Tuberculose," by the use of their own product.

While the undertaking is commendable, I regret that they apparently failed in both directions, which may be readily accounted for by the facts to be presently stated, most important among which is that they did not strictly follow my methods, a condition which every fair-minded person must concede to be absolutely essential.

Their failure may, in the first place, depend upon their cultures, and next upon the various steps in their treatment of the culture fluid. I may here only point out that in my labors upon the self-limitation of tubercle cultures, I have shown that when the culture fluid is prepared so that it affords the best conditions for the growth of tubercle bacilli, it remains alkaline, and that the culture eventually ceases to grow and dies out, while the culture fluid is still alkaline and before its nutrient substances are exhausted. Only such have I considered as fully mature, and only such have been used by me for the production of antiphthisin. The investigations made by me at that time showed my matured cultures to have invariably preserved an alkaline reaction, and, in connection with the statements in the paper referred to, I have again examined a number of matured cultures, some of them planted two and three months ago, and they are alkaline in reaction.

¹ Cent. f. Bakt. u. Parasit., 1895, xviii., Nos. 4, 5, p. 125.

We know, indeed, that tubercle bacilli can also be made to grow upon neutral or acid media, and in this Drs. Trudeau and Baldwin have evidently succeeded, but they have also shown that acid cultures are probably unsuitable for the production of antiphthisin.

A further proof of the shortcomings of their efforts, whether due to the use of immature acid cultures or to faulty chemistry, appears from their statement that they were able to precipitate all albuminoid substances from the culture fluid with sodic iodide of bismuth. If their culture fluid contained the substance which I have described, its precipitation could not have occurred, unless under the grossest errors, which I will not presume to have been committed.

In this connection one may think of mechanical precipitation, since NaBiI₄ in acid solution is, of course, precipitated when added to water, and E. Brücke availed himself of a similar method, by using cholesterol dissolved in chloroform, for carrying down pepsin.

Repeated precipitation of antiphthisin with alcohol from a watery solution must of necessity diminish each time the quantity recovered, since antiphthisin is freely soluble in water, and according to the degree of percentage of absolute alcohol, more or less antiphthisin must remain in the filtrate, and is therefore lost.

In the past two or three years I have so frequently had occasion to make this precipitation that it seemed gratuitous labor to repeat it; it was done nevertheless, with the expected result, that antiphthisin was obtained from the filtrate as usual.

Drs. Trudeau and Baldwin state, however, that their finished product responded to the biuret test, giving a distinct rose color, which reaction constitutes a further proof that they did not produce antiphthisin, or at least not in a pure form, since my product gives no such reaction.

I believe I have made it plain enough that the experimenters have not produced antiphthisin, and it is therefore useless to examine their causes for failure in the animal experiment. In reference thereto I wish, however, to observe that they seem equally faulty.

In their attempt to repeat my experiment for destroying the tubercle bacillus, or its virulence, in vitro, the experiment was not made as described and practised by me. My procedure consisted in treating tubercle bacilli with one hundred per cent. tuberculocidin, plus two per cent. erethin, for six days before infecting the animals therewith; whereas Drs. Trudeau and Baldwin used their own product, of, to say the least, doubtful quality; they left out the erethin, and infected animals after it had been standing for only six hours!

In regard to the employment of their product, or of my own, for its therapeutic value in experimental tuberculosis, I may also point out what I expect to show more fully in a forthcoming report on this subject, that the obtaining of success in this direction is not so simple a problem that, regardless of the degree of infection or of most painstaking clinical observation and watchfulness, we have only to inject increasing quantities of the remedy every "two or three days," and then obtain a cure! The experimenters seem to have overlooked, or failed to fully appreciate, that my infections were different from theirs, inasmuch as I purposely used tubercular tissue from animals previously treated, but in which I had accomplished appreciable and demonstrable favorable results.

Under all circumstances the cure of a guinea-pig offers as great difficulties as does the successful treatment of tuberculosis in man, and much will depend upon the good-will and painstaking efforts or otherwise of the experimenter as to what the final results shall be.

The death of the animal, however, does not necessarily prove that no curative influence has been obtained, even if gross tubercular lesions are present. To show such an influence, or to show the contrary, requires most painstaking pathological and histological studies of the tubercular lesions which are found.

That the infections in the present experiments were highly virulent and severe, appears from the rapidly fatal course of the disease in the animals treated. With the use of an indifferent product of antiphthisin, administered every two or three days in increasing doses, the fatal result was probably an inevitable fact before any curative influence could be exerted, and the fatal results probably would only have been delayed, even if a product identical with my own had been applied in the same manner.

EDWIN KLEBS, M.D.

ASHEVILLE, N. C., December 30, 1895.

ANTIPHTHISIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The recently published paper of Dr. Trudeau on his experimental research with the view of eliciting the chemistry of the bacterial products in tuberculosis, and more particularly to show that "antiphthisin" is a diluted tuberculin which has no influence upon experimental tuberculosis, leads me to present my views on the subject, not as an expert chemist or bacteriologist, but as a practitioner who has seen much of the use of tuberculin in the treatment of human tuberculosis, and has also for some six months past applied "antiphthisin" with highly satisfactory results.

From a disinterested standpoint, it appears to me that it is as yet unexplained why Dr. Trudeau has not made sure that he really separated antiphthisin from the culture fluid, especially since he could have readily obtained more details from Professor Klebs himself, who is within easy reach of communication.

It is further unexplained why Dr. Trudeau did not apply to Professor Klebs for a specimen of antiphthisin as produced by him, and compare his product with that of Professor Klebs. As I understand it, the process of separation is an exceedingly difficult and delicate one, and each lot of antiphthisin is thoroughly tested upon the infected animal before it is finally accepted as perfect and given out for clinical use.

All who have followed the questions in the chemistry of albuminoids must be impressed with the great difficulties that here present themselves, when a similar substance, a bacterial product, is to be produced and isolated from other substances; and I have reason to know that in the laboratory where "antiphthisin" is now produced in this country, and where the equipment is with special reference to its production, under the immediate charge of Professor Klebs himself, it took from March last until the beginning of October before the first specimen was completed and given out to the profession.

In the animal experiments of Dr. Trudeau, the degree of infection is not shown; that it was a very severe and virulent one would appear from the early death of all the animals, and treatment of such animals every second or third day gave little opportunity for prevention of a fatal issue.

But whatever the results of the animal experiment might have been, they are irrelevant and not admissible for comparison with those obtained by Professor Klebs, simply because Dr. Trudeau did not employ the same product, but one manufactured by himself, which undoubtedly differed materially, if not entirely, from antiphthisin (Klebs).

If Dr. Trudeau did employ a weak solution of tu-

berculin, he failed to obtain the results which Koch produced with tuberculin, and which even Baumgarten had to admit as possible.

The death of the experiment animal is, however, still no proof in itself. The histological changes in the tubercle itself should have been studied and observed.

In conclusion, I refer to the satisfactory clinical results which have been obtained under the use of antiphthisin, as shown by Dennison, Von Ruck, Taylor, Kinney, myself, and others, proving its much greater safety as compared with tuberculin; and that toxic substances have been eliminated must be apparent from the simple fact that we can give doses of antiphthisin a hundred or more times greater than of tuberculin, whereas the amount of organic matter in the two preparations is about as four of tuberculin to one of antiphthisin.

C. P. AMBLEE, M.D.

CANTON, OHIO.

STATISTICS OF TYPHUS-FEVER TREATMENT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the excellent paper on "The Clinical Aspect of the Typhoid-Fever Epidemic at Stamford, Conn.," which appeared in your issue of December 14th, there is much of interest to be noted. The most important statement, however, is the remarkable result of the treatment adopted. Fourteen cases recovered without any treatment whatever, and the others were treated on the expectant antiseptic plan, and by copious libations of water. Despite the severity of the epidemic, as indicated by the large number of hemorrhages, diarrhoeas, tympanites, and hypostatic pneumonias, the mortality was only 6.6 per cent. As this is the smallest mortality on record in a large number of cases reported from private practice not treated by the Brand baths, it would be of interest to the profession and inure to the great benefit of suffering humanity if the treatment were more thoroughly discussed. There is one error in Dr. Pierson's valuable paper, which I desire to point out, viz., the statement that the advocates of the cold-bath treatment claim a mortality of seven per cent. If this were correct, the Stamford treatment would surely deserve universal imitation, inasmuch as the Brand bath treatment is exacting, expensive, and unpleasant.

The Brand bath was introduced into practice in this country by a plea which I had the honor to make for it before the State Medical Society at Albany in February, 1889. Although some of our most eminent clinical teachers were present at that meeting, among them the lamented Loomis and Leaming, not a voice was raised in favor of it. The principal speaker condemned it because "he had seen and heard of several deaths having been produced by it." Being convinced of the life-saving value of this treatment, I have regarded it as a duty to advocate it whenever opportunity presented, with the following result: On my return from Albany Dr. Austin Flint requested me to instruct the house staff of his division in the technique of the Brand bath. It has since that time been practised successfully in this division, and it is now practised in the Roosevelt, New York, St. Luke's, Manhattan, Presbyterian, and in some of the divisions of Bellevue Hospitals; it is taught by Delafield and Peabody in New York, by Pepper and Wilson in Philadelphia, by Osler in Baltimore, and by others. Indeed, the Brand method has more able and earnest advocates in America than in any other part of the world, simply because American physicians are practical and willing to set aside prejudices when they are appealed to by convincing arguments.

Despite the success of my propaganda, I am ready

to abandon this method whenever a less troublesome, less unpleasant, and less expensive treatment should be demonstrated to bring as good or better results. In the interest of fairness, however, I beg to take issue with the author of the article referred to, and to challenge the inference that the best results claimed by the advocates of the bath treatment are seven per cent. The Stamford statistics, excellent and creditable as they are, do not approach the ideal results of the Brand bath method.

Dr. Brand has published 1,293 cases from the following sources: Juergensen (Tuebingen), 217 cases, 1 death; Vogl (Munich), 221 cases, 6 deaths; Military Hospital, Stralsund, 257 cases, 1 death; Military Hospital, Stettin, 186 cases, 3 deaths; Brand private practice, 342 cases, 1 death. Total, 1,223 cases, 12 deaths = 1 per cent.

None of the cases which died had received the bath before the fifth day. They all died from complications which Brand claims as preventable by beginning treatment before. Vogl, the Medical Director of the Munich Military Hospitals, has reported that in the first division, where the strict Brand method was used in 1880, 428 cases were treated, with a mortality of 2.7 per cent. Brand collates twenty-three separate reports from German and French private and hospital practice, consisting of 5,573 cases, with 234 deaths = 3.9 per cent. Dr. Bouveret reports from the Lyons Red Cross Hospital in 1891 100 cases, with a mortality of 3 per cent. In the German Hospital of Philadelphia there were 94 cases treated from February, 1890, to February, 1891, without a death, while the mortality in 271 cases in the other hospitals was 13.29 per cent. Dr. Carl Borning reports, in *The Physician and Surgeon* of December, 1889, sixty-one cases treated, without a death, by the Brand method. Without going into tedious detail, we have here reports from the most varied sources, with a mortality ranging from nothing to 3.9 per cent.

In the light of these excellent and indubitable results, it is not surprising that so acute an observer and so conservative a practitioner as Prof. Wm. Osler, of Johns Hopkins University, last summer told the British Medical Association, in which the cruelty of the Brand method had been brought forward as an objection, that his personal experience has convinced him of its value; and that no matter how cruel the bath treatment may seem, he would continue to use it, because it saves many lives.

In conclusion, permit me to call attention to the importance of following the exact technique laid down by Brand as nearly as possible, and the unfairness of charging failures due to deviations, when the ideal method was not executed. So common is the error of confounding the latter with all sorts of cold bathing that in your issue of December 30, 1893, I was criticised for presuming to claim priority of introducing the Brand bath in typhoid fever in this country, your correspondent claiming in a subsequent letter to me that he had been taught cold bathing in fever twenty years previously by Dr. Loomis, and had been examined upon it on his entrance as an interne to Charity Hospital. And yet Dr. Loomis said, in a discussion on the Brand method, reported in the *MEDICAL RECORD* of March 22, 1890: "If an opportunity occurred to him he would be glad to give the method a thorough trial." Dr. Delafield said, on the same occasion, that "he had no real experience with the Brand method of bathing." That the latter gentleman is now an earnest advocate of this bath is evident from his lectures and his practice. Let me not be understood as casting the slightest criticism upon the Stamford treatment. Its results are simply marvellous. My chief object is to elicit more detailed information by case histories and other details on the exact methods pursued. I desire also

to call attention to the error of charging the strict Brand method with a mortality of seven per cent., and to the fact that failures resulting from all sorts of cold bathing are not chargeable to the Brand method, which has a special technique and rationale. The latter should be thoroughly mastered (as they are taught by Delafield in the Roosevelt Hospital) before practising the method.

STIMON BARUCH, M.D.

51 WEST SEVENTEENTH STREET.

Medical Items.

Cost of Water in Milk.—It is stated that in New Orleans about \$1,000,000 is annually spent for milk. Since one-third of this is composed of water from the mains, the citizens of New Orleans are paying over \$300,000 per annum for the water which is in their milk.

Questionable Modesty.—*Anxious Parent* (exultingly) to *Consultant*—It was you who did it. I knew when we asked for you we would be safe.

Wily Consultant (modestly)—Well, we all do the best we can. Your doctor is a very good man. To tell the truth I was surprised to find that he understood the case so well. You say he changed the treatment at once. Well, I might have been mistaken myself. It's wonderful to see what little things will do.

Experimental Polydactylism.—Dr. Giard (*Soc. de Biologie*, December 7, 1895) has experimentally produced supernumerary toes on a Spanish salamander by placing it in a glass globe half filled with water. In attempts to keep the head above water the toes are gradually worn away. If now aquatic plants are placed in the globe upon which the feet can rest, so that effort is no longer required, and an abundance of food is given, the toes regenerate with surprising rapidity and degree. In one case where there were previously but four toes on the front feet, six developed and one of the hind toes became bifid.

The Hanbury Medal.—The Pharmaceutical Society of Great Britain has presented the Hanbury medal to Dr. August Vogl, the professor of pharmacology. This is the eighth award of this medal, which was presented in 1881 to Flückiger, in 1883 to John Elliot Howard, in 1885 to Dragendorff, in 1887 to Dymok, in 1889 to Plaichon, in 1891 to Hesse, and in 1893 to Maish.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. Jacobi, M.D. 8vo, 518 pages. J. B. Lippincott Company, Philadelphia, Pa.

HINTS AND SUGGESTIONS AS AIDS IN THE CARE AND PRESERVATION OF THE TEETH. By Charles G. Pease, M.D., D.D.S. 8vo, 46 pages. Boericke, Runyon & Ernesty, New York.

DIPHTHERIA AND ITS ASSOCIATES. By Lennox Browne, F.R.C.S. Ed. 8vo, 270 pages. Illustrated. J. B. Lippincott Company, Philadelphia, Pa. Price, \$5.00.

THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. By Henry Ashby, M.D., and G. A. Wright, F.R.C.S. Eng. Third edition edited by W. P. Northrup, M.D. Longmans, Green & Company, New York. 8vo, 840 pages. Illustrated.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. By various authors. Edited by G. M. Gould, M.D. Royal 8vo, 1,183 pages. Illustrated. W. B. Saunders, Philadelphia, Pa. Price, half morocco, \$7.50; cloth, \$6.50.

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Original Articles.

SOME OF THE USES OF ELECTROLYSIS IN DERMATOLOGY.¹

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THE title which I have selected to cover the subject of our discussion to-night implies, as I have intended it should, that electrolysis has a varied application in the treatment of skin affections. It is not alone in hypertrichosis, or unusual growths of hair in unusual and undesirable locations, that the electrolytic needle finds its sphere of greatest usefulness. Since Hardaway of St. Louis first introduced the procedure for this purpose some seventeen years ago, dermatologists in this country, and, to a lesser degree in Europe with the exception perhaps of France, have recognized its greater possibilities and have extended its use to the removal of smaller tumors, *nævi*, and to the cure of a number of abnormal conditions of the skin of which we shall speak further on. Presuming that you are all familiar with the general details of the operation for removing superfluous hair, I shall confine myself more particularly to the practical points which my experience has taught me are important.

1. **What can we Promise an Applicant for Relief from a Disfiguring Growth of Hair?**—I usually advise patients to have hairs, abnormal growths, and blemishes removed from the face whenever they are a source of worry and annoyance, as they so often are to women and at times also to men. I believe it the duty of all to make themselves as attractive as possible and to avail themselves of such cosmetic procedures as will add to the general æsthetic effect of existence. Conversely I believe it a sin for any one to go through life with a facial defect which can be readily corrected, and while chafing under its presence, answer suggestions as to its correction with such remarks as "I was born with it and might as well die with it," or "if the Lord didn't want me to have it he wouldn't have put it there." Women, and men too, should show honor to their Creator by making themselves appear as like as possible to their ideal of His image, whenever it is reasonably feasible. Occasionally application is made for the removal of a fine silky and not at all disfiguring growth upon the lip. I have upon several occasions advised against the needle in such cases, as well as in the case of single moles so situated that they are rather to be regarded as beauty-marks than otherwise. The first rule of surgery—to do no harm—must here apply, and the production of a cicatrix more distasteful than the original trouble must be guarded against. Once having decided that the case is suitable for operation, the patient must be made to understand that many sittings will be required until all hairs are permanently removed. It is well, too, that the fee for each *séance* or for the work

as a whole should be agreed upon beforehand. This will best impress upon the patient the difficulties of the task and may prevent dissatisfaction at what might appear a slow progress. I endeavor to inform my patients beforehand that a certain proportion of hairs removed will grow again and that the operation is to be repeated until the gradually diminishing proportion of "reproduction hairs," as I call them, is *nil*.

To illustrate: Miss W— came to me from Connecticut in March, 1894, and in several sittings extending over a week's time I removed three hundred and fifty-seven long coarse hairs from the upper lip and chin, destroying at the same time a small vascular *nævus* upon the cheek. I told the lady that within some months certain of these hairs removed, in which the point of the needle had not exactly touched the hair papilla, would grow again and that it was to be expected in the natural course of events that a certain number of other hairs now present, but fine and devoid of pigment, would grow larger, coarser, and darker. I was not therefore surprised to see the lady again in January of this year, nor was she surprised at the necessity for her return to me.

I now found 57 hairs requiring removal from the upper lip, 27 from the left side of the chin, 16 from the right side, and 55 from all other portions of the face, making a total of 155, or over 200 less than eight months previously. I have not seen the patient since, but no doubt there are now present fifty or more thick hairs requiring some attention. Turning to another case for a supplementary history of the way these cases run: Miss L— came to me on May 5, 1894, and within a week I removed over 400 long coarse hairs from the chin and neck. In October of the same year 150 required removal. In December, 100. In March, 1895, 100 were again removed. In May there were but 46 to operate upon, and now in this very month I have removed 40 long hairs, nine-tenths of which I venture to say were not "reproduction hairs" but hairs which were less developed and not touched in previous operations.

I say this for the reason that they were almost all quite superficially implanted in the skin, when drawn upon, causing a slight elevation of the peri-pilary tissues and leaving on extraction a dell rather than a tubular follicle. They were also less coarse and less deeply pigmented than the original growth.

This brings up the question—

2. **Does Electrolysis Tend to Stimulate the Growth of Neighboring Hairs?**—I have believed and do believe that to a limited extent the irritation of the surrounding tissues caused by the current and the succeeding erythema favor increased activity in the growth of near-by hairs which are at first ignored. It is partly for this reason that I advise against operating upon the upper lip near the corner of the mouth unless most of the fine hairs are at the same time destroyed. I say partly, because for some reason the reactionary irritation is very apt to be pronounced in this region and may result in small white, perhaps pitted scars of tell-tale nature.

I wish to be thoroughly understood upon this point of electrolysis as a stimulant to new growth of hair. If it would do what many patients and some physicians

¹ Paper read before the Lenox Medical Society, Dec. 9, 1895.

seem to think it capable of, the needle would prove one of the very best means of treating bald heads. It will, in my opinion, not cause new hairs to grow, but I have thought at times that the finer and lanugo hairs already present about the larger hairs operated upon became more rapidly developed after several applications of the method, and in course of time required themselves the needle sooner than they otherwise would.

3. **Battery, Electrodes, etc.**, are largely a matter of choice and expediency. Any good galvanic battery will answer. The positive sponge-covered electrode may be employed, or a copper plate covered freshly for each patient with absorbent cotton wet in salt solution makes a cleanly and simple electrode for the patient to hold in the hand. For the negative, some prefer needles made from iridium, platinum, and even gold, to the ordinary steel needle or more blunted jeweler's broach which has been annealed to destroy its brittleness. The advantage of the soft metal electrodes is more theoretical than real it has always seemed to me, and I have been satisfied to use the broach which is delicate, pliable, and accommodates itself somewhat to the follicular canal, or even an ordinary cambric needle.

No needle will take the proper direction unless it is intelligently guided, and the knack of getting to the bottom of the follicle and no farther is one which comes with practice.

The needle-holder which I prefer is light, slender, and from four to five inches in length, without any button for making or breaking the current. In *nævus* operations upon children, the latter device is useful, enabling the operator to apply his positive sponge-covered electrode to some surface continuously, while in the adult it is preferable to have the current made and broken by the patient while the needle is in place.

In almost all writings upon the subject you will find the instruction given to insert the needle alongside of the hair shaft until the bulb is reached (or you think you have reached it), and after the current has passed for a certain length of time, say from five to twenty seconds, the operator being governed by the amount of frothy bubbling about the follicular opening, the needle is to be withdrawn and gentle traction made upon the hair with tweezers or forceps, when, if sufficient electrolytic action has taken place, the hair comes out readily and the chances of success are good; while, if it does not, the needle is to be reinserted. My own plan, which I think better than this, is to grasp the hair firmly with dressing-forceps and make slight traction. Close observation, perhaps with the aid of strong glasses which I sometimes use, enables one to judge at times of the angle of insertion of the root, and whether the particular hair is superficially or deeply implanted. The needle is then inserted alongside the shaft until a point is reached where the sensation is conveyed through the holder that the point has reached some obstruction. Possibly the hair may be drawn in again if pressure be further exerted. The circuit is now made by the patient touching the tips of the fingers to the positive electrode at the signal "on." If the point of the needle is favorably located at the bottom of the follicle or pierces the root, the hair almost at once comes away in the grasp of the forceps. The needle is not withdrawn at once, however, but remains inserted and perhaps is moved about so as to occupy the whole of the canal left by the extracted hair, for a few seconds longer. The circuit is now broken by the removal of the fingers at the signal "off" and the needle is painlessly withdrawn.

The use of a galvanometer and rheostat interposed in the circuit is a desideratum but not an absolute

necessity, as many writers have claimed. Sometimes I measure the current accurately and more often I am governed by the patient's sensations, the amount of local reaction, and my own judgment based upon experience as to the number of cells to employ. Recently I have been using a bichloride of silver dry-cell battery of high electromotive force. Here a galvanometer is a *sine qua non*. Usually from half a milliamperes up to three milliamperes are required, or when working without a galvanometer from four to ten cells of a constant-current battery. The intensity of the current must needs vary with the patient's susceptibility, the atmospheric conditions, and the practical results observed; the desideratum being to get along with the least current strength which will do the work.

For beginners, and perhaps for the first sittings with new patients, a galvanometer is advisable.

4. **Who should Practise Electrolysis for Hair Destruction?**—The question has been raised whether it is consistent with professional dignity and strictly within the province of the physician to do this kind of work.

If the female beard is to be destroyed there is only one method now known in my opinion which will do it effectively, viz., electrolysis, and there is only one class of people who should practise it, viz., the physicians. I have had many applications from young women who wished to be taught how to operate, but my invariable reply has been that no one but a physician should attempt it, and if I could make laws I would make one to that effect. The electrolysis of the bathing establishment, of the advertising dermatologist, and of quacks in general who know more about extracting money from their victims than they do about extracting hairs, has done much to cast odium upon a most useful method. Any painstaking physician can readily acquire the requisite skill, and then all that is needed is patience, care, and good judgment.

The man who becomes so enthusiastic in the presence of a bearded lady that he will work seven hours on a stretch—as one writer reports that he has done—will most probably fail to give lasting satisfaction. It is inconsistent with really good work to devote more than an hour at a time to a case, removing about fifty or sixty hairs. The work is trying, and the operator is ready to stop before the patient wearies. The only objection I see to the general practitioner engaging in this work if he wishes, is the time required for each case after he has taken time to become adept.

5. **Electrolyzation of Nævi.**—Several varieties of *nævi* are removed with greater facility and satisfaction by the electric needle than by other methods. Thus the small *nævus araneus*, deriving its name from the spider-leg-like appearance of its off-shoots, is destroyed sometimes at one sitting by puncturing its central portion and passing for a few seconds a current sufficiently strong to decompose the contained blood and bleach the whole area involved. *Telangiectases* which occur later in life, and *nævi* of limited extent are removed with equal ease, while quite extensive superficial port-wine mark or *nævus vinosus* may with time and persistency on the part of both patient and physician result in a very satisfactory condition, as I was able to demonstrate in a case shown at one of the Dermatological Society meetings last winter, where such a disfiguring mark upon the side of a lady's neck had been almost wholly removed. Here I found that very superficial prickings with a sharp needle, while painful, gave better results than deeper insertion of the point and longer passage of the current. Nothing succeeds better than electricity in *nævus pilosus*, especially those bearing a few stiff, deep-rooted hairs. These I destroy first, making use for this purpose of a greater current strength than in

ordinary hirsuties. The hairs being thus removed, sometimes very little in addition is required. If, however, the mole is large, I use a flat-bladed sharp-edged needle, passing it through the base of the growth at the skin *niveau* just as I do in *nævus papillomatosis*, *nævus lipomatodes*, and warty growths in general.

My method here differs from those hitherto advised. The usual instruction is to pass the needle through the growth in various directions, and when sufficient effect has been produced to allow it to shrink up and fall off in the course of a few weeks.

This delay in final results led me to employ the flat-bladed needle which I show you. Passed through the entire base of a small growth or through a segment of a large one, the apex being grasped by a mouse-tooth forceps, it is slowly but firmly moved, perhaps with a sawing motion, first through one side and then through the other. This leaves a skin-level surface, usually bloodless, and in many instances is alone sufficient to effect permanent cure. If, however, the growth appears to penetrate much beneath the skin, or if there is left a central bleeding point, or if the margins are not quite levelled off, the point of the needle can be used to puncture and thus destroy the necessary amount of tissue. The less done in this way, however, the less chance there is of any subsequent scarring.

Nævus vascularis is usually very difficult to cure in this way, and it is for this reason that I show you paintings of a case of

Vascular Nævus of the Vulva Cured by Electrolysis.—In November, 1893, Dr. Henry Koplik sent me a girl baby seven weeks of age who presented an ulcerating *nævus* occupying the lower half of the right *labium majus*. Under appropriate treatment the ulcer was allowed to heal after it had destroyed all of the vascular tumor it seemed capable of doing, viz., about one-half.

There was left around a central cicatrix a double circle of dilated vessels, and upon the inner side, extending into the vagina, was a portion of the original growth to which the ulceration had not extended. Beneath the cicatrix could be felt a vascular mass implicating the whole thickness of the skin and subcutaneous tissues of the region.

On December 11th I began treatment by electrolysis, first benumbing the parts with chloride of ethyl spray and employing from eight to ten cells of a thirty-cell galvanic battery. I believe it was during this same month that I presented the child at the New York Dermatological Society (232d meeting).

Although some improvement had already taken place, the general consensus of opinion was that the case could not be cured by electrolysis. I will quote from the record of the proceeding the views of the gentlemen who spoke, to show you how the case was then regarded.

Dr. Fordyce advised puncturing with fine-pointed galvano-cautery wire.

Drs. Elliot and Sherwell stated that cavernous *nævi* were not materially affected by electrolysis, on account of the large size of the vessels. The thermo-cautery would be necessary to destroy them.

Dr. Jackson said electrolysis would cure a cavernous *nævus* only over bony prominences, not in soft tissue like the lip or vulva.

Dr. Taylor had seen a large *nævus* of the vulva cured by means of a shoemaker's awl heated to a white heat.

Dr. Lustgarten said that while it is quite possible that such a lesion as this could be cured by electrolysis, which is a method of cauterization, he thought it better, for cosmetic reasons, to refer such cases to the surgeon for operative interference.

Dr. Allen said that in this case the *nævus* extended

into the vagina and an operation might give rise to permanent narrowing of the ostium vaginæ. He said that ten years ago he had cured a cavernous *nævus* extending to both surfaces of the lip by means of electrolysis.

Dr. Taylor said he did not think the excision of the *nævus* in Dr. Allen's case would cause much involvement of the vagina.

I persisted in my treatment in spite of these views and used no other means of cure. I operated on January 2d and 7th, February 20th and 27th, April 14th, May 15th, July 13th, and October 5th and 19, 1894. Since then I have not seen the case. When I discharged the mother I told her the baby was practically well. Dr. Koplik has stated to me during the present month that he has within a few months examined the child and considers it cured. There are a few superficial red points, he tells me, but no tumor-mass of vessels to be felt more deeply. Such a vascular tumor in this situation might, in the event of pregnancy, put the patient's life in jeopardy if perchance the patient had not refused matrimony, considering the growth an impediment. I believe the needle did better for this patient than the knife would have done.

On July 23d of this year Dr. S. J. O'Neil sent me a lady who had upon the cheek just below the right eye a papillomatous pigmented and hairy mole one and a half centimetres in diameter. I operated upon it with the flat needle, removing sections by the electrolytic cut at several sittings and present the patient to-night that you may judge of the result. The scar is still somewhat red at times and slightly uneven, but is much less noticeable than would be a scar after excision with the knife. I have employed electrolysis in elephantiasis, lupus, keloid, acne rosacea, milium, and a variety of other conditions which I cannot presume upon your patience to discuss at this time. I would say I believe it will prove the very best method of treating xanthelasma of the eyelids. I have been much pleased with the needle as a means of obliterating dilated sebaceous follicles and crypts. In obstinate comedones a three-angled or glover's needle passed well into follicular canals may often arrest the re-formation of the plug. Upon the nose I have entirely closed up in this way dilated and very annoying follicular openings. During the past month a man presented himself at the office with a swelling on either side of the *frænum glandis* giving the appearance of abnormal fulness to this portion of the organ. Palpation disclosed a rather firm mass somewhat movable and about the size of a white bean upon either side. Diagnosis: Hardened, perhaps calcareous, sebaceous material in dilated sebaceous crypts or follicles of Tyson. Through the rather small follicular opening, first on one side, then on the other, a very slender knife blade was passed and the concretion, which had the consistence of rather old putty, was broken up and removed piecemeal. By pinching up the tissues and pressing toward the external opening the last vestige of the crypt's contents was removed. I then passed a medium-sized needle into the openings and with about three milliamperes' current strength swept the point over the whole inner surface. Following this for a few days there was a little inflammation and slight discharge. Examination within a few days past shows an apparent obliteration not only of the duct but of the cystic cavity as well. The advantage of the needle in such cases is that it acts through an opening which is too small to permit of easy introduction of any usual caustic. Fluids will not penetrate readily, but much the same effect can be obtained from the needle as from peroxide of hydrogen followed by a chemical cautery.

I will speak of only one thing more—freckles. In spite of the many vaunted freckle lotions these an-

noying pigmentary deposits are difficult of removal. Where a few dark ones of good size are scattered over the face they can be removed with the needle in one of two ways: either by pricking lightly over their surface with a weak current, or with half a milliamperé undermining the epidermis with a fine needle or a very narrow-bladed flat one until the surface above the needle is distinctly blanched. The epidermis exfoliates within a few days and with it the pigment which is contained in the rete mucosum.

In conclusion, gentlemen, I will only say that I cannot quite agree with my distinguished friend, Dr. J. C. White of Boston, who said at the last meeting of the American Dermatological Association that little seemed to be known to-day about the possibilities and limits of electrolysis that was not known when Hardaway first introduced it in dermatology. I think that each one of the few who have written upon the subject, out of the comparatively large number of those who have employed the method, has added his mite and that the aggregate of knowledge makes electrolysis to-day something much more valuable and possessed of greater capabilities than ever the originator Dr. Michel or the promoter Dr. Hardaway thought it would have.

126 EAST SIXTIETH STREET.

EXCISION OF THE KNEE AS AN ORTHOPÆDIC PROCEDURE.

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I ASSUME, in the presentation of this paper, that excision of the knee comes within the scope of the orthopædic surgeon's domain of treatment, that it has its own place as well as mechanics in dealing with pathological conditions of the knee, and that the surgeon should have recourse to it under proper limitations to stay the ravages of disease, and save for his patient a useful limb. The success of the operation is no longer an experiment, when performed under right conditions and by a skilful operator, and should not only save limbs but lives. The when and how of the operation are matters of discussion, points upon which general surgeons differ, and again the orthopædic and general surgeons take issue. Extreme individual views are entertained by both. This can be only too evident, when a distinguished Edinburgh surgeon tells us that all cases, whether of synovial disease alone or those in which the bone is involved as well, should be excised. And, on the other hand, the orthopædic surgeon, who would carry mechanical treatment to the verge of amputation, is treading upon extreme territory. Excision of the knee should occupy the position of a "golden mean," to be resorted to where mechanical treatment has not availed and cannot do so, and before amputation is a necessity. That a stiff leg is to be preferred to an artificial limb is a generally recognized fact, and amputation is a last resort greatly to be deplored.

Too much cannot be said in favor of early treatment by mechanical and fixation methods in disease of the knee-joint. And I would emphasize strongly that if the profession at large should recognize disease of this joint in its incipency, and would employ or have employed extension and fixation methods of treatment, comparatively few cases would get so far as to necessitate excision. It is the duty of every orthopædic surgeon who teaches, either in the under-graduate or post-graduate schools, to lay special stress upon early recognition, as well as early mechanical treatment, of these diseases. But, alas! the old diagnostic song of rheu-

matism, strain, or struma, with its treatment refrain of iodine, blister, poultice, and wait, is still sung by many a general practitioner and surgeon. The result is, that long after the disease has passed its incipency, the patient is referred, or applies himself, to the orthopædic surgeon for treatment.

A condition of disease more or less advanced presents itself, involving different structures, with deformity more or less pronounced. The skill and experience of the specialist must strike the balance, and determine what line of treatment is best pursued. Where abscesses and sinuses are not present, the immobilization and extension plan should at least be thoroughly tried. A large proportion of cases will yield to this method, and show immediate improvement, with prospects of ultimate recovery.

Since antiseptic methods of operation have so diminished the risks to life and limb, we are justified in interfering in an operative way much earlier than was formerly deemed judicious. Exploratory incisions are in many instances to be recommended. They many times furnish the surgeon with much valuable information respecting the extent of the disease. A finger introduced into a joint with antiseptic precautions will tell the facts, which otherwise would be recognized too late to save limb or life. It is then easy to say what operative procedure is necessary. I think, as a rule, more disease is found than was suspected.

When the fixation and extension plan of treatment has been conscientiously tried, and has not arrested the disease, which is manifestly on the increase, we should explore the joint, and do whatever the conditions demand, whether to wash out or excise. When the articular surfaces are destroyed, the bone and the soft parts extensively involved, the joints should be excised (except, perhaps, in young children, which exception I will mention later). If, however, only the synovial membrane and soft parts are infiltrated, and the joint filled with fluid and cheesy material, it should be washed out with some of the various solutions recommended by Schede, Koenig, and the late Professor Volkmann, of Germany.

The washing may be accomplished by a trocar and cannula, first emptying the joint of its fluid contents, then flushing out the parts through the cannula with whatever solution is desired. An incision into the joint large enough to admit the finger is to be preferred, since by this procedure we can, through the opening, investigate the extent of the disease, and the flocculent material inside, if there be any, which would not pass through a cannula can be evacuated. In Dr. A. M. Phelps' clinic, with which I am connected, at the New York Post-Graduate Medical School and Hospital, the irrigation used is a considerable quantity of a 1 to 2,000 bichloride solution, with much kneading and manipulation of parts to bring the solution in contact with the entire joint surface. The 1 to 2,000 should be followed by a 1 to 5,000 bichloride solution. The incision is then closed, by first stitching up the capsule closely, and then the outside parts with another line of sutures. The fixation plan may now be continued as before. The result is, as a rule, satisfactory.

The question of how long mechanical treatment should be continued before resorting to operation is still open to discussion. I would say a few weeks or months were long enough to determine if the disease is being arrested. The only valid argument in favor of treatment extending over years in many cases with a severe type of disease, is the hope or possibility of a useful and movable joint, with little or no shortening. But when we see ankylosis result in cases long treated, with the accompanying discomfort or pain during a part or all of that time, with the system exposed to further infection, and others whose joints have been excised walking about with a useful limb and absence

of pain, having been treated perhaps only as many months as the first has years, we stop to consider.

Comparing modern statistics in excision of the knee in the hands of good operators, so far as mortality and

In looking up opinions as to how advanced in age patients may be to bear the operation of excision well, I find it is generally conceded that the danger to life increases in rapid ratio after fifty, although often operations are successful much later. Statistics place the most favorable time early in life.

I must not fail to mention reproduction of tissue through the medium of blood-clot, and its importance in the consideration of surgical treatment of the knee. Since antiseptic methods have made it possible to utilize this most important principle in the reproduction of new tissue, many limbs have been saved which were formerly doomed to amputation, because of the great destruction of bone. It saves the bone in length where many and extensive foci of disease appear in the head, even where it extends into the shaft, by filling in the spaces and later becoming replaced by bone tissue. It is not necessary to cut repeated sections from the articular end until no diseased foci can be found, but with a sharp scoop cut them out, allowing them to fill with blood, leaving the healthy bone as the framework from which the new cells may find their way into the clot, thus transforming it into solid bone.

In the series of excisions upon which I shall report, there are several examples of great destruction from osteomyelitis and tuberculous disease, in which amputation was avoided and several inches saved to the length of the limb, by allowing the cavity to fill with blood, through which new tissue was formed. In one case of osteomyelitis as much as seven inches of bone was re-

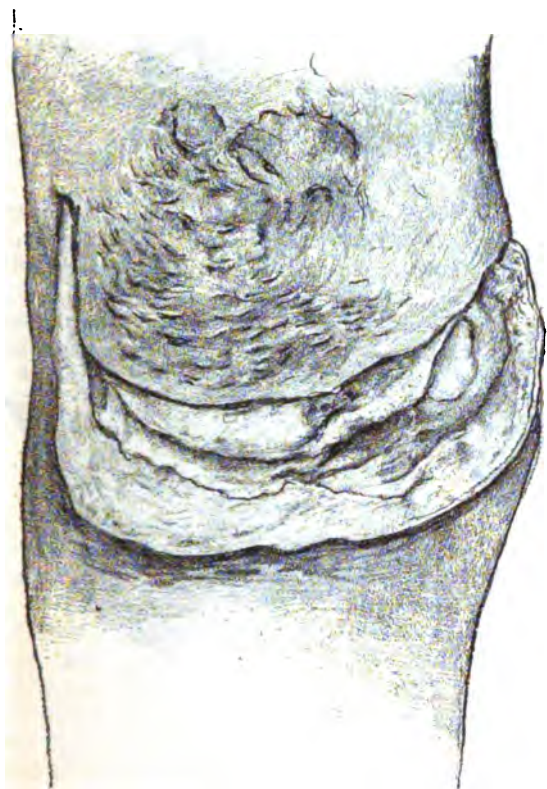


FIG. 1.—First Incision.

useful limbs go, when as good a showing can be made (in these two particulars) as in a series of sixty-five excisions of the knee, upon which I shall presently report, we are led to ask why the operation is not done more frequently. Statistics prove, that when joints are doing badly, operative treatment combined with mechanical gives the best results.

In addition to the class already mentioned as suitable for excision are the following: Relapsing cases of long standing; abscess cases with or without sinuses, whether containing tuberculous or pyogenic infection (with extensive involvement of bone and infiltration of soft parts); cases of osteomyelitis involving the joint; knees with ankylosis in the faulty positions of flexion, luxation or subluxation, or old arthritic cases, with but little bone disease, which do not yield to mechanical treatment. There is still another class in which excision is the only alternative, namely, in those patients who live in a locality where expert orthopaedic attendance cannot be had. Also in the case of the laboring man, who has no means of support while undergoing a prolonged period of treatment. Even though the disease be slight, their circumstances make the operation a necessity. Excision of the knee should not be practised in children under eight, and, preferably, twelve years of age. Cutting at the epiphysis at that time of life greatly interferes with the growth of the limb. Relapses as regards flexion frequently occur. Excision should be performed in these young cases only where the disease is so extensive that no other operation would avail. Arthrectomy or other scraping operation is to be recommended.

All abscesses of joints, whether in children or adults, should be opened and thoroughly drained, sinuses should be laid open, and the necrosed bone cut away by scoop, chisel, or gouge. Drainage through the joint in young patients with abscesses should, if needed, be kept up as long as the disease is active. Fixation should also be continued at the same time.

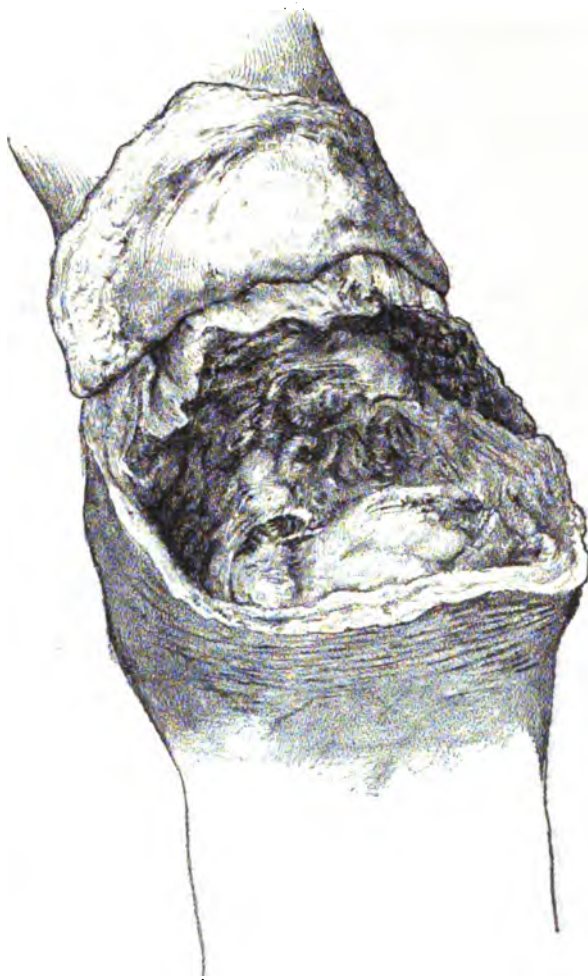


FIG. 2.—Flap Turned.

produced. In determining what operation for excision of the knee best subserves the requirements, it may be said that the method which allows the most complete removal of all diseased tissue, and gives perfect

drainage, retains the parts in best apposition, and fixes the bones without the use of pins or wire, and last, but not least, the one that can be done with the greatest ease and rapidity, is to be preferred. Without entering into a discussion of the merits and demerits of the operations devised and performed by different surgeons, I believe that Fenwick's section of the bone (see Fig. 5), with Phelps' method of removing diseased soft parts together with bone as described below, fulfils all the requirements mentioned above, with a few exceptions. Where the head of the femur is destroyed, precluding the section according to Fenwick, Dr. Phelps has devised a method to meet this condition by sawing a wedge shape at the end of the femur and a V in the tibia for its reception. The essential feature in Fenwick's operation is the sawing of the bone in a line parallel to the articular surfaces, so that when placed in apposition the convex surface of the femur fits the concavity in the head of the tibia. The bones are so locked that there is little or no chance of their slipping and no tendency to rotate outward in the dressing. No pins or wires are needed to keep the bones in contact. This is greatly in the patient's favor, since the necessary period of anæsthesia is shortened by ten or fifteen minutes. Where wire and pins are used, they not infrequently give trouble later.

The length of time taken for excision of the knee has an important lesson for us in the statistics respecting the mortality of the operation. Mr. A. G. Miller, of Edinburgh, in a report on excision, advised against it in certain feeble patients (otherwise suitable cases), recommending amputation because it could be done in a much shorter time, remarking that while in either operation the shock was about the same, the effect of the longer period of anæsthesia was to lessen greatly the patient's chance of life. There is a vast difference in the ether shock, whether your patient is under its influence twenty minutes or two hours. This point is clearly set forth and proven in a series of clinical lectures by Dr. William H. Porter on anæsthesia, delivered before the class of the New York Post-Graduate Medical School and Hospital.

The shock of the operation in excision of the knee must of necessity be profound. Add to this the shock produced by ether in an operation lasting from one to two hours instead of

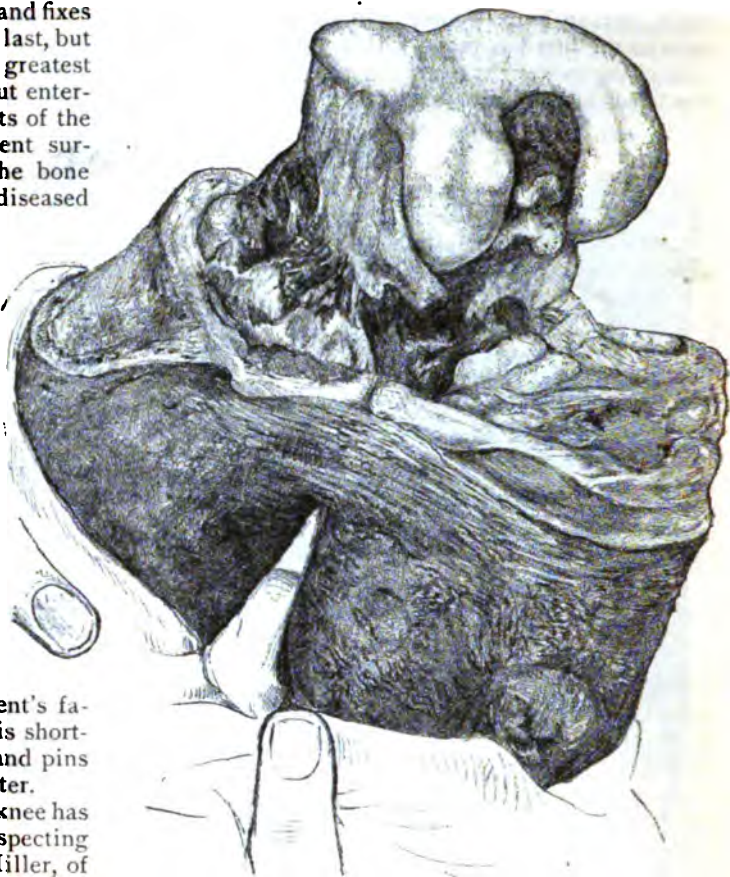


FIG. 4.—Articular Surfaces Exposed.

twenty minutes, and the chance of saving the patient's life is greatly reduced. Except in extreme cases no surgeon, after he is familiar with the operation here recommended, ought to take more than fifteen to twenty minutes to operate and apply the dressing. If the steps of the operation, which I will recount, are followed, I think you will be convinced that it can be performed within the time specified.

Entering the knife a little posterior to and above one of the condyles of the femur, a curved incision is made, extending sufficiently below the patella to expose the margin of the head of the tibia, terminating at a corresponding point on the opposite condyle (see Fig. 1). This incision opens the joint more extensively than any other. Dissect the flap well up, as in Fig. 2. A curved incision above the patella removes nearly the entire synovial sac, together with the patella (see Fig. 3). Instead of picking at the diseased parts with forceps and scissors before going further, thus consuming valuable time, with consequent danger to the patient, the lateral and crucial ligaments are divided and the knee is flexed, as in Fig. 4. With a saw proceed at once to resect the bones, at the same time sawing out a large portion of the diseased soft spots, as well as bone (see Fig. 5). This done, the entire joint is removed, with nearly all of the disease. With scissors and a Volkmann's spoon, the remaining disease is quickly cleared away. This concludes the cutting part of the operation. Ligate the three or four arteries if necessary. A continuous suture closes the incision, drainage at the same time being introduced (see Fig. 6). The dressing is the usual gauze and cotton, with plaster-of-Paris extending from the toes to the

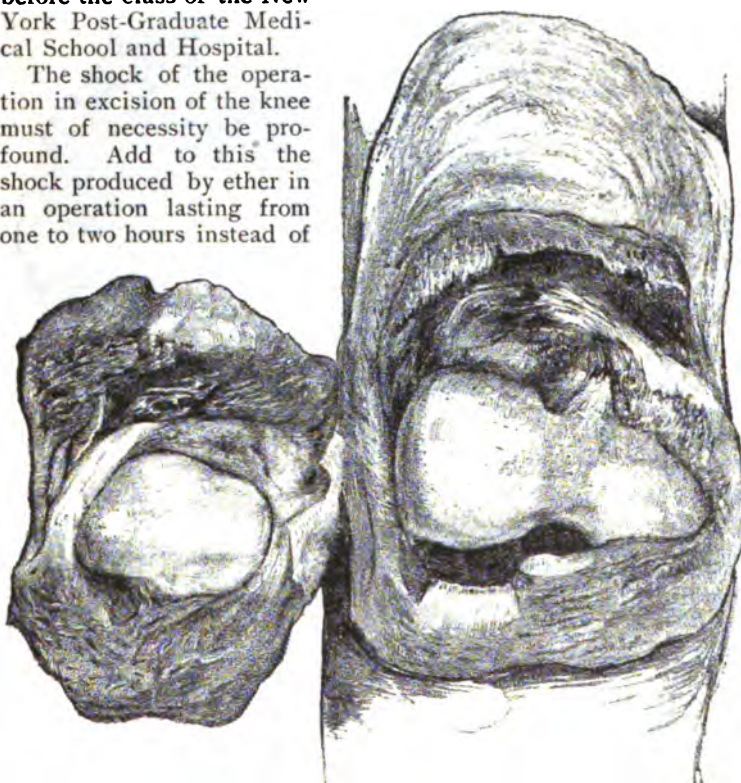


FIG. 3.—The Patella and Capsule of Joint Removed.

groin. It is due more to the method than to the skill of the surgeon that the operation is so quickly performed.

In children under twelve years of age, it is best to resect the hamstrings to prevent subsequent flexion.

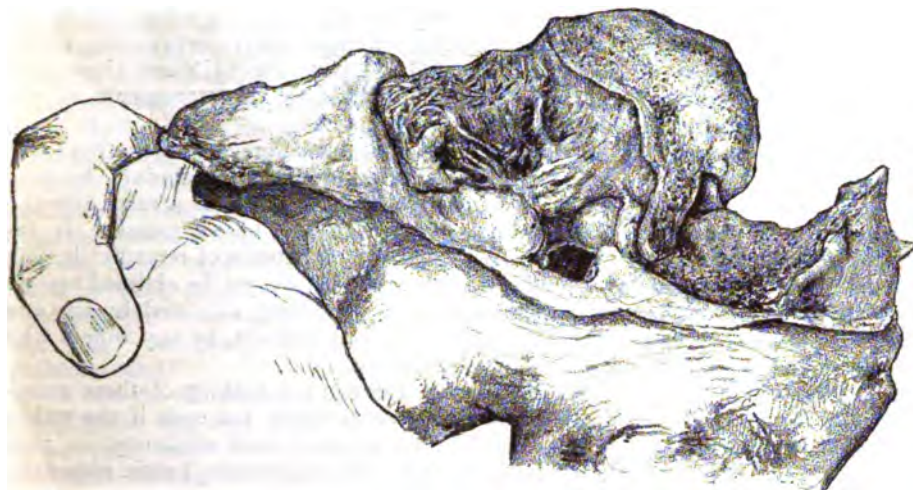


FIG. 5.—Bone Resected.

Dress the limb in a perfectly straight position, else flexion may result later. The limb should be swung up at an angle of about forty degrees. The patient should not walk on the limb without support until after there is solid union. Some form of support, either plaster-of-Paris or a brace, should be continued from three months to one or more years, depending on the age of the patient and condition of the limb. The younger the patient the longer the support should be worn to prevent flexion.

It is hardly reliable to quote statistics made before the employment of antiseptics, respecting the mortality of this operation. Quoting from Dr. Phelps' paper of 1888, reports of 329 operations by different operators give a mortality of 3.03 per cent. In this table I find Fenwick gives one of the best records, viz., 1 death in 28. Miller gives the following statistics: In 30 excisions of the knee, performed in the Royal Infirmary, Edinburgh,¹ 1 death occurred; 13 knees were excised for synovial disease alone, the bone not being involved; 18 good and useful limbs resulted; 3 had fairly useful limbs; 5 had to be amputated.

Barker, at the University College, London (January, 1893), reports 25 operations on the knee-joint, without a death, but all but 4 were arthrectomies. Only 4 were excised, one of these being under twenty-one years of age. He is inclined to think, in speaking of the limit of age being a contraindication for excision, that if antiseptic methods are carried out, the time of life is not to be considered more seriously than in other operations of similar magnitude.

Mr. H. G. Hows, from Guy's Hospital, London, reports 130 cases of excision: Four deaths were due to operation, or a trifle over three per cent. mortality; fifty per cent. had satisfactory limbs; 8 had shortening over two inches; 7 short from sequestra; most of the remaining had less than one inch of shortening; 21 lost sight of; 12 cases, ages three to twelve years, became much flexed; 10 others slightly flexed; 26 were amputated within three years, for suppurating sinuses and necrosed bone; 2 for other causes; 5 died from the amputation.

I have obtained, from the history books of the New York Post-Graduate Medical School and Hospital, from the City Hospital, and Mary Fletcher Hospital, University of Vermont, Burlington, together with ten from private case books, the records of 65 excisions of the knee, performed by Dr. Phelps. I shall summarize results. No deaths occurred from the

operation itself; one patient died from excessive administration of ether while on the table; one died three months after the operation, from sarcoma appearing in knee after it was entirely healed. A large number of these cases were most unfavorable for excision, inasmuch as the disease was very extensive, multiple sinuses occurring in soft parts, with bones honeycombed with tuberculous disease or osteomyelitis. Nearly all had at some time been faithfully treated by mechanics. On most of these Fenwick's operation was performed; Phelps' method was employed in a number.

No wiring or pinning of bones was done except in the first cases. No amputations have occurred in this series. All resulted in bony ankylosis, in four months to one year, except one from the Post-Graduate, recently operated upon, in which sufficient time has not elapsed for such union.

Bony union should be considered a perfect result in excision. One re-excision appears. In one imperfect case a painful scar occurred, which scar tissue was later removed; subsequently the leg was fractured in a railroad accident, and case lost sight of.

Operation in only 6 cases was followed by pus. In

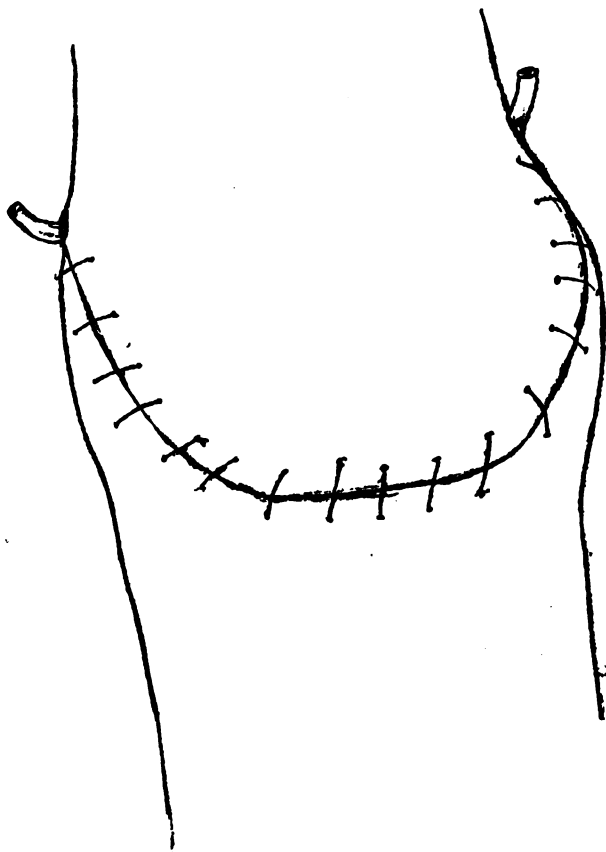


FIG. 6.—Wound Closed.

this series the average age was 20.67 years; youngest, 7 years; oldest, 53 years.

Average shortening in 57 cases, 0.88 inch; least shortening, $\frac{1}{2}$ inch; greatest shortening, 3 inches.

Average time in hospital, 7.7 weeks.

Form of bone section employed: Not mentioned,

¹ Lancet, Feb. 3, 1893.

3; Volkman's,¹ 1; Neuber's,² 3; Phelps',³ 8; Fenwick's,⁴ 50.

The average time of operation in the last half of this series will not exceed fourteen and one-half minutes, save in an exceptionally bad case. During the last five years I have assisted Dr. Phelps in nearly, if not quite, all of his excisions performed at the New York Post-Graduate Medical School and Hospital. The watch has been held repeatedly by members of the class of matriculates present, and the time of operation including dressings has oftener been less than more than fourteen and one-half minutes. At the last operation in which I assisted, the watches of several were held. It was just ten minutes from the time the first incision was made until the last plaster bandage was in place. The last case mentioned left the hospital in six weeks from the day of operation, with all parts healed. That no mortality due to the operation has occurred in this series of sixty-five cases, I believe, is attributable in a great measure to the fact that the patients were under ether but a very few minutes, hence having very little ether shock added to that of the operation.

THE PREVENTIVE TREATMENT OF SEASICKNESS.*

By A. D. ROCKWELL, M.D.,

NEW YORK.

THE literature of seasickness relating both to pathology and treatment is so extensive and so comprehensive that there is, I apprehend, nothing new to be said upon the subject. I at least know of nothing and shall attempt nothing in this direction. And yet, notwithstanding the many statements as to the nature and treatment of seasickness, there yet prevails, both on the part of the profession and the laity, a tendency to ignore the whole subject. The reasons for this neglect seem to me to be these:

1st. The disease, dreadful as it is, has come to be something of a byword. Suffer as a man may, his friends who do not suffer seem to see a humorous side to it. To speak of seasickness excites a smile. The occasion seems to be one for a joke rather than for sympathy, and then the fallacious idea very generally prevails that to be seasick is good for one, that it has a special power to relieve and clear up the system, and, therefore, even among those who fully appreciate the suffering it entails, a do-nothing policy is advocated.

2d. Another reason for this neglect is because of the very general disbelief in the efficacy of any remedy either to greatly relieve or to prevent seasickness. This disbelief, strange to say, is shared by every surgeon of an ocean steamer with whom I have conversed upon the subject, but great as is their experience along this line, I cannot but believe that it is far less satisfactory and valuable than that of some others who see a far less number of seasick persons. He fails to cure his seasick patients for the reason that, after nausea has once set in, the general experience has been that it is impossible to cure it. Nature must then take its course. In saying this, I do not forget the claims made by Dr. Winslow Warner Skinner

¹ Transverse incision. Patella sawn through. Transverse section of femur and tibia. Patella and bones subsequently wired.

² Patella turned up with flap. Transverse incision of femur and tibia. Patella nailed to femur and tibia. Bones wired.

³ Patella removed, wedge made of femur to fit V-shaped incision of head of tibia. Diseased soft parts sawn away with the bone, saving time. Bone lock, no wiring required.

⁴ Curved incision of bones parallel to articular surfaces saves time by avoiding wiring and nailing.

* Read before the New York County Medical Society, December 23, 1895.

some years ago, in an elaborate series of papers on "Naupathia,"¹ in which he advanced the theory that seasickness was caused by a "general lowering of the arterial pressure, dependent upon paresis of the cardio-accelerator and vaso-constrictor nerve-centres, and that the cause of this paresis is a reflex inhibitory influence exerted upon these centres, originating either in the sensorium or in organs unequally and alternately pressed and pulled about by the movements of the ship."

On theoretical grounds he advocated the hypodermic injection of atropine and strychnine, because through their action upon the nervous centres and the unstriated muscular fibre the blood pressure is increased. Although the application of remedies in this way had been attempted before, yet he claimed results far better than those previously obtained by any one else, and, so far as I can find out, by any others who have since tried the method.

From experience I can say nothing of these remedies as a cure for seasickness, but even if the writer is not mistaken as to their real efficiency, as very likely he is, they are by comparison heroic remedies, and in any view of the case it is better to prevent than to cure. So far as I can learn, very little systematic experiment has been made by ship surgeons in the preventive treatment of seasickness.

In order to appreciate fully the miseries of the seasick, it is quite necessary for one to get seasick himself. Sailing on the same vessel with myself were Drs. George F. Shrady and Charles McBurney. Both of these distinguished physicians, throughout a severe storm of several days' duration, when almost every one on board was sick, took their meals and smoked their cigars with unflinching regularity. While enjoying their postprandial smoke they could discuss the humorous side of seasickness, and with smiling skepticism express their disbelief in the efficacy of any remedy for its relief. Another physician, on the contrary, was as miserable as a man could well be. His point of view was different, and he listened with the greatest interest to anything relating to the subject, and was eager to try the remedy suggested. This he did on the return voyage, and with results so satisfactory in his own case that he would consider himself culpable if he did not give to others the benefit of his own practical experience.

3d. Still another reason for the apathy that prevails and the general disinclination to attempt anything for the relief of seasickness, is the absolute failure of most of the remedies that have been tried, and one's dislike to subject himself or another to the careful preliminary treatment by the one drug that has proved most reliable. No intelligent physician believes that seasickness comes primarily from the stomach or liver. A person going on shipboard suffering from constipation or disordered digestion is, without doubt, more liable to sickness than if he were in a perfectly healthy condition; but, on the other hand, a person whose functions are all acting harmoniously may, as is well known, instantly succumb to seasickness on encountering a rough sea. The theory that seasickness is dependent upon a functional disturbance of the central nervous system seems the correct one, and upon this theory is based the use of the bromides. The nausea and vomiting come from the brain—an inevitable consequence in certain susceptibilities of the constant series of mild concussions of the brain that are attendant upon the rolling, pitching, and tremor of a ship. Any method, therefore, that will obtund the sensorium, rendering it, in a measure, anæsthetic and insusceptible to slight molecular changes, would seem to be a rational method.

This the bromides will do, and one of the first to

¹ New York Medical Journal, December 2, 1893.

suggest their use in seasickness was the late Dr. Fordyce Barker. Subsequently, Dr. F. D. Lente struck the keynote of the treatment in its relation to this disease, when he advocated the administration of the remedy for some days before sailing. Dr. George M. Beard then took up the subject, and in a clever and exhaustive brochure did more than any other to popularize the method and demonstrate its efficacy.

As to the measure of benefit to be derived from the use of the bromides in every case of seasickness, the exact percentage of cases in which they will act as preventives, I cannot pretend to say, but I do assert that they are capable in many cases of preventing altogether even a suggestion of seasickness, and my opinion, based upon a considerable experience, is, that if properly used, they will prove successful in a large proportion of cases. It has been forcefully said that "the battle against seasickness must be fought on land."

It is not the bromides alone, but bromization, that is demanded, and this must be induced and kept up two or three days before, and continued for several days after, sailing, and sometimes even through the entire voyage. The amount necessary to produce mild bromization varies in individual cases. Thirty grains three times a day may be sufficient, but in many cases it is necessary to give much more than this. Because of its greater acceptability to the stomach, the bromide of sodium is much to be preferred to the bromide of potassium. It is certain that many have failed to experience any benefit from the treatment because of insufficient doses, and in every case where I prescribe it I always see to it, if possible, that the physiologic effects of the drug are obtained.

The fear of seasickness prevents many from availing themselves of the advantages of a sea voyage and the pleasure and profit that come from travel abroad. Personally I had always looked upon the sea with the greatest dread. Few are more susceptible to seasickness. Indeed, I have never been on a vessel of any kind where there was much motion without suffering from intense nausea. For this reason more than any other I had never ventured upon a trip abroad up to last summer, but, encouraged by the good reports that came to me from those to whom I had recommended the treatment, I ventured to go.

For three days before sailing I prepared myself by taking one hundred grains of the bromide of sodium in divided doses in the twenty-four hours, and this I kept up in somewhat lessened doses for the first four days on the water. I was not at all sick. I might not have been sick if no preventive had been taken, for the voyage was comparatively pleasant. Quite a number were sick, and my judgment is that I should not have escaped altogether. The test was not, however, by any means conclusive, even so far as my own individual case was concerned.

Before going, I mentioned to a professional acquaintance what I was about to do, and his reply was that he would rather be seasick than be bromized. My personal experience of bromization, carried only to the moderate extent necessary as a prophylactic, is, that it is agreeable rather than otherwise, for, aside from a slight feeling of drowsiness and inertia, which quickly disappeared when the mind became interested, there was no noticeable effect. An exceedingly satisfactory condition was the soundness and refreshing character of the sleep induced. Idiosyncrasies against the drug are, it is true, occasionally met with, but it is safe to say that very few adults will experience the slightest discomfort from a thirty-grain dose of the bromide of sodium three times a day.

The next test was eminently satisfactory. I crossed the English Channel (the longer route)—having prepared myself by taking the drug for two days before-

hand—with perfect comfort. The sea was very rough, the boat rolled and tossed excessively, and a large proportion of the passengers was very sick. I, however, escaped altogether, and in returning had the same satisfactory experience. I regret to say that on the trip home a smart attack of seasickness was experienced, but this should not in all fairness be attributed to a failure in the action of the remedy. I prepared myself by taking the bromide of sodium in rather lessened doses and for a shorter period beforehand. The first twenty-four hours out were so perfectly pleasant that the remedy was omitted from time to time, until I awoke to the fact that the slight bromization felt on going on board had entirely passed away. I awoke to this fact just as a storm of unusual severity struck us. To make amends I hastily took a large dose, but it was too late, and for twenty-four hours I suffered with the majority. While my carelessness in omitting the drug is to be regretted, yet it in no way destroyed my confidence in its efficacy. On the contrary, I felt, from my previous experience, that had the plan of treatment not been neglected I should have escaped altogether.

While in London I met a lady of my acquaintance from this city, with her two daughters. She told me that on the voyage over, some months previously, all of them were violently seasick, notwithstanding the fact that the passage was by no means a rough one. She dreaded exceedingly the return, and eagerly availed herself of my offer to prescribe for her. She and her daughters took the bromide of sodium according to directions, and although the passage was a stormy one, with many if not most of the passengers sick, these three remained perfectly well, and lost not a single meal.

Shortly after my return, a gentleman consulted me for a neurasthenic condition from which he had suffered much, and incidentally told me of his extreme susceptibility to seasickness and of his great dread of the sea. His business compelled him to take occasional trips abroad, and for weeks before sailing his neurasthenic symptoms invariably became greatly aggravated. It was a question with him whether this morbid fear of the sea was one of the causes of his neurasthenia, or whether his neurasthenia caused his fear of the sea and his fearful attacks of seasickness. Before sailing I subjected him to bromization, combining with the bromide a small portion of chloral.

This is the letter he wrote after arriving in London:

"In fulfilment of my promise I write to tell you the results of the bromide treatment. I went on board with fear and trembling, but am glad to say that I was much more composed than usual. I suppose this was due to the sedative effects of the medicine. As we passed Sandy Hook, and the rough sea began to give to the vessel that horrid motion which I could never think of without a shudder, there came a suggestion of nausea, and for a moment I lost all faith in the treatment. I fully expected that affairs would take their usual course, but to my great delight it was only a false alarm.

"As the ship went up and down, and rolled from side to side, and the hours went by, and I was not sick, I could hardly believe it. It is the first time that I have crossed the Atlantic with even a moderate degree of comfort and without missing a meal, and am more grateful than I can tell."

The foregoing is only one of the letters and statements I have received from those to whom I have from time to time recommended and urged the use of the bromides for the relief of seasickness. Some have never reported and the results I do not know, while on investigating the cases of those who claimed to have received no benefit I almost invariably found that the remedy had been taken with timidity and not at all

according to directions. On the voyage over, one among a party of physicians from the West was quite sick for several days, and promised on his return to try the method and report. In a letter dated November 19, 1895, he writes as follows: "Yes, I did try the bromide treatment, and I must acknowledge that I do not know whether it helped me or not. In the first place, I did not use as much as you suggested—only fifteen grains a day for the day immediately preceding the day we started, and for one day after the journey had commenced. I did not suffer as much coming back as I did going over, although I suffered considerably." It is hardly necessary to say that no possible good could result from such insignificant doses, and it is an excellent, if extreme, illustration of the difficulty of inducing others to carry out correctly even the most explicit directions. If an intelligent physician could so misunderstand and misapply a simple method of treatment, what can be expected of the average patient? The difficulty is that in many, if not most, of the cases where the bromides are used, they are used improperly and in insufficient doses, and without knowledge or forgetful of the fact that it is not so much the bromides that prevent seasickness as bromization.

THE EFFECT OF COLORED OR DECOMPOSED LIGHT UPON THE NERVOUS SYSTEM.

By COLUMBUS DREW, M.D.,
JACKSONVILLE, FLORIDA.

PURE composite light is invisible, hence all light, as we experience it, is as a result of refraction, reflection, or transmission to some degree decomposed, apparently from design upon the part of nature that we shall not be subjected to the action of pure light, any more than we are permitted to drink pure water.

There are certain subtleties in nature, apparently intended to reach the psychical, and through it the physical organization by means of the special senses. The agent of this character best studied and supposed to exert the greatest influence upon the nerve forces is sound. In its various modifications it exerts remarkable influences upon all vital structures, not only among reasoning creatures, but also upon those possessing the crudest instincts and most savage natures. Indeed it is a question as to whether the appreciation of sweet sounds and brilliant colors is not proportionately better developed in some of these creatures than in those of higher organization. There are few creatures of lower degree in our little world than serpents, and their fondness for music, even such as to us seems to have but little harmony or sweetness, is well known, and these creatures can be so seduced by it as to be lulled into forgetfulness of their means of defence and to submit to capture. Upon an occasion at St. Augustine, Fla., the army band was discoursing delightful music upon the barrack grounds, the sounds being borne by the winds across the waters of Mantanzas Bay. Lured by the sweet sounds an alligator made his way to the surface, facing the band, where he remained regardless of repeated shouts and warnings, disappearing to return again and again, until a marksman, failing to appreciate the interest of the occasion, fired a shot into his brain.

Accordant sound has long been used by Evangelists to draw wayward temperaments from ways of evil, and it is well known that hearts of stone can be moved to most repentant tears by such sounds; and such is their influence upon the organization and the molecular nerve structure that the effect will in many in-

stances endure throughout a lifetime. The laggard and trembling soldier, pale with nervous apprehension, trembling in every fibre, under the influence of music becomes a hero. Scarcely will the soul-stirring sounds of the Marseillaise reach the ears of the Frenchman, or those of Dixie or the Star-spangled Banner those of an American, before a mystic change occurs. The vital knot, the soul centre stirred, the contracted capillaries dilate, and the vital fluid, which nature sends to the brain in order to sustain vitality, courses throughout the entire organization, and the man becomes a changed being; no longer a lamb but a lion.

Wedding-bells, with their cheerful notes, convey a sense of happiness and well-being; but a frame of mind, cheerful and happy, may be changed to melancholy by the notes of a funeral dirge. The effect is associated with those mystic influences to which are allied the sensations of shame and anger, obscure crime, etc. The following excerpt will illustrate some of the remarkable relations existing between color and sound.

"Sound of a Sunbeam.—One of the most wonderful discoveries in science that have been made within the last year or two is the fact that a beam of light produces sound. A beam of sunlight is thrown through a lens on a glass vessel that contains lampblack, colored silk or worsted, or other substances. A disc having slits or openings cut in it is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow.

"On putting the ear to the glass vessel, strange sounds are heard so long as the flashing beam is falling on the vessel. Recently a more wonderful discovery has been made. A beam of sunlight is caused to pass through a prism so as to produce what is called the solar spectrum or rainbow. The disc is turned, and the colored light of the rainbow is made to break through it.

"Now place the ear to the vessel containing the silk, wool, or other material. As the colored lights of the spectrum fall upon it, sounds will be given by different parts of the spectrum, and there will be silence in other parts.

"For instance, if the vessel contains red worsted, and the green light flashes upon it, loud sounds will be given. Only feeble sounds will be heard if the red and blue parts of the rainbow fall upon the vessel, and other colors make no sound at all. Green silk gives sounds best in a red light.

"Every kind of material gives more or less sound in different colors and utters no sound in others."—*Pierson's Weekly*.

But little has been written as to the occult influence of the other special senses upon the physical organization—the stimulation of the sense of smell, or that of color perception—and still it is difficult to believe that such delicately organized structures are only intended to excite sensations of pleasure, when such sensations could be so happily combined with other influences calculated to improve health and to encourage physiological function. What is better calculated in a hungry man to give rise to a healthful secretion of gastric juice than the odor of a good stew? And can such stimulation of the pneumogastric nerve occur without a corresponding stimulation of the cerebral circulation and a corresponding effort upon the part of other organs? If these two special senses of sound and smell exert an influence over the organism, it is quite as likely that sight and the color sense should do the same. It is a philosophical fact that color in light corresponds to pitch in sound; the red rays are said to be the longest of the colored ones and correspond to sounds of low pitch, violet rays are the shortest and correspond to sounds of a high pitch. In

other words, red corresponds to grave and violet to acute sound.

Sunshine certainly exerts a most necessary and beneficial influence, and without sunshine there can be no color, whatever may be the theories of color sense and color blindness. It seems probable that decomposition of light is the result of refraction or reflection from atoms or molecules in varied positions. In transparent matter refraction occurs by transmission, in opaque bodies by reflection, hence if there is neither transmission nor reflection there can be no light. It seems to be as unreasonable to expect a series of nerves for the recognition of various colors as it would be to expect a series for the recognition of the varied sounds of music, etc. Stand below the mountain top, and view the light rays passing through the vapor in the clouds as the sun sinks below the horizon, and they will be decomposed into the seven colors of the solar spectrum as a result of the position and angle taken by the molecules of vapor, as the rays of light enter and leave them. The same phenomenon, of course, creates the rainbow. Again, as the light falls upon familiar objects, sea water with its chlorides, green or red leaves, grass, flowers, etc., reflection at various angles will occur, resulting in decomposition of light and such sensation of color as may be the result of the impact or chemical action of rays of varied length and power upon the retina.

If we study the sects, nations, society, etc., of the world, we cannot fail to notice the association of dress, and the correspondence of colors and habili-ment, with disposition and character. We see in the sects of grave, religious character and disposition the absence of bright colors, combined with inconspicuousness of cut and in strong contrasts with the out-fits of the worldly and gay. In the lower and middle classes of certain nations who have not been accustomed to serious personal responsibilities, but have from childhood remained accustomed to pastimes and amusements, the people retain and exhibit in their garments evidences of fondness for brilliant colors and combinations, in connection with happy and childlike dispositions. Upon occasions where joy, festivity, and happiness are intended, a blending of color and sound is instinctively sought. In both fair and ball-room the sounds of sweet music and pleasing alternations of color are blended in order that the combined effect may stimulate the nerve centres, and the faculty of enjoyment be roused to its highest pitch. The following excerpt from the daily press will establish the marked influence exerted by color upon nerve structures in creatures ungoverned by reason:

"Attacked by a Mad Bull.—Newark, N. J., May 21st.—A maddened bull, while being led by T. W. S—to-day through the streets, attacked and lacerated Mrs. Susan B—, a servant, who was wearing a red shawl. The bull was being led by an iron chain when he broke away. The woman will die."

It seems to be intense, even maddening. The wearing of a red garment while in the vicinity of the bovine species has always been regarded as dangerous, and at the Spanish bull fights they are favorite means of arousing the anger of the animals.

Some years ago General Pleasonton, a resident of Philadelphia, advanced a theory that the action of decomposed light was valuable in the treatment of disease. Blue was possibly the element looked upon with greatest favor. For some time it was the custom to insert panels with blue glass into houses for the purpose of using the treatment, but as no system was adopted and no definite results were obtained, the fashion had its day and disappeared. The following excerpt is on the same line of thought:

"Color in the Home.—The modern scientific deco-

rator assures us that while yellows are all right for a hall or vestibule, they should not be used in rooms where one reads or works. The reason assigned is that yellow does not absorb light, but is a strong reflector, and these reflected rays are trying to the eyes, but, more than that, are distinct brain disturbers. For the library or work-room the most soothing or satisfactory tint is coffee.

"The influence of color upon temperament or physical condition being an accepted fact, it follows in natural sequence that the treatment of living-rooms is of real importance. Undoubtedly some natures respond quicker to these influences than others, but any one planning a change in furnishings will do well to give the matter some attention."

A recent number of the *Boston Transcript* contains the details of experiments by Professor Bailey, of Ithaca, N. Y., with colored lights upon growing plants. The experiments showed remarkable results as to growth and development under the influence of colored light. The details would be too lengthy to narrate in this article.

To influence life and character by means of color is simply to influence by means of light, as color is the result of decomposition of light, certain elements only being represented in any given color.

In the world of music, George Holmes, in *Munsey's Magazine* for August, 1895, publishes the following:

"Within the past few weeks a 'color organ' has been constructed. The rates of vibration of the light waves that produce different colors are said to vary in much the same ratio as the intervals in the sound vibrations that produce musical notes. The inventor of the color organ plays the music of the great composers upon the keyboard of his instrument; but instead of producing sounds, colors corresponding to the notes are thrown upon a screen making rare harmonies in tints."

If this prove to be an accomplished fact, and such seems to be the case, we are approaching the time when the effect of color transition, as of sound, upon the nervous system may be tried in the treatment of disease. In the present state of our knowledge little would probably be accomplished in the treatment of acute diseases, but in the management of chronic affections of the nervous system such as neurasthenia, melancholia, etc., it would be well worth a trial in connection with other treatment.

In the construction of sanitariums, kindergartens, etc., an apartment arranged for such experiments would appear to be, like the solarium, a desirable adjunct.

Early Intestinal Anastomosis.—Dr. Gamgee, writing to the *Lancet*, says that he recently, in South's translation of "Chelins' Surgery," published in 1847, came across the following words: "In complete division of the intestine Denans introduces into the upper and lower end of the gut a silver or zinc ring, thrusting it in inwards about two lines from each end; he then brings the two ends together over a third ring, of which the two springs retain the external rings. The included ends of the intestines mortify, and the rings thereby becoming unfastened are discharged by stool after they have united the serous surfaces in contact. This experiment in the dog has most successful results." Chelins gives as his reference "Recueil de la Société Royale de Médecine de Marseille, 1826." "The resemblance which the above-mentioned instrument must have borne to the modern Murphy's button is," says Dr. Gamgee, "remarkable, for while its mechanical details were evidently strikingly similar its mode of action must have been precisely the same. Truly there is nothing new under the sun."

SHOULD OUR HOSPITALS EXTEND THEIR FACILITIES FOR OPERATING TO PHYSICIANS GENERALLY?¹

By HENRY S. STARK, A.M., M.D.,

NEW YORK.

IN presenting a paper of this character in lieu of a scientific one, a word of explanation would be in order. This paper was not written to satisfy a morbid desire to appear in print, nor yet to crave or court notoriety. Nor is this paper a literary effort, for if the question that I shall submit to your consideration is wrong in principle, beauty of language will not save it; if, however, it is sound in principle, homely diction will not rob it of its interest or importance.

I would call your attention to-night to a matter which should appeal not only to your heart and conscience but also to your purse and pocket. Questions of an ethical, or economical, or of a medico-legal character are rarely brought forward for discussion at our medical meetings. Very rarely does a topic of such a character appear as part of our programmes, and yet no one will deny that such matters are of the most vital interest to us.

I firmly believe that each medical society in this city and elsewhere should devote at least one meeting in each fiscal year to the discussion of a question which involves our rights as medical men, or deals with our relations to the public or with each other. Such an innovation would afford the members of the profession an opportunity to ventilate their grievances, adjust their difficulties, and reconcile their individual differences in a legitimate and at the same time strictly professional manner, and would render it unnecessary to resort to the columns of our newspapers, as too often obtains, for a hearing or for adjudication.

The title of my paper conveys the idea of the subject-matter. I shall claim that the boards of managers of our hospitals should throw open their doors to physicians generally, and thus allow them to perform operations upon their private patients in the operating-rooms of these hospitals, under certain restrictions and limitations which I shall mention later on. Here I find it necessary to observe that I do not advocate the extinction or retirement of the visiting surgeon, for his position in the medical community is fixed, and it is foreign from my present purpose to infringe on his rights and immunities; but I simply take the ground that the use of the operating-rooms when not otherwise occupied should not be limited to the visiting staffs to the exclusion of all others. That this is a radical and startling departure from the present *régime* is very apparent, but that fact alone should not militate against its introduction under suitable conditions. I am fully alive to the fact that in advocating a sweeping change like the one proposed, I shall antagonize some so severely that I shall be, in the language of diplomacy, "*non persona grata*" to not a few, but I could not for a moment allow the fact that I shall incur the displeasure of any one to act as a barrier. Remember that every new movement, every new enterprise, every new law or reform, subjects the prime movers to unjust criticism and unfavorable comment. Therefore all honor to the man who, when his cause is just, dares to brave public opinion, stands alone against fearful odds, and faces opposition unflinchingly.

There are four sides to this question. There is the physician's side, the visiting surgeon's side, the side of the public at large, and the side of the hospital managements. It would certainly be interesting, to say the least, if all concerned would come forward

with an expression of their opinion, without fear or favor.

From the physician's standpoint, it may be claimed that the members of the profession are constantly laboring under a baneful disadvantage when they find their field of usefulness limited in diseases requiring surgical interference. For directly they decide upon the necessity of an operation, their connection with the case ceases. If the board of directors of our hospitals would extend the privileges of the operating-rooms to the physicians throughout the city, just think of the advantages that would accrue to us. Physicians would not be indirectly compelled to let their remunerative operative case slip from them and fall into the hands of disinterested colleagues, who happen to be hospital surgeons, and who thus reap a harvest out of our own cases. Mark you, I am not alluding to such cases in which, on account of the nature of the disease, extraordinary skill and experience are required. I am now referring to such operative cases as do not call for unusual skill, cases which we feel we can handle with the same skill as those on the regular hospital staffs.

Day after day, physicians see their operative cases enter hospital wards simply because all the paraphernalia of the operating-room are not available, nor within the means of their *clientèle*. Does not this sentiment touch a responsive chord in your bosom? I fancy it does, for many of you have met and are constantly meeting with such unpleasant experiences and are sighing for relief and redress. In these days of advanced surgery—what with aseptic operating-rooms, aseptic operating furniture, aseptic assistants, instruments, and dressings—what physician in private practice can keep pace with the enormous outlays connected with an operation which is expected to be done in a *fin de siècle* manner?

Another advantage to physicians in general would be the opportunity for acquiring operative skill and a knowledge of operative technique. To-day this advantage is monopolized by about fifty out of thirty-three hundred physicians. The number of physicians to-day who never touch a knife is legion. Why? Because they would rather not operate at all than to operate with imperfect and insufficient apparatus. Give some of these physicians an opportunity, and they will take up the knife and wield it as skilfully as some who have had a lifelong connection with a hospital. How many physicians are there who are sufficiently skilled in operative technique to warrant them to undertake major operations with reasonable hopes of good results, providing they had a suitable place to operate? They have the skill, the knowledge, the courage, and, what's best of all, the patients—but not the room. Placing the figures at a low estimate, I am justified in stating that a physician who has a yearly income of \$3,000 is forced to surrender five to ten operative cases each year for lack of accommodations, while a physician with a \$5,000 yearly income refuses for the same reason ten to twenty operative cases. Now will some one suggest a remedy for this evil and a relief from such oppression other than the one proposed? I have no hesitation in saying that I am voicing the sentiments of many here to-night and many who will read these remarks after publication.

A few words relative to the position of our visiting staffs of surgeons, for almost all opposition that this question will give rise to will emanate from that source. I do not anticipate that they will acquiesce in such a measure complacently; such an expectation is neither natural nor probable, for this improvement in hospital management, if carried out, would prove detrimental to their interests. The position of visiting or attending surgeon in New York is a unique one, in so far as it provides these selected and favored few

¹ Read at the November meeting of the Metropolitan Medical Society of New York.

with all the facilities of a private hospital, with the exception that all expenses incurred in its maintenance are encountered by one side, the hospitals. Truly a much envied position. In former days the main function of a visiting surgeon was to treat the cases as he found them in the hospital; now much of this is changed, and his main duty, it appears, is to utilize the private rooms and even the wards of the hospital for the cases that he sends in from his private office, and in other instances from his public clinics. The hospital receives no returns in such instances, while the surgeon is handsomely reimbursed, and has not a cent of expense connected with the treatment. This is neither an exaggerated nor an overdrawn picture, but the solemn truth, which many of you could substantiate if called upon to do so. This system is so extensively practised in New York that I actually know of one hospital, the directors of which were compelled, for their own protection and for the interest of their trust, to adopt a law whereby a visiting surgeon was not allowed to utilize more than two private rooms at any one time for his own private patients. I know of one surgeon who, when asked why it was that he had not his own private hospital as his rival colleague had, stated that he did not see the necessity of burdening himself with such an expensive luxury so long as — Hospital, with which he was connected, furnished him with all such facilities and free of all expense. Now ask yourselves, is it right, is it fair that a visiting surgeon should be permitted to utilize a hospital's facilities in such a manner to the exclusion of all other physicians? To use mild language, it is un-American and savors of monopoly. Here some one will say, that the members of the visiting staffs give their eminent services gratuitously to the institutions. True, but are they not reimbursed in a great measure in manifold ways that I need not enumerate here? Why, tell me, are these positions so eagerly sought for if there are no emoluments connected with them? Needless to answer that question now, the reasons are painfully familiar to all. Is it not a notorious fact that, even when not actually on service in the hospital, the members of the visiting staff send in, and operate upon, their own private cases? Now why not remedy this discrepancy in a measure by extending the same privileges to physicians who have the ability to operate?

As far as the public is concerned in this matter, there is this to be said, that it has a right to expect the best services from both the hospitals and their officers irrespective of the question of remuneration, especially in institutions that are being subsidized from the city's revenue. We are constantly told by professional *opérateurs* that it is not justifiable in certain instances to perform major operations in tenement-houses or in private houses, even if the occupants can surround themselves with all the resources of modern surgery. This stand has been taken so frequently that even the public is educated up to it. Where, then, let me ask you, are we to perform them unless the hospitals come to our relief in the manner indicated by my remarks? The expenses connected with a house operation, if done *lege artis*, are in many instances a burden to the parties mostly interested. Often its performance entails hardships and sacrifices which only those of you are familiar with whose practices bring them in contact with the middle and lower strata of society. Now the expenses in connection with an operation would be reduced to a minimum if the system I advocate were adopted; while scores of patients who otherwise under the present *régime* would be admitted without paying for services rendered by the surgeon, would gladly in many cases pay their doctor for the work done at a hospital. So you see the old or rather present system actually pauperizes the public and fosters

an abuse from which medical men in this city and elsewhere are crying for relief, and which, if allowed to continue, bids fair to menace their prosperity and chances of livelihood. Indeed, so keenly alive is public feeling toward the gratuitous services offered by our public institutions, that directly an operation is indicated, patients rush to the hospitals and clamor for admission, utterly disregarding the fact that they may be in a position to pay for treatment.

A few words in regard to the position of our hospitals on this question. I take it for granted that you are ready and willing to admit that the broad general principle of economy which should govern our hospitals is "the greatest good for the greatest number," irrespective of individual or class feeling. If that be so, why should not our hospitals allow other men than those of its own staffs the privileges of operating? For the more physicians to avail themselves of such advantages, the more patients credited to the institution, the greater the amount of good done, the more suffering relieved, the more cures effected, the greater its revenue—in short the whole field and scope of its usefulness would spread in all directions, it would become a public benefaction in the broadest and most liberal sense of the word. Hospital authorities should not be guided in a universal reform measure like the one contemplated by the opinion of their visiting staffs alone, since they form, numerically, a very insignificant part of our medical community. Let such authorities make public opinion the criterion for their conduct. Let hospital officers bear in mind that in matters purely executive and administrative they should be superior to professional men. What would happen if, for example, "— Hospital" should adopt such a reform as the one under discussion? Its visiting staff would probably resign in a body. Their places would be filled with probably equally competent men in a comparatively short time. The chances are that the public and the profession at large would indorse the action of the directors, and would lend the institution their moral support and sympathize with the movement. Who would be the loser and who the gainer by such a hypothetical case, I need scarcely point out.

From the standpoint of the hospital the most important aspect of the question is its practicability. I believe the change is practicable under certain conditions, which I shall enumerate.

Firstly, such a change might render necessary an auxiliary operating-room; a contingency already provided for in several of our better-equipped institutions.

Secondly, it would be expected that each operator would be accompanied by his personal staff of assistants except nurses and operating-room attendants.

Thirdly, it would be expected that a nominal fee would be imposed upon all physicians who availed themselves of a hospital's facilities.

Fourthly, on visiting their patients subsequent to the operation, physicians need not necessarily be attended by the member of the house staff.

Fifthly, patients would be expected to reimburse the hospital for services rendered.

This, then, is a brief *exposé* of the object intended to be accomplished. Truly "a consummation devoutly to be wished." But how shall this hospital reform be brought to a successful issue, and who should take the initiative? At present, I know there appears to be an impregnable barrier. One word, however, in to our language solves the mystery at a stroke—"Organization."

A society should be organized whose one and only object should be to bring this reform to a successful issue. Ways and means for the success of such an organization could almost be guaranteed. Once such

an organization is effected, its membership would speedily assume such proportions that in a very short time a powerful and formidable influence could be exerted in divers ways upon those in control of our hospitals and upon those opposed to this reform. Once the question is agitated and the public and the profession instructed in the advantages of the measure, it would not be very long before one of our more advanced institutions would try the experiment. Once let physicians conquer their indifference and bury their disinterestedness, and you cannot begin to conceive how easily their object may be accomplished. Once a leader is found to pioneer the movement, recruits would flock from all four sides to advance the cause with all their hearts and souls.

270 EAST SEVENTH STREET.

Progress of Medical Science.

Toxin Injections for Malignant Growths.—In the *Münchener Medicinische Wochenschrift*, September 3, 1895, Czerny describes his experience with the treatment of malignant tumors by injection of mixed erysipelas and bacillus prodigiosus toxins (prepared according to Coley's method).

Although the influence of accidentally contracted erysipelas in cases of carcinoma has in his experience usually been a negative or distinctly adverse one, he recalls two instances in which the effect of the erysipelas was distinctly beneficial. One of these occurred in a woman who had undergone seven operations at the hands of three surgeons for carcinoma of the breast. She applied to Czerny for the eighth operation. As the chest wall was thoroughly infiltrated, he advised against operation, but at her request he dissected away as much of the growth as possible—leaving a wound as big as a saucer, with a carcinomatous base. Erysipelas set in, and the patient was brought to the edge of the grave. The cancerous nodules disappeared, and in eight weeks the wound was completely healed. Two years later the patient died apparently of broncho-pneumonia, her health in the mean time having been good.

At the autopsy, the chest wall and axilla were found absolutely free from cancer, but the right lung contained many cancerous nodules which were considered to be the cause of death.

The other patient had undergone two operations for cancer of the breast before Czerny saw her and removed recurrent nodules. Erysipelas followed, and six years later there had been no further recurrence of cancer.

Czerny's experience with the toxins began in May, 1895. He has treated eight cases, four of sarcoma and four of carcinoma, making use of a mixed culture of erysipelas and prodigiosus cocci sterilized by heat. The most marked effect was in the following case:

Mrs. B—, aged thirty-five, had had for five months a rapidly growing tumor of the right parotid region, extending back of the ear, giving rise to complete facial paralysis of that side, and having reached, at the time the injections were begun, the size of a man's fist. It was firm, nodular and ulcerated in places, and had the clinical appearance of an infiltrating carcinoma of the parotid region. Microscopically it was found to be a small round-celled sarcoma, containing scattered typical nests of epithelium and pearls. In six weeks eighteen injections of erysipelas toxin were made, with marked constitutional symptoms—pain, chills, and fever up to 40° C. (105° F.).

At this time the facial paralysis had nearly disappeared, the parotid had become soft, and the infiltrating tumor had dwindled to three soft nodules movable

in the skin, and all measuring about an inch and a half by half an inch.

Czerny considers this case an illustration of the favorable, almost specific influence of the toxins on a malignant tumor; but does not consider it an absolute proof, since the patient at the time of treatment was pregnant, and similar tumors (sarcoma, epulis, fibrosarcoma of the abdominal wall, osteophytes of the skull) often disappear in part after confinement.

The case was still under treatment at the time of the report.

The other cases of sarcoma were handled only a short time and showed only slight change.

The four cases of carcinoma were treated without benefit, except that in one case—a carcinoma of the upper jaw of wide extent—after eighteen injections the tumor was softer and the subjective condition had improved.

The author closes as follows:

"As already said, the material is too scanty and has been handled for too short a time to permit of the deduction of rules for the treatment of malignant tumors. None the less the fact that many tumors are favorably influenced by erysipelas toxins seems to me so important that it appears desirable to test this influence in every way. If it comes to pass that many tumors otherwise incurable—as, for instance, the sarcomata—can in this way be treated methodically and cured, that of itself will be a great gain; and an insight into the other malignant growths will also be won, although doubtless considerable water will flow down the valley of the Rhine before this thousand-year riddle of the Sphinx is solved.

"However, these injections of sterile mixed cultures are of the greatest interest from a general pathological point of view, and, grouping my limited experience with the much wider experience of Coley and others, I draw the following conclusions:

"(1) The sterile, unfiltered, mixed cultures of erysipelas and prodigiosus cocci when injected in minute quantities produce a rapidly rising temperature, often with chill, gastric symptoms, dizziness, and delirium; sometimes with herpes labialis, but usually without local inflammatory symptoms. The intensity of these symptoms depends on the individual, on the amount of the dose, and finally on whether the fluid enters the lymph spaces or the blood-vessels (Repin).

"(2) These symptoms subside in a few hours without permanent effect upon the general condition. After the injections have been many times repeated, there appear anorexia, emaciation, anæmia, and malaise.

"(3) The injections are capable of exercising a specific influence on sarcomata which, under favorable circumstances, they may cure (Coley).

"The tumors become oedematous, and then simply shrivel up and are absorbed, or else, softening, necrosis, and sloughing of the tumor tissue take place.

"(4) As the results are still wholly uncertain, this method of treatment cannot take the place of operation, much less become preferable to it. For the present it is to be employed only in cases of inoperable or recurrent tumors. Perhaps after operation for sarcoma it may be used to guard against recurrence.

"(5) In carcinoma the injections produce at most a delay in the growth, but no cure."

Diseases of the Liver Caused by Syphilis are:

(1) a perihepatitis with such extensive cicatrization that it is impossible to tear away the adhesions; (2) an amyloid degeneration; (3) gummata; and (4) a diffuse interstitial hepatitis. In the latter the liver preserves its form and volume, but an embryonal tissue springs into existence and develops with such strides that the liver tissue proper disappears. This new

embryonal tissue does not atrophy as in cirrhosis. The whole organ becomes hard and polished like carved ivory. The development is slow and mostly painless. At times icterus is noted, as well as ascites and enlargement of the spleen. Cure is till now unknown.—LISTEN, *Berlin Society of Dermatology*.

Apparent Contagion of Psoriasis.—In spite of the seeming success of Destot's inoculations, the contagiousness of psoriasis has not been accepted. Dr. Méneau (*Journal de Médecine de Bordeaux*, December 15, 1895) relates a case in which a psoriasis in a girl of eight years was followed after three years of existence by the same disease upon the scalp of a younger sister who had been in the habit of using the first patient's comb.

Comparative Gravity of Genital and Extra-Genital Chancres.—Syphilis following extra-genital chancre may present at times unusual features of gravity. When we collect a very large number of cases, it is seen that the gravity of syphilis of extra-genital origin is the same as that of syphilis of genital origin. The gravity of certain cases of extra-genital syphilis pertains much less to the localization of the chancre than it does to the conditions of the soil upon which it develops.—FOURNIER, *La Tribune Médicale*, December 25, 1895.

Pharyngeal and Laryngeal Adhesions and Strictures in Syphilis.—Dr. Heymann writes that syphilitic strictures of the pharynx have two sites of predilection—the neighborhood of the posterior nares, and the limit of the buccal and nasal pharynx, where they take the form of adhesions of the velum palati to the posterior wall of the pharynx. These adhesions are of cicatricial character. Stenoses are found in the lower pharynx, though always with a central orifice which may be very small and cause considerable difficulty in swallowing. Syphilitic strictures of the larynx are due to several factors: infiltration of mucous or submucous tissue, gummatous ulceration, crico-arytenoid arthritis, condylomata, isolated or superimposed cicatrices. The cicatrices are situated generally near the vocal cords. Syphilitic treatment sometimes arrests the sclerotic process; in other instances it has no effect. Once established, the cicatrix may be attacked in different ways—the galvanic knife, cutting-forceps, dilatation, or intubation.—*Revue de Laryngologie, etc.*

The Treatment of Lumbago.—Dr. Albert Robin speaks of the different local applications with friction, the revulsives, counter-irritants, and wet-cups, which have been used from time immemorial. He mentions more especially massage of the joints and electricity for the secondary muscular atrophy, and methyl chloride for the acute stage. He recommends jaborandi for the internal treatment. Any disturbance in the cardiac rhythm should be considered as a contraindication to its use; also if epistaxis occurs or the quantity of urine does not reach the normal amount after diaphoresis. He prepares the jaborandi by macerating sixty grains in two and one-half drachms of alcohol for twelve to twenty-four hours and pouring on the mixture one and one-half ounces of boiling water which is infused for twenty-four minutes and then filtered. This filtrate is to be taken hot in the morning after fasting. The patient should avoid swallowing the saliva during perspiration, as it causes nausea and sometimes vomiting. He should drink only small quantities of warm liquids, for instance, coffee, which may relieve the vomiting caused by the ingestion of cold liquids or by swallowing a certain amount of saliva. A single dose of this medicine has been known to cure the disease. When it is expedient to repeat

the treatment it is well to permit a day to elapse between the doses. The patient should be confined to his room or bed and kept warm. Sodium glycerophosphate, five to seven grains, should be administered hypodermically when the above remedy is contraindicated. Sodium salicylate may be used when the articulations are affected.—*Bulletin Général de Thérapeutique*, 1895, p. 241.

Analgesia of the Ulnar Nerve.—Biernacki discovered that in tabes pressure on the trunk of the ulnar nerve in the ulnar groove failed to produce the unpleasant sensation thus produced in healthy persons. Cramer examined a number of cases of mental disease, and found that the reaction was more or less distinctly present in three-fourths of all cases of the non-paralytic insane, but that there was ulnar analgesia on both sides in 39 out of 51 paralytics, or 76 per cent. Snell examined 100 cases, 25 of which were paralytics, and found that in regard to the reaction patients may be classified as follows: 1. Those with normal sensibility as regards pressure in the ulnar groove. 2. Those with no sensibility. 3. A class in which the reaction is weak or different in the two arms. For the 25 paralytics the results were: sensibility normal in 1, weak in 10, and absent in 14. For the 75 non-paralytics the reaction was normal in 25, weak in 39, and absent in 11. Further examination seemed to prove that ulnar analgesia is not related to paralysis except when severe lesions of sensibility are present. As a rule, in the non-paralytics other severe disturbances of sensibility were combined with analgesia of the ulnar nerve. Observations so far as published seem to indicate that ulnar analgesia is of more frequent occurrence in paralysis than in other mental diseases.—*Berliner klin. Wochenschrift*, No. 42, 1895.

The Relation between Tabes, General Paresis, and Spinal Syphilis.—Nageotte has studied the pathology of a number of cases of general paresis, tabes, and spinal syphilis, with reference to the character of the lesions. He finds certain inflammatory changes of a chronic character in all cases, and the nature of the process the same in all three diseases, and he consequently thinks the three separate clinical pictures are merely due to the preponderance of the inflammatory process in certain locations. He concludes as follows: 1. In tabes, general paresis, and syphilitic myelitis, there exists a diffuse inflammatory process involving the whole cord. This lesion, on account of the tissues it seems to attack at first, should be called vascular or connective. It consists of a round-cell infiltration invading the pia mater, the arachnoid, and the capillaries of the spinal cord, and it attacks the superficial veins with great avidity. The essential elements of the cord undergo secondary alterations. The lesion appears to be constant if suitable elective nuclear dyes are employed for its detection. 2. The lesions of the central cortex—causes of general paresis; those of the radicular nerves—causes of tabes; and the localized foci of syphilitic myelitis are only exaggerations of this diffuse lesion in certain points of election, the determination of these points of election being due to factors still imperfectly understood. 3. The process presents a characteristic aspect which seems to make it a distinct entity, although we cannot assert that it always arises from the same causes. From a clinical standpoint, however, it is quite certain that a vast majority of cases have a direct connection with syphilis.—*Archives de Neurologie*.

Pyloric Obstruction from Gall Stones.—Galliard comments on the rarity of this condition and the greater rarity of its appearance at the autopsy table. He mentions several cases where faceted gall stones had been vomited by a patient or passed by means of

a stomach tube. The mechanism of the obstruction seems to be variable. In some cases the stones ulcerate into the stomach, adhesions having been formed, and then get into and close up the pylorus. When adhesions have formed between the pylorus and the gall bladder, the pylorus becomes a fixed point, and, as it cannot recede before a gall bladder distended with stones, the pyloric lumen may be occluded by their pressure. Again, in other cases adhesions form between the stomach and gall bladder and by their own power of contraction close the pylorus. The occlusion may be only partial at first, but as the pylorus is fixed, the stomach, when it becomes distended, drags more and more upon it, and thus increases the occlusion. Unless gall stones are vomited or brought up by the stomach tube, such cases would be difficult to diagnose.—*La Presse Médicale*, October 5, 1895.

Contusions of the Lungs.—Contusions of the lungs, without wounds of the chest walls or fracture or dislocation of the ribs, are not rare accidents; yet the text-books say nothing about them. It is, therefore, of interest to briefly review the main points brought out by Professor Parmenter. Every organ, the heart, the pericardium, the aorta, and the œsophagus, has been injured by apparently trivial blows on the chest, and the lungs do not escape. The elasticity of the chest walls permits a considerable incurve and rebound without permanent injury. The elastic lung would also escape, were it not, as Gosselin has pointed out, that a person about to be hit instinctively closes his glottis, prevents the escape of air under the impulse of the blow, and makes the lung, for the time being, a solid body. The delicacy of the tissues, and especially of the capillary blood-vessels and air sacs, together with the fact that the two pleural surfaces are in exact apposition in a normal state, suffice to explain the serious nature of these injuries. Jobert distinguishes three degrees of bruises. In the first the capillaries only are ruptured, the pulmonary tissue is not torn. In the second the alveoli, bronchioles, and vessels are torn, and blood depots are scattered here and there through the lung. In the third the bronchi and large vessels are torn. Bruises of the first and second degree are usually recovered from; but the patients often die very rapidly from those of the third. Certain complications, chief among which are hæmorrhage, pneumothorax, and emphysema, are common in severe contusions of the lung. The symptoms in a severe case are those of shock and collapse, with dyspnoea and profuse hæmoptysis. There are sonorous râles, absence of vesicular murmur, with amphoric breathing and metallic tinkling. Various complications are almost certain to occur in a severe case. They are broncho-pneumonia, traumatic pneumonia, gangrene, pleurisy, etc. The prognosis depends on the degree and extent of the injury, and its complications. Recovery follows if the lesions remain aseptic, and they usually do, even if hæmorrhage and pneumothorax are present. In the treatment of the graver forms of contusions of the lungs, the shock must be combated by hypodermatic injections of brandy and ether, and the application of warmth to the body. For the pain and dyspnoea, morphine subcutaneously often acts magically, and may be assisted by the use of cold locally. The hæmorrhage frequently demands immediate attention. Auto-transfusion by elevating and bandaging the patient's extremities should be at once employed. If this, with absolute rest in the recumbent position, does not relieve the bleeding, and the dyspnoea and the cardiac embarrassment increase, it is imperative to relieve the condition. With a medium-sized trocar, and using the strictest antiseptic precautions, enough blood may be removed to diminish the pressure. If, as is frequently the case, the

cannula becomes clogged with clotted blood, we must operate as for empyema, and turn out the clots. Unfortunately this frequently starts up the hæmorrhage again, and is only to be resorted to when the patient's life is in imminent jeopardy. Pneumothorax can be relieved by paracentesis. Emphysema requires long and deep incisions into the swollen area, followed by judicious pressure. When empyema occurs, it must be treated in the usual manner.—*International Journal of Surgery*.

The Clinical Value of the Phenylhydrazin Test for Sugar in the Urine.—Dr. Williamson discusses the clinical value of the phenylhydrazin test for sugar, and draws attention to a very simple method of performing the test. A test tube is filled for about half an inch with hydrochlorate of phenylhydrazin in powder, then for half an inch with acetate of sodium in dry powder; the tube is half filled with the suspected urine, which is boiled for two minutes. It is allowed to stand, and the deposit examined some hours later. If sugar be present the deposit contains numerous clusters of needle-shaped crystals of a bright sulphur-yellow color. If performed according to the above simplified method, phenylhydrazin is a most valuable confirmatory test for sugar in the urine; the reagents keep well. The test is very easily performed and is very suitable for clinical work. It is very sensitive—more sensitive than Fehling's test and the fermentation test—and will give a distinct reaction with diluted urine containing 0.015 per cent. of sugar. But it is not too sensitive and gives no reaction with normal urine. If in performing the test the test tube is heated in a water bath (as is usually recommended) the method is somewhat troublesome for clinical work; and by prolonged heating very minute yellow crystals can be obtained in normal urine. Hence the latter method is too sensitive for clinical work. The nature of these minute crystals is somewhat doubtful, but their formation is prevented by the action of yeast on normal urine for forty hours. If the simplified phenylhydrazin test gives no reaction with a urine that reduces Fehling's solution, then the reducing substance is not sugar. Many substances besides sugar reduce Fehling's solution slightly (uric acid, creatinin, hippuric acid), but give no reaction with phenylhydrazin. Besides the various forms of sugar, glycosonic acid and pentose form yellow crystals with phenylhydrazin, and also reduce Fehling's solution; but their occurrence in the urine, except as the result of the administration of some drug or in the slightest trace, is exceedingly rare. The great value of the phenylhydrazin test (simplified method) is as a negative test. A urine which gives no reaction may be declared quite free from sugar for all practical purposes.—*Medical Chronicle*.

Hydrocystoma and Dysidrosis.—Hallopeau says that Robinson has confounded in the description of his hydrocystomas two orders of changes which are distinct: One set of changes is permanent, and thus constitutes veritable cysts to which this denomination can be applied; the other cases are those of dysidrosis limited to the face. Neither the duration of the lesions, nor their desiccation without rupture, nor their annual reproduction, nor their situation exclusively upon the face should make us exclude this diagnosis.—*La Trib. Méd.*, December 25, 1895.

Elimination of Mercury.—Mercury is eliminated by the skin in much larger quantities than has been supposed. After slight friction it is found in greater quantity in the sweat than in the urine. When given internally the elimination in each way is about equal.—MIRONOVITCH, *Gaz. Méd. de Liège*, December 12, 1895.

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THE ADVOCACY OF EXPERT COMMISSIONS.

THE advisability of creating a commission of experts to aid the court and jury in determining the real value of scientific facts, has been so often advocated in these columns that it would hardly seem necessary to refer again to the subject, were it not for the promise of something being done to prove the practical utility of the measure. It is quite likely that a bill will be introduced in the present State legislature covering most if not all of the points involved in previous discussions.

If we mistake not, a committee of the Medical Society of this State is preparing a report to be submitted at the coming meeting favoring such a proposition, with the reasonable probability of its being adopted as the basis for a new law. It is safe to say that the leading members of the legal profession are sufficiently interested in the practical outcome of the project to give it a cordial endorsement. The absurdity of the present method of obtaining expert testimony in our courts is the best argument for a radical change. Even the attorneys whose practice brings them in contact with such cases freely admit that the essential facts are as often perverted in the effort to gain the most for a given side as they are legitimately utilized to obtain strict justice. The jury also, impressed with the belief that a given expert is hired to do the best for a given client, is so chary in accepting the testimony of witnesses for either side that very often the most absurd verdicts are rendered, founded on such facts only as may be presented in exactly opposite scientific aspects. In other words, every effort is made to begot rather than to enlighten a jury, much more depending on the skill of the counsel employed than on the abstract justice of the cause he may advocate. In view of this state of affairs, it is evident that too much responsibility is placed upon a jury, and that the latter must necessarily be incapable of deciding on points concerning which even distinguished expert witnesses so apparently and so radically disagree.

The only reasonable way to overcome such difficulties would be to create a commission of experts, which should be entirely independent and absolutely impartial in its expression of scientific opinion in a given case. In this respect it could act in an advisory capacity to the court and jury as a board of scientific referees on all questions submitted for its direct consideration.

In order to simplify the practical workings of such a commission, a law might be enacted providing for the appointment by the judge of five experts, two of whom should be named by the attorneys on each side. The commission thus formed, be it composed of experts in insanity, medicine, chemistry, surgery, or any other branch of science, could be empowered to examine witnesses, administer oaths, and in every other way supplement the work of the court and jury in gathering facts bearing upon the scientific points at issue, and in thus being the auxiliary and responsible scientific executive of the court itself could advise on all the scientific facts on which the charge to the jury could be based, or from which the jury could obtain additional and necessary information. Some such plan would guarantee more surely and effectually the proper scientific answer to all categorical questions, with the additional and very necessary privilege of impartially and accurately estimating the significance of all qualifying circumstances. The absolute independence of the commission could be thus secured and a proportionate amount of respect be given to its decisions, without in any way militating against the constitutional right of every alleged criminal to a trial by jury. The latter would have not only all its present power of rendering the final and legal verdict, but would gain the additional advantage of an impartial interpretation of leading and material facts by an opportunity for examining through counsel or court the members of the commission as a whole, or, if need be, individually. Any other means to the same end consistent with the requirements of statute could be employed, provided they guaranteed the rendering of a strictly scientific opinion absolutely independent of either side in the case.

SOME NEW LIGHT ON THE FUNCTIONS OF THE STOMACH.

It is coming to be understood more and more that the stomach is not so important an organ, so far as the essential processes of digestion are concerned, as has been generally supposed. Koenig's experiments on animals, in which total extirpation of the stomach was practised, have conclusively shown that the intestines are the real digestive organs, and even in the human being gastric absorption would seem to be quite insignificant, as compared with that of the bowels.

Bunge was the first to point out that the stomach ought to be regarded merely as a reservoir of safety for the rest of the alimentary canal. This view of the lessened physiological importance of the stomach is shared by Dr. Moritz, of Munich, whose observations are referred to in the *Wiener klinische Rundschau* of December 22, 1895.

The proper function of the stomach, according to these recent authors, is to render harmless all those ingesta which might otherwise irritate or damage the bowels. This is accomplished by processes of liquefaction, maceration, disinfection, dilution, and equalizing of the temperature of all substances swallowed.

The fundus of the stomach is entirely different

physiologically from the pylorus. The fundus is principally a receptacle for food. Its digestive capacity is slight. But the pylorus has considerable importance as a motor. It is also stated, in passing, that pure water remains in the stomach for a shorter period of time than any other known fluid.

Everything which produces gastric irritation retards the motive force of the stomach. Food substances of this kind, contrary to what might be expected, remain longer in the stomach than harmless ones.

Vomiting is explained by the newer gastrologists in this way: If the stomach is unable to prepare food properly for intestinal digestion, a reversal of musculo-motor activity takes place and the ingesta are rejected. This explanation strikes us about as forcibly as that of the boy, who said he had to throw up, "because he felt so dreadfully sick at the stomach." Meanwhile we may be permitted to prophesy that, if experimentally inclined clinicians shall continue to supply us with information of such revolutionary character, our text-books of physiology will have to be radically revised.

GASTRIC ACIDITY IN ITS RELATION TO ACIDITY OF THE URINE.

It was Bence Jones who nearly eighty years ago first drew attention to the fact that the reaction of the urine in health underwent certain changes depending on the time which had elapsed since the last meal. Owen, Rees, Nealy, Quincke, and many others have since then amply confirmed Jones' observations. The physiological oscillations in the acidity of the urine are, therefore, at present fairly well understood. But the relation of these variations to digestive disturbances and other diseases has not hitherto received much attention.

Drs. Mathieu and Tréhieux have recently undertaken some researches bearing on the subject, the results of which are published in extenso in the *Archives Générales de Médecine*.

These French observers base their conclusions on four hundred separate examinations of the urine. When it is remembered that they collected the urine of the persons under observation, every hour during the entire afternoon, it must be admitted that their researches were at least painstaking. Without going into wearisome details, the outcome of their studies may be stated in the following propositions:

There is a constant connection between the acidity of the gastric juice and that of the urine.

It is observed that the acidity of the stomach produced either by secretion, by alimentary fermentations, and above all by lactic fermentation, usually causes an increase both in the proportion and in the absolute quantity of acid eliminated by the urine during the process of digestion.

In the normal state, the acidity of the urine is perceptibly lowered in the first few hours after taking food. It becomes progressively greater afterward.

The lowering of the acidity may be preceded by a temporary increase for the first hour after a meal, as

if a certain quantity of acid were produced and then rapidly eliminated.

It happens very often that there is a nearly absolute parallelism between the relative acidity and the absolute quantity of acid thrown off.

This parallelism does not exist when after eating there is a perceptible polyuria. The relative acidity is greater, while the absolute acidity is lowered.

Should anything happen to reduce the amount of gastric acidity notably (lavage of the stomach, vomiting, etc.), this may be noted immediately in a marked diminution of urinary acidity. Under such conditions the urine may become even alkaline.

In hyperchloric dyspepsia the hourly quantity of acid eliminated by the kidneys is considerably higher than in the hypochloric forms of dyspepsia.

The ingestion of milk is followed by a marked increase of acid excreted by the kidneys. This is evidently due to the rapid formation of lactic acid in the stomach. This acid is taken up by the circulation, and through increased diuresis promptly gives rise to increased elimination through the kidneys.

It has not hitherto been found possible to trace graphically the correlation between urinary acidity and the chemical variety of a particular form of dyspepsia.

While the practical results of these French researches cannot be said to be at all important, they will nevertheless stimulate further studies in a domain which modern science is gradually taking away from obscurity and empiricism. Chemistry, bacteriology, pathology, and even surgery are all conspiring to remove the vague term "dyspepsia" from medical nomenclature and assign to diseases of the stomach a place more in keeping with modern ideas of scientific medicine.

THE SANITARY BEARINGS OF TALL BUILDINGS.

THE increasing number of tall buildings in this city has invited a discussion by architects concerning the advisability and safety of such structures. The element of severe and reasonable criticism is so strong that public sentiment is likely to be aroused by the enactment of laws having a prohibitory and restrictive tendency in the required direction. Aside from the greed of landlords in making their investments pay to the uttermost, there is no possible argument in favor of these enormous structures. From a sanitary point of view they are abominations, and an unanswerable insult to the common sense of a plutocratically oppressed people. That the ruthless appropriation of light and air for individual benefit is in itself an invasion of public rights cannot be gainsaid. Worse than all, the narrowest streets are the most invaded, being thus converted into mere alleyways, in which the sun can never shine and the stagnant air of the thoroughfares scarcely be stirred by the strongest wind. In some districts the air of the sidewalk resembles that of a damp cellar, while the causes pertaining to both conditions are strikingly similar. It

is shocking to consider the ultimate effect of a permanent deprivation of sunlight in the lower stories of these buildings, and the unhealthful substitution of artificial illumination. If we add to the insufficient outside ventilation, the extra-damaging elements of the constant atmospheric vitiation indoors, the shutting out of light and air from less pretentious neighboring structures, we can scarcely go further in demonstrating the absolute unfairness of capitalists who look upon the matter only in the light of a profitable business investment.

THE AMBULANCE SEASON.

THE football season is over, and the football player has retired to the classic shades of his 'Varsity, there to give the lumbar enlargement of his spinal cord its necessary rest, and to cause the fallow gray matter of his cerebral convolutions to indulge in needful and healthful exercise. The ambulance season is now on, and the ambulance surgeon is coming to the front in the public notice. His lot is a much less enviable one than that of the football player, though at times it is quite as conspicuous and dramatic. Nothing he does seems to please simultaneously or serially the reporters, the editors, the patients, the superior medical officers, and the managers of his hospital; or, if he adjusts himself eventually to all these environments, the law still remains to be placated.

Nothing could be much more perplexing than the ambulance incident which was much heralded during the past week. According to the accounts in the papers, a man attempted to commit suicide. This is against the law, and hence a criminal complication was at once brought about. The bullet did not produce instant death, and hence his physicians were summoned; they probed the wound, removed the bullet, and put on a bandage. Then the law stepped in, and a policeman summoned an ambulance. The ambulance surgeon, finding a little blood oozing from the wound, very properly tightened the bandage, and this produced a medico-ethical complication, the first doctors alleging that there should have been no interference. The ambulance surgeon having been summoned to bring the case to the hospital, naturally proposed that plan to the family, and this led to exciting domestic protests with much unpleasant verbigeration. Meanwhile the patient incontinently died, leaving the multiple tangles that he had raised by his act to be straightened out as best they might be. Of course, the result was that complaints were made all around, and nobody was satisfied, unless it was the reporters, who always make much good copy out of dissensions. As a matter of fact, it seems that there was nobody to blame, except, perhaps, the man who committed a bungling suicide, and we will not pass judgment upon him.

A Bill has been presented in the House of Representatives, to pay the legal heirs of the late John W. Branhan, assistant surgeon of the U. S. Marine Hospital Service, who died at his post of duty, of yellow fever in 1893, the amount of his pay and an allowance for two years.

News of the Week.

Medical Society of the State of New York.—The ninetieth annual meeting of the society will be held at Jermain Hall, Albany, commencing at 9:15 A.M., January 28, 1896, and continue in session until 1 P.M., January 30th. Attention is called to the change in the time of the meeting, which is one week earlier than has heretofore been customary. Reduced fares can be obtained by applying on starting at the railway station for a certificate, which, on endorsement by the secretary of the Society and the special agent of the Trunk Line Association who will be at the meeting during Tuesday and Wednesday, will entitle its holder to return for one-third fare.

New York County Medical Association.—The meeting of January 20th was devoted to the reading of reports and the election of officers. The treasurer's report showed expenditures of nearly two thousand dollars, and a balance of nearly three hundred. Dr. Bozeman, corresponding and statistical secretary, said the membership had been increased during the year from 1,006 to 1,065. Two members have been expelled. The election resulted as follows: *President*, Dr. Joseph E. Janvrin; *Vice-President*, Dr. H. J. Boldt; *Recording Secretary*, Dr. P. B. Porter; *Corresponding and Statistical Secretary*, Dr. N. G. Bozeman; *Treasurer*, Dr. John Hinton; *Member of Executive Committee*, Dr. John Shrady.

The Dangerous Spitting Nuisance.—Drs. Hermann Biggs and T. Mitchell Prudden, the Health Board pathologists, have prepared a report on the practice of spitting in public places and conveyances, which, in their opinion, is responsible for the dissemination of diseases, such as consumption, pneumonia, influenza, diphtheria, scarlet fever, measles, or whooping-cough. That the practice is merely a habit, and not a necessity, is shown, they say, by the large number of men who are free from it, and the insignificant number of women who are addicted to it. The practice should be abated, the report says, and could be with the assistance of the community. Accompanying the report are resolutions providing that signs should be placed in elevated and surface cars and on the stations of elevated roads, signed by the Health Board, and warning the public against the practice. These signs should also be put in all municipal and federal buildings, and the authorities and elevated roads should be requested to provide spittoons in public places. The resolutions also ask the Manhattan Elevated Railway to give orders to guards to prevent passengers from spitting into the street.

New Health Bill for Mississippi.—The legislature of the State of Mississippi is considering a bill to reorganize the Health Board of the State, which at present consists of twelve members, seven appointed by the governor, one from each congressional district, and five appointed from the State at large on the recommendation of the State Medical Association. The new bill provides that the governor shall appoint five of the seven members upon the recommendation of

the State Medical Association, that their terms of office shall expire with that of the governor making the appointments, and that two members shall not be appointed from the same congressional district. It is said there is every probability of a hard fight over the new bill.

A Very Amusing Discussion is at present in progress between the editor of the New York *MEDICAL RECORD* and the editor of the Philadelphia *Medical News* upon the subject of spelling. In a very modest way we have ventured ourselves on many occasions to animadvert upon the method of spelling adopted by our latter esteemed contemporary, and the following is what the New York *MEDICAL RECORD* has to say on the subject: "Our contemporary, the *Medical News*, has a reprehensible habit of misspelling a good many words and an obstinacy in holding out, even when convicted of error by every other authority, as well as by incontrovertible facts." The discussion has turned in this instance upon the words "uranalysis" and "symphyseotomy." The editor of the *Medical News* objects to each, while the editor of the *RECORD*, in an interesting leading article, justifies their existence etymologically, and points to the fact that the "e" in symphyseotomy is correct, inasmuch as the stem of the word is *φυσσ*. It is refreshing to see that at least one of our contemporaries on the other side of the Atlantic has made a stand against the policy of "clipping and changing" which at present disfigures the words in many American medical journals.—*Med. Press*.

The New Library and Hall of the Medical and Chirurgical Faculty of Maryland was formally opened on January 11th. After the opening remarks by the president of the faculty, Dr. Hill, and by Dr. Tiffany and Dr. Ashby, the address of the evening was delivered by Dr. James R. Chadwick, of the Boston Library Association. Dr. Chadwick took for his subject, "Medical Libraries." The exercises were concluded by remarks from Surgeon-General Sternberg and Dr. Robert Fletcher.

Another Doctor in the Senate.—Dr. Godfrey Hunter has been elected senator to represent Kentucky. The United States Senate now contains two physicians, both Republicans, and one a homeopath.

Dr. Grace, the cricketer, has recently lost his brother, who was also a medical man as well as a cricketer. The brother died of apoplexy.

No Verdict in the Brooklyn Vaccination Case.—The jury in the case of Peter Burggraf against Health Commissioner Emery and Dr. Frank E. Boyden, for \$5,000 damages for the death of his nine-year-old daughter, which was on trial several days in the Supreme Court, in Brooklyn, has disagreed. The plaintiff alleged that his daughter's death resulted from the compulsory vaccination, which was one of the incidents of the small-pox scare in the spring of 1894.

Obituary Notes.—Dr. Gustave Gartzman, a physician of Newburgh, died January 17th in the Presbyterian Hospital, this city. Dr. Gartzman went to Newburgh about twenty years ago. He was a Prussian, and served in the German army as a surgeon af-

ter graduating in Germany, and also as interne at Bellevue Hospital before going to Newburgh.—Professor K. N. Fenwick, of Kingston, Ontario, died, January 22d, of septic infection from a wound received in operating.

The Bertillon System of Identifying Criminals.—The committee appointed by the New York State Medical Association to confer with a similar committee of the Prison Association of New York, on questions connected with criminology and penology, has recommended what is known as the Bertillon system of identification of prisoners for adoption throughout the State. This system not only renders the identification of prisoners absolute, but is of great scientific value in connection with the study of criminology and anthropology and questions relative thereto.

The Post-Graduate School of Medicine of the District of Columbia.—The bill to incorporate the Post-Graduate School of Medicine was favorably reported by Senator Gallinger, on the 10th inst., and upon his motion was unanimously passed by the Senate. Senator Gallinger is a homeopath physician, and all medical matters arising in the Senate are referred first to him for a medico-senatorial opinion. The senator is greatly interested in medical advancement and gives all such matters his personal attention.

Indiana Board of Health.—The Indiana State Board of Health announced, January 3d, stringent rules in regard to the introduction of infectious diseases into the State, and the notice is accompanied by the statement that the rules will be rigidly enforced. They provide that any common carrier or person bringing any sick person or persons suspected of being sick with small-pox, diphtheria, membranous croup, scarlet fever, or any communicable disease, shall be liable to certain penalties, and the corporations or persons so offending shall also be liable for the charges incident to the care of such sick persons by the local health authorities. It is made the duty of the conductor of a train or the master of a steamboat to notify by telegram the secretary of the Board of Health of the presence of such sick person on his train or vessel, in order that suitable provision may be made for preventing the spread of the disease. All trains and vessels coming to Indiana from any point where communicable diseases obtain are to be subject to inspection by the local health officer, and the charges of such inspection shall be a valid claim against the corporation. The shipment of the body of a person who has died of membranous croup shall not be granted, and no permit shall be issued for the shipment of the body of a person having died of "heart failure" unless the cause of heart failure is stated.

Tuberculous Milk.—Dr. Rowland Godfrey Freeman desires to be reported as having said, at the recent discussion on the milk question before the Section of Public Health, that from the "use of tuberculin it would seem probable that seven per cent. of all cattle in this State are tuberculous."

Chloride of Chromium is said to be a very efficient application in the treatment of cancer.

A New Way to Isolate the Typhoid Bacillus.—

According to Professor Brieger, more than seven hundred articles have been written about the typhoid-fever bacillus, in the last few years. Nevertheless, no one has yet discovered a certain method of isolating it until the present time. Such a method has, however, we are told, lately been discovered by Dr. Elsner, assistant physician at Professor Koch's bacteriological institute. After boiling gelatin together with an infusion of potatoes, he adds a quantity of soda and filters and sterilizes the mixture, which is then put into tubes filled with a one-per-cent. solution of iodide of potassium. The tubes are then inoculated with the dejecta, and the gelatin is deposited on glass plates in the usual way. The researches of Dr. Elsner have proved that all bacteria perish in the iodide-of-potassium gelatin except the bacillus of enteric fever and the bacterium coli commune. After twenty-four hours the bacillus of enteric fever is scarcely visible on the gelatin, but the colonies of bacterium coli are already somewhat large at this period. After forty-eight hours the colonies of the enteric-fever bacillus become visible as small clear masses like drops of water, whereas those of the bacterium coli are large and of a dark-brown color. No other bacteria of the dejecta besides the two above named are to be seen. Dr. Elsner has published twelve cases in which he found the bacillus after forty-eight hours in every stage of the illness. The number of the bacilli decreased as soon as the temperature became lower. In one case complicated with thrombosis of both crural veins they were present even after thirty-eight days.

The Genesis of Medical Journalism.—In a review of the present state of the British Medical Association and its journal, the editor refers to "the once popular vogue of the old-established and high-priced weekly medical paper once enjoying the leading position but now, at whatever distance and however nominally, the only approximate rival of the journal." This unkind thrust toward an esteemed contemporary is offset by the contemporary itself, which gives a learned article upon the development of medical journalism. In referring to history on this subject, only three journals are mentioned: *The Gazette* of Theophraste Renaudot, Hufeland's *Journal der Heilkunde*, and the *Lancet*.

The University of Vienna.—The catalogue for the current session shows an attendance in all departments of 5,459. Of this number, 2,213 are in the medical department.

Imported Stimulants.—During the year 1875 there were imported into the United States 1,857,840 bottles of champagne and other sparkling wines; in 1885 the number increased to 2,608,152; and in 1895, just closed, 2,878,140. Enormous as these numbers are, they are quite surpassed by the total for the year 1890, which was 4,753,836.

Anecdote of Dr. Leidy.—Dr. William Hunt, the famous surgeon, tells the following anecdote concerning the venerable doctor: The only instance I ever knew of Dr. Leidy's departure from strict truth was, to a medical man's way of looking at it, a very amus-

ing one. Some years ago he came to my house in quite an enthusiastic mood, and said: "Dr. Hunt, do you know that they are moving the bodies from a very old burying-ground down-town to make way for improvements?" "Yes," I said. "Well," he went on, "two bodies turned into adipocere are there [this is an ammoniacal soap and the bodies are commonly called petrified bodies]. They have been buried for nearly a hundred years; nobody claims them, and they would be rare and instructive additions to our collections." "All right; I shall be delighted." So Leidy went down to secure the prize. When he spoke to the superintendent that gentleman put on airs, talked of violating graves, etc., so the discomfited doctor was about to withdraw. Just then the superintendent touched him significantly on the elbow and said: "I tell you what I do, I give bodies up to the order of relatives." The doctor took the hint, went home, hired a furniture wagon, and armed the driver with an order reading: "Please deliver to bearer the bodies of my grandfather and grandmother." This brought the coveted prizes, and the virtuous caretaker was not forgotten.

Rattlesnake Wine.—Benjamin Gooch in his "Medical and Surgical Observations," published in 1771, gives a summary of different ancient therapeutic methods based on the use of animal poisons. One of his observations relates to a case of severe pain, spasms, etc., of long duration. Gooch says, after speaking of the patient's sufferings: "Not to appear inhuman to so wretched a being, after telling him I could do nothing I sent him a bottle of rattlesnake wine, to take a glass of frequently. This was in the West Indies drank as the highest cordial. Three nights after, the patient walked in. 'Sir,' said he, 'you cannot be so much amazed as I am, nor half so much pleased; I am come to thank you, and if not criminal to worship you.'" Gooch's account of how he learned the virtues of rattlesnake wine is as follows: "A very wealthy old gentleman in the West Indies had long been afflicted with leprosy to a high degree, which was deemed incurable by his physicians. Apparently in a dying state he made his will, leaving a large legacy to a female servant who had lived with him many years. This circumstance being known to the servant, she and her paramour studied and contrived how to make away with him in such a manner as to raise the least suspicion. They put the heads of rattlesnakes into the wine he drank, thinking it would prove an infallible poison; on the contrary, he grew better, and the criminals, imagining the poison was not strong enough, added more snake venom, whereby the gentleman was restored to perfect health. Conscience finally put this servant upon her knees before her master, confessing her crime. Forgiveness was granted, and the old gentleman gave her a sum of money, ordering her to depart and never see him more."

Epileptics in New York State.—At a meeting of the State Board of Charities, held in Albany, January 8th, Dr. Hoyt, Superintendent of State and Alien Poor, made a full report in respect to the number and condition of the dependent epileptics of the State, by which

it appears that the number of such epileptics, exclusive of epileptic insane, is 771, as follows: In county and city poorhouses and almshouses, 427; in institutions for the idiotic and feeble-minded, 152; in all other institutions, 109; in family care, receiving public outdoor poor relief, 83. The Craig Colony, soon to open with accommodations for 200 patients, will be able to receive only about one-fourth of the dependent epileptics of the State, and there can be no further admissions to the institution until additional accommodations are provided.

Discovery of Vaso-Constrictor Nerves of the Heart.

—The announcement of Dr. W. T. Porter's discovery of the vaso-constrictor fibres of the heart, to which former allusion has been made, brings home the fact that the long-cherished dream of making the mammalian heart as accessible to research as any other muscle is now coming true. A quarter-century has passed since the experiments of Bowditch, Merunowicz, Luciani, and Kronecker, in Ludwig's laboratory, led the way for that swarm of investigations on the isolated heart of the frog to which pharmacology and practical medicine owe so much. During these years, more than one investigator, tempted by the harvest that waited on success, has endeavored to isolate the mammalian heart. Martin nearly succeeded, but was obliged to keep the pulmonary circulation intact in order to feed the heart with oxygenated blood. Ludwig, with Pawlow and Stolnikow, greatly improved the details of Martin's method, but was foiled in turn by the difficulty of oxygenating the blood in the absence of the lungs. And yet how simply this great obstacle was finally overcome! Hédon and Gilis, in 1892, received the body of a man guillotined three-quarters of an hour before. They tied the descending aorta and the arteries that spring from the aortic arch and injected into the aorta defibrinated dog's blood. The semilunar valves closed, the blood streamed through the coronary arteries, and the heart recommenced its long interrupted beat. Hédon and Gilis went no further. Their method has since been put into practical use by Langendorff, in Rostock, and in the Harvard Medical School. The isolation of the living mammalian heart has become an easy and certain operation. The discovery of the vasomotor nerves of the heart is as yet the most valuable fruit of this procedure, but it is easy to see that a most enticing field of investigation is now open and that results of the greatest interest are likely to be attained.

The German Surgical Society will celebrate the twenty-fifth anniversary of its foundation, in Berlin, next spring. It has commissioned a Berlin painter, Hans Schadow, to paint portraits of Sir Joseph Lister, Sir James Paget, Professors von Bergmann, König, and Gussenbaur. These will be added to the gallery of celebrated surgeons in the Langenbeck House.

Suburban Sanitaria for Consumptives.—In Berlin a society has been formed for the erection of sanitaria for consumptives. They propose first to put up a number of simple barrack sanitaria in the neighborhood of Berlin.

The Medical Curriculum and Examination in Austria.—A conference upon the course of medical study and medical examinations was held in December with the Minister of Education, and under his chairmanship, by representatives from the various medical centres of Austria. The work of the conference consisted of the consideration of fourteen questions, covering the subjects of discussion. It was decided that the period of study should not be lengthened, but that one year's hospital service in hospitals appointed by the Government should be obligatory upon candidates for medical licenses. The curriculum was divided into two groups of study; the first including the so-called primary natural science subjects, and the second the clinical and medical work proper. In the first group the following subjects are made compulsory: Systematic anatomy, dissection, physiology (with practical work), physics, chemistry, histology, and practical histological work. The subjects recommended, but not obligatory, are biology, history of medicine, and embryology. Admission to the senior studies is only to be permitted after the most rigid examination. In the second group, as obligatory, are included: General and experimental pathology, pharmacology and prescription writing, pathological anatomy and histology, clinical work in internal medicine, surgery, obstetrics and gynecology, ophthalmology, forensic medicine, hygiene with bacteriological investigation, pædiatrics, dermatology, syphilidology, and psychiatry. Obligatory courses are also to be taken in laryngology, otology, vaccination, dentistry, and in surgical manipulation. As not compulsory are recommended: Sanitation, veterinary medicine, epidemiology, toxicology, field surgery, orthopædics, and practice with instruments and dressings. Attendance for twenty-four hours upon weekly lectures or demonstrations is to be required, and the form of examinations is to be left to the board of examiners, who are to satisfy themselves as to the proficiency of the candidate.

New Hospital for the Treatment and Investigation of Tuberculosis.—A society for the establishment of a curative institution for tuberculosis has been organized in Austria, and by private subscriptions has been enabled to purchase land for the realization of its purpose. The site secured is in Alland, in Lower Austria. It is proposed that only cases susceptible to improvement or cure be received, and in the transfer of patients preference is to be given to the two greater Vienna hospitals. Resident physicians are to be appointed, who will be expected to promote the scientific study of tuberculosis and the most approved methods of nursing and treatment. In scientific features, the new hospital is expected to develop a most advanced position.

Death from Pental.—A case is reported of a woman, aged twenty-three, who died under the influence of pental, at the Dental Hospital in London.

St. Mark's Hospital.—Dr. H. N. Vineberg has been appointed attending gynecologist to St. Mark's Hospital, New York.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HONORS AT THE NEW YEAR—CHRISTMAS IN HOSPITAL—CHRISTMAS AND VENEZUELA—CANON WILBERFORCE AGAIN—CENTENARY OF THOMAS WAKLEY—LONDON UNIVERSITY—BRITISH MEDICAL MEETING—DEATHS OF MR. ROUSE AND DR. KIDD—VACANCY IN THE MEDICAL COUNCIL.

LONDON, January 3, 1895.

THE customary list of honors conferred on New Year's day has appeared and contains the names of six doctors. Foremost of these is that of Sir Joseph Fayrer, who receives a baronetcy. He was already K.C.S.I., and held many other distinctions. He has served his country long and well in various offices, and is a great favorite with the profession and a *persona grata* at court. The new honor is hereditary, and if acceptable to him every one will recognize that he deserves it. I am not much in favor of hereditary rank, but the ancient system holds its ground. I think that a life peerage would be a more suitable distinction for individual worth, and a few such would be acquisitions to the upper house. Knighthoods are given to Dr. Willoughby Wade, of Birmingham, Mr. R. M. Craven, of Hull, and Dr. J. A. MacCullagh of Derry. Dr. Nicholls, of Dominica, gets a C.M.G. and Surgeon Lieutenant-Colonel Browne, of Lahore, the C.I.E. Thus three distinctions go to the provinces and two to India and the colonies. No one will grumble at the selection, but many will think a dozen honors might have been given to the profession instead of half that number.

Christmas was kept in most of the hospitals and every effort made by the doctors, nurses, and others to enliven that season for the patients. The children's hospitals and children's wards in the larger institutions were specially cared for, and the little patients must have been as much cheered as was possible.

Speaking of Christmas reminds me of the menacing message of your President, which startled us just before that season of good will to men. The solidarity of the profession here and with you is complete. We regard you as our brethren, and doubt not all your influence is for peace and good will. A curious suggestion has been made here to the effect that the real object of President Cleveland was to render a conflict impossible between the two branches of our race. We may hope at any rate such will be the result, but the method of arriving at it seems to me strange. It reminds me of the old song

"It may have been right to dissemble your love,
But why did you kick me down-stairs?"

Canon Wilberforce seems to have selected the season of good will to renew his attacks on hospitals and the profession, for a letter of his appeared in the *Times* of the 29th ult. in which, instead of apologizing for the falsehood for which he has been rebuked, he pretends to have been hoping that some recognized leader of the honorable medical profession would have authoritatively dissipated the feeling of uneasiness to which he drew attention.

What a state of mind in a canon! He utters a slander, is told it is false, and invites the slandered to prove a negative. His conduct is possibly priestly—it is not Christian.

With the first number of January the *Lancet* enters on its seventy-fourth year and promises a full biography of its founder, Thomas Wakley, for 1896 is the centenary of his birth. The redoubtable editor, coroner, and M.P. was a great reformer, and his works follow him. The early volumes of his journal teem

with his brave denunciations of abuses and fixed determination to reform them.

I spent many an hour when an apprentice in reading them up, and could commend them as instructive and amusing to all would-be medical reformers. I shall follow the biography with the interest of those who knew him and some of his coadjutors.

The office of registrar of the University of London is about to become vacant. The appointment is an enviable one, and was formerly held by Dr. Carpenter, who was succeeded by Dr. Milman. The office brings the holder into contact with numerous scholars and representative men, and carries an emolument of £800 per annum, rising to £1,000.

The invitation of Carlisle for the British Medical Association to meet there next year has been accepted.

The death of Mr. Rouse, senior surgeon to St. George's Hospital, is announced, at the age of sixty-six. He had been in failing health for some time. He was educated at St. George's and has been connected with the hospital throughout his career. He was consulting surgeon to the Royal Westminster Ophthalmic Hospital and held other appointments in the ophthalmic specialty, for he was one of the few hospital surgeons who not only retained his interest in ophthalmology, but practised successfully as an oculist as well as a general surgeon. His writings were confined to the St. George's Hospital Reports and the weekly medical journals.

Dr. George H. Kidd, of Dublin, died last week. A foremost authority in the Irish school, his fame as an obstetrician was such that European and American societies alike delighted to number him among their honorary or corresponding members. Every honor his brethren could confer was his, and when direct representatives in the Medical Council were authorized (1886), he was elected and held the office until his decease last week.

The death of Dr. Kidd renders vacant a seat in the General Medical Council for a direct representative for Ireland. Several candidates are in the field, among them Dr. A. H. Jacob, of Dublin, whose career has been one long course of labor for his professional brethren. Not only in the *Medical Press*, but in the Irish Medical Association and in every public position, he has been for more than a quarter of a century the recognized champion of the medical profession of Ireland.

If his brethren do not now elect him by an overwhelming majority over the nominees of corporations, they will deserve to be abandoned to the representatives of selfish vested interests.

OUR PHILADELPHIA LETTER.

(From our Special Correspondent.)

DOINGS OF THE VARIOUS SOCIETIES.

PHILADELPHIA is eminently a city of medical societies. There are at least six important bodies and a host of minor ones. It has even become the fashion for the students in the medical colleges to form organizations, which they name after favorite professors. It thus comes about that scarcely a night passes without its medical meeting. The communications presented to these various bodies and the discussions elicited range naturally through all degrees of excellence, and there can be no doubt that it would be better if the work thus scattered were brought together. A few thoroughly successful societies would be preferable to a larger number less successful. In the past week, for example, five meetings were held—on Monday by the Academy of Surgery, on Tuesday by the Section of Otology and Laryngology, on Friday by the Section

on General Surgery of the College of Physicians, on Wednesday by the County Medical Society, and on Thursday by the Pathological Society.

At the meeting of the Section of Otology and Laryngology of the College of Physicians, Dr. B. A. Randall showed an adult male who presented, on otoscopic auscultation, a to-and-fro bruit in the right ear, synchronous with the pulse, and obliterated by pressure on the carotid artery and also in part by Eustachian catheterization. Abnormal swelling or pulsation could be nowhere detected, and the patient complained principally of right-sided tinnitus and impairment of hearing, in conjunction with an absence of exophthalmos and of cardiac lesion, and a denial of syphilis. The condition was believed to depend upon an aneurism of the pharyngeal artery or one of its branches. Dr. E. L. Vansant showed a colored girl, about fourteen years old, who presented a cyst upon the lingual aspect of the epiglottis.

At the meeting of the County Society, Dr. Carl Seiler read a paper on "The Importance of Specific Gravity in Liquids for Topical Medication," in which he inveighed against indefinite instruction upon the part of the physician toward the patient in the preparation and mode of using remedial agents intended for topical application. He made a plea for a standard specific gravity for such liquids, based upon that of a solution of sodium chloride (fifty-eight grains to the pint of distilled water), corresponding closely to the normal saline solution; and contended that much harm resulted from the employment of solutions deviating from this density. Dr. T. S. K. Morton reported a case of "Osteosarcoma Requiring Excision of More than Half of the Inferior Maxilla," in a colored man, twenty-one years of age, and presented the specimen. The operation was entirely successful, and was followed by inconsiderable deformity. Dr. A. O. J. Kelly read a report of a case of "Calculous Pyonephrosis," involving both kidneys, in a woman more than sixty years old, who had presented symptoms referable to this condition for only a relatively short time. The left kidney contained two stones, the right kidney one stone. But little renal structure was left on either side. During life an abnormal swelling had been appreciable upon one side. The case illustrates the danger of surgical intervention with the possible view of removing one of such kidneys without a knowledge of the condition of the other, and also the desirability of some such procedure as ureteral catheterization in the male, either through an opening into the bladder above the pubes or by another route.

At the meeting of the Pathological Society, Dr. W. S. Carter read a report of two cases of sarcoma in one family, and presented the specimens. In the one case, a boy, seven years old, the malignant disease was situated in the structures behind the peritoneum; in the other, a girl, five years of age, the disease involved the sacrum.

The Section on Surgery of the College of Physicians discussed the subject of appendicitis. Dr. D. T. Lainé reported "Cases of Appendicitis Illustrating Some of the Difficulties in Diagnosis Occasionally met with, and Certain Points in the Pathology of the Disease." Dr. Alfred Stengel also made some remarks on the pathology of the disorder. Dr. J. M. Da Costa, who, in his capacity as president of the college, presided over the meeting, pointed out the possibility of confounding with appendicitis attacks of uterine colic in menstruating women, and *vice versa*. Dr. Edward Martin read a paper on "The Operative Treatment of Varicose Veins of the Leg."

Scarcely had Dr. John S. Billings, so well known throughout the world for his bibliographic labors, become domiciled here than he was called to New York to become chief librarian of the Consolidated

Libraries. The recent dinner and testimonial in this city to Dr. Billings are yet fresh in mind, and it was hoped that Philadelphia might hereafter be the field of the activity of this distinguished representative of the medical profession, who has done so much to gain recognition for its literature and to insure its permanent preservation and convenience of access.

Professor Edward G. Conklin, late of the Northwestern University of Illinois, has entered upon his duties as Professor of Comparative Embryology in the medical department of the University of Pennsylvania, in succession to the late Professor John A. Ryder. Dr. Edward C. Kirk has been elected dean of the Dental School of the university. Dr. William Pepper has been elected president, and Dr. D. G. Brinton one of the vice-presidents of the Archeological Society of the university. The total number of students enrolled in all the departments of the university is 2,632, the medical department including the largest number of any single department, 873.

During the month of December, 108 cases were admitted to the Municipal Hospital, including 73 of diphtheria (with 16 deaths—22 per cent.). For the week ending January 4th there has been an increase throughout the city of 35 new cases of diphtheria, and an increase of 5 deaths from the same cause, as compared with the previous week. The total number of deaths for the week was 452, nearly one-third of which, 138, were attributed to "consumption" and "inflammation of the lungs" together. One case of small-pox, at Knoxville, Alleghany County, has been reported to the State Board of Health. The third annual meeting of the Associated Health Authorities of Pennsylvania will be held at Harrisburg, on January 23d and 24th. Papers will be read upon milk purity, water supplies, slaughter houses, pork packing, utilization of offal, the spread of contagious diseases, etc.

The Pennsylvania Hospital—one of the oldest in the country—has in the last few years undergone most radical alteration and extension. A further addition is now contemplated, in the form of a building, fifty by one hundred and thirty-five feet, three stories high, to be devoted to the purposes of a receiving ward and of general clinics. The structure, which will cost \$100,000, is intended as a memorial to a member of the family contributing the funds for its erection.

The Philadelphia medical profession may feel just pride in the poetic abilities of some of its constituents. "The Year-book of the Pegasus," No. 1, which has just been published, contains verses by Drs. S. Solis-Cohen, J. Chalmers Da Costa, J. K. Mitchell, and S. Weir Mitchell. The "Pegasus" is the name assumed by a group of congenially disposed men of literary, artistic, and musical tendencies, mostly engaged in the active pursuits of life, who meet from time to time and entertain one another with the product of their own originality.

SKIN-GRAFTING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of December 7, 1895, p. 800, I noticed an interesting article by Zera J. Lusk, M.D., entitled "A New and Original Method of Obtaining Material for Skin-grafting," in which he employs the epidermis from the surfaces of blisters. That the method is "new and original," as far as Dr. Lusk is concerned, I do not doubt; but, in general, I shall have to claim priority of invention and of publication.

About eighteen months ago I successfully employed, in the Cincinnati Hospital, the epidermis raised by a cantharides blister in grafting an old crural ulcer.

Last March I reported the case in a paper read before the Denver and Arapahoe Medical Society. The paper was subsequently published in *The Denver Medical Times* for May, 1895.

My experiments differed from those of Dr. Lusk in that I used a single large graft to cover the ulcer entirely, as in the Thiersch method, instead of a number of small ones distributed over its surface, according to Reverdin. I also employed the epithelium just as it was removed from the blister, without a preliminary drying. I did not prepare the ulcer by scraping, as Schnitzler and Ewald have shown, and I also have demonstrated to my own satisfaction that this is often unnecessary.

Skin-grafting is thus remarkably simplified by this new and easy process, while its objectionable features are almost entirely removed. There is little or no pain, no hemorrhage whatever, and the patient cannot regard it as a dreaded "surgical operation" unless the local conditions are such as to require a preliminary curetting. The ulcerating surface is first "sterilized" for several days by the application of compresses wet with 1 to 3,000 bichloride solution or with peroxide of hydrogen. A blister of a size and shape to suit the ideas of the surgeon is then raised on some convenient portion of the body, and the layer of epithelium thus obtained is applied to the surface to be grafted. A dry iodoform dressing may be employed. An anæsthetic, often so objectionable, is not required. Patients would be apt to submit to this process when Thiersch grafting would not be permitted. Grafting from one individual to another would also be facilitated.

Owing to my removal from Cincinnati to Denver, it has happened that I have had no opportunity of immediately continuing my experiments, so that I cannot speak with certainty as to the extent to which grafting from blisters may be applied; but, judging from my own experience and that of Dr. Lusk, its applicability will approach that of the Thiersch method.

DENVER, JANUARY 6, 1896.

LEONARD FREEMAN, M.D.

TENDON-GRAFTING FOR INFANTILE PARALYSIS—A REPLY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of January 11, 1896, page 71, I notice a communication from Dr. B. F. Parrish, of Midway, Ky., entitled "Tendon-Grafting, A Question of Priority," in which he seems to think credit should be given to him for having first evolved the above principle.

If after a careful comparison of the two operations the doctor still feels that an injustice has been done him, no one is more willing than I to concede priority. The essential points of difference are as follows:

1. He "cuts away the tendon sheaths."
2. "The opposing tendon surfaces were freshened with the knife and sewed together with catgut suture for a space of an inch or more, and the wound closed."

In my operation:

1. Each tendon sheath was opened longitudinally for one inch.
2. Each tendon was split with a small fascia knife for a distance of one inch, taking off two grafts, the graft from the healthy muscle (extensor proprius pollicis) being left attached at the proximal end of the muscle, while the one taken from the paralyzed (tibialis anticus) muscle was attached at the distal end.
3. The cut surfaces of the two grafts were approximated and sewed together with interrupted sutures of kangaroo tendon.
4. The sheaths of the two tendons were then brought together with a continuous suture of kan-

garoo tendon so as to prevent the newly united grafts becoming adherent to the overlying structures.

5. Adhesion to the newly formed sheath was still further prevented by passive motion, *i.e.*, movements of the great toe every forty-eight hours until union of the grafts had taken place.

After the above comparison of the two operations and technique, let us compare the results. Dr. Parrish did his operation May 15, 1892, more than three and a half years ago, but we have no record of the case, I believe, since December 16, 1892, seven months after the operation, at which date it was reported improved. In conclusion he writes as follows: "I hope, however, to report her case in full at a later date, together with the report of several other cases which I have under observation."

My operation was performed February 14, 1894, but the case was not presented to the New York State Medical Association until October 15, 1895, twenty months after the operation, and not until all apparatus had been left off for five months and the use of the limb restored.

Since my article appeared in the MEDICAL RECORD, October 26, 1895, I have to thank Dr. Archibald Church, of Chicago, for having called my attention to an operation performed by Dr. K. Winkelmann on January 23, 1894, the case having been presented to a medical society in Germany on February 5th, thirteen days after the operation, but not published until September 18, 1894, in the *Deutsche Zeitschrift für Chirurgie*, vol. xxxix., p. 109.

Dr. Winkelmann took a graft from the healthy gastrocnemius and attached it to the paralyzed perineus longus with five interrupted silk sutures. This last reported operation was performed eighteen days before mine, but the case was not shown to a medical society until February 5th, which was only ten days in advance, and was published September 18, 1894, seven months after my operation was performed.

Although Dr. Winkelmann undoubtedly can claim priority for having taken part of a healthy muscle and grafted it on to the tendon of one which was paralyzed, the fact that his article was not published until some months afterward allows me to claim originality.

Since Dr. Parrish's rather caustic remarks it is found that Nicoladoni (*Centralblatt für Chirurgie*, p. 700), as far back as April 15, 1881, attached the healthy tendons of the perineal muscles to the tendo Achillis for paralysis of the gastrocnemius and soleus muscles, as he describes it, "in a manner similar to the grafting of trees."

Without taking up any more space in your valuable journal at present, in closing I must call attention to the importance of not only preserving the tendon sheaths, but so far as possible restoring their physiological action. This seems to me one of greatest shortcomings of other operators, and I believe it largely responsible for the limited advance heretofore made in this branch of surgery.

NEW YORK. SAMUEL E. MILLIKEN, M.D.

A NEW POINT IN THIGH AMPUTATIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: In the MEDICAL RECORD for December 21, 1895, is printed a report of the meeting of the Section upon Surgery of the New York Academy for December 9th. In this I am made to say: "Dr. Dawbarn said that in all hip-joint amputations he hamstrung his patients, in order to prevent retraction of the muscles and their unequal length and pocketing after division. This saved time spent in suturing them on a common level."

As a rule the MEDICAL RECORD's reports are accu-

rate, but this statement italicized is quite misleading. It is in fact just the reverse of what I said.

Upon the occasion in question, the section cards announced a paper by Dr. F. T. Brown; subject, "Two Thigh Amputations by a New Method." Accordingly, a discussion of new methods herein was in order. And this present letter is an amplification of what I then said.

So far as my recollection goes, the plan I am about to describe is new in print. I have taught it for ten years at the Polyclinic School, however. So simple, so self-evidently a good thing is it, that the wonder is that every surgical text-book does not contain it; and I quite expect that some one will now come forward and state where it may be found published.

I refer to "hamstringing" the patient just prior to any thigh amputation.

The technique is as follows: The thigh being elevated and "milked" as usual, and the leg held extended on the thigh, thereby causing the hamstring tendons to stand out tensely, the surgeon divides these, on both sides, with two bold strokes of the knife. No vessel of much size is cut in so doing; still, an assistant instantly prevents bleeding by thrusting his thumbs into these wounds.

Of course, this has only taken a few seconds to do; and now (not before) the customary Esmarch bandage or stout rubber tube is applied above the point at which it is decided to amputate. Then the operation proceeds as usual, bloodlessly.

The reason for advocating the hamstringing is simple, but involves a brief statement of well-known anatomical facts. None of the hamstring muscles (save a part of one, the biceps) has any attachment to the thigh bone, but all arise from the pelvis and are inserted below the knee. These are the sartorius, gracilis, semi-tendinosus, semi-membranosus; also the biceps, except as aforesaid.

Consequently, when these muscles are cut across in a thigh amputation, nothing prevents their retraction for a long distance.

All the other thigh muscles, such as the vastus externus, vastus internus, crureus, and the adductors, are attached to the thigh bone, and for considerable distances. Consequently, when these latter muscles are cut across in a thigh amputation they cannot retract far.

Every surgeon knows, practically, that the thigh muscles do retract to very unequal distances in the stump. It was for this reason that *suture en étage* was devised—sewing together the muscles in the interior of a stump, tier after tier, to make a comparatively solid muscular end, instead of one full of holes and so-called "dead spaces."

Regarding this matter of differing length of retraction of different muscles, Treves states ("Operative Surgery," vol. i., p. 271): "All muscles, of course, contract on division, but the extent of that contraction is subject to remarkable variations.

"Those muscles retract most which are quite free between their points of origin and insertion, and which are provided with long fibres; such as the sartorius, gracilis, and biceps humeri.

"These muscles may lose, according to Farabeuf, as much as four-fifths of their length on division.

"Those muscles contract least which are provided with short fibres (as illustrated by the penniform and bipenniform muscles), which are connected with bone at the seat of the division," etc.

So much for the anatomical explanation. The application is plain. If we "hamstring" our patient, those muscles which regularly retract furthest when cut are the ones divided, and they at once shorten up; and when a little later we proceed to amputate through the thigh, we shall find that our stump end

will be quite a smooth one, for all its muscles will then retract about equally.

Of course, the Esmarch bandage, or tube, should be applied only after the hamstringing; otherwise it would interfere with the purpose for which this cutting is done.

Before a thigh amputation one may, of course, also divide the rectus femoris tendon of insertion into the patella. This would be in line with what I have been advising, as this muscle has no direct attachment to the thigh bone. However, it does not retract so far as do the hamstring tendons; probably because of its short, bipenniform fibres, as suggested above (Treves). Hence the gain in smoothness of the stump would be but slight.

It will be plain that the same principle may properly be applied in certain other amputations. For instance, division of the tendo Achillis just prior to leg amputation, will permit the gastrocnemius to do most of its shortening at that time. The same idea holds good in division of the biceps humeri tendon before amputation through the upper arm.

ROBERT H. M. DAWBARN, M.D.

105 WEST SEVENTY-FOURTH STREET, NEW YORK,
January 10, 1896.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 6, 1895.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

A Case Showing the Permanent Benefit from an Operation on the Ear for Deafness and Tinnitus Arising from Progressive Catarrhal Inflammation of the Middle Ear.—DR. SAMUEL SEXTON related the following case: The patient is a domestic. She came to me in November, 1887. She was then thirty-two years of age, and stated that she had been obliged to give up several situations on account of her deafness. She also suffered greatly from tinnitus in both ears, which often prevented her from sleeping well at night. She could hear an ordinary conversational tone of voice only in the right ear at ten inches. The hearing of the left ear was only slightly impaired, but the noises in her ears made it difficult to hear in the better ear. The drumhead and malleus were excised on the right side in November, 1887, and she was presented to the Practitioners' Society at its December meeting that year. The result of the operation was an improvement of hearing in the right ear from ten inches for ordinary voice to two and a half feet, and the almost entire absence of tinnitus.

The patient has remained in service ever since, but of late has found the deafness to interfere again with her work. She, therefore, came to me again in November, 1895, when it was found that the good result obtained by the operation on the right ear has remained, but the hearing of the left ear, which had been very good when she first came in 1887, had become so bad that she now hears only a very little unless words are spoken directly into the ear. The severe tinnitus, however, has not returned. There is now a good-sized and permanent opening in the drumhead of the right ear, and the mucous membrane of the drum has become transformed into dermoid or cicatricial tissue, which, of course, prevents further sclerosis taking place. In the left drum the catarrhal inflammation has gradually progressed with consequent increase of deafness.

I know of no other treatment whereby such an im-

provement of hearing can be brought about in such cases, and the progress of the disease arrested.

Extensive Operations for Malignant Disease.—

DR. CHARLES MCBURNEY presented two patients as a basis for some remarks on the necessity for thorough removal in malignant disease. The first was a woman, about sixty years of age, with tumor, present two years, involving a considerable portion of the right breast and extending to the axillary lymphatics. On the eleventh of last May he performed the operation recently and almost simultaneously described by Dr. Halsted, of Baltimore, and Dr. Willy Meyer, of New York. It was in effect an elaboration and perfection of the operation originally suggested by Volkmann. The design of the operation was to remove the disease in loco and along with it the channels through which it was likely to be transmitted to other parts of the body. The plan of the operation was to remove not only the entire breast, but also with it, in one mass, all of the pectoralis major and minor muscles except in some cases a part of the clavicular portion of the major muscle; everything in the axilla except the posterior nerves; also all the lymphatic glands in the supraclavicular region. In this way the usual channels of distribution of the disease were removed, although it was possible, of course, for it already to have reached the thorax or inaccessible parts, in which event a cure could not be effected. But the results had been extremely satisfactory, especially in fifty cases reported by Dr. Halsted one to five years subsequent to the operation. In only three had there been recurrence in the scar or its immediate neighborhood. Of course, in some, disease had already existed at a distance and they died subsequently. None died from the operation.

The dissection began two inches above the clavicle, taking everything excepting skin and a thin layer of fat away to below the breast, to near the median line, and outward in the axilla, including both pectoral muscles. Sometimes a considerable open surface was left, and cicatrization was hastened by skin grafts. The operation sounded like a more formidable one than it really was. Dr. Halsted's patients and his own twelve or more had done remarkably well. One who had never seen it performed would expect to find considerable limitation of motion, but the patient presented illustrated the rule of preservation of free motion. She was able voluntarily to place the hand on the head, on the other shoulder, and behind the back, and in doing so to exert plenty of power—all that was required for the enjoyment of life. The extreme upper clavicular portion of the pectoralis major was not removed. The other motions peculiar to this muscle were made by the anterior part of the deltoid. The patient had been discharged thirty-four days after the operation, which, under the circumstances, was not a long stay in hospital.

Dr. McBurney thought the operation had a great deal to recommend it, and his feeling was based on his own experience and reported statistics which were absolutely reliable, that carcinoma of the breast should never be operated upon in a less thorough manner.

DR. KINNICUTT inquired why it was recommended to leave the supraclavicular glands in certain cases.

DR. MCBURNEY replied that where the tumor was small and but a single enlarged gland could be felt in the lower axillary space, examination had shown that the supra-clavicular glands were not diseased, and therefore did not require removal. But where there was any doubt on the point they should be removed. One should never stop at the edge of the disease.

Carcinoma of Tongue: Kocher's Operation.—The second patient presented by Dr. McBurney was a man, about fifty years of age, operated upon for carcinoma of the tongue September 5, 1895. There had been

much pain, constant salivation, and difficult deglutition for five months, and when he came under Dr. McBurney's observation there was a large tumor of the tongue, occupying fully two-thirds of its area, extending down to its base, and involving the pillar of the fauces on the right side. As in the case of carcinoma of the breast, a very thorough operation was undertaken for its removal. It was known as Kocher's operation, and was one of the most scientific in the whole range of surgery for carcinoma. Indeed, it was the only one which permitted thorough work in extirpating the tongue for cancerous tumor. The tongue was reached from the neck, the only situation at which it could be attacked without damage to important parts and disfiguration.

The ease and safety of the operation depended upon two or three things. In the first place it should always be preceded by immediate tracheotomy, which disposed of difficulty with respiration and anæsthesia. The tube was inserted between the cricoid and thyroid cartilages, and through it ether was administered. In his case the left lingual artery was first tied. On the right side he made an incision passing along the inner border of the digastric muscle down to the hyoid bone, then down parallel with it, and then upward along the sterno-cleido-mastoid almost to the ear. This triangular flap, including skin and superficial fascia only, was dissected from the submaxillary region up to the face. The submaxillary triangle was then excavated, the tissues removed being the submaxillary gland, the lymphatics, and all the tissues down to the muscular floor of the submaxillary space. If the disease had already involved this region the dissection should be carried still farther toward the clavicle. This could be done without difficulty or danger. The flap having been turned up, the submaxillary region cleaned out, and the vessels tied, one was ready to enter the cavity of the mouth. Before doing this, a large sponge was thrust into the mouth and pushed down to shut off the laryngeal orifice. It was easy, with the finger in the mouth, to cut the mucous membrane and attachments along the jaw, and through this opening to pull down the tongue by means of a silk suture passed through its tip. The tongue was then released from the floor of the mouth as far as was required, going down to the hyoid bone. The arteries having been tied, there was no hemorrhage. Through the same wound the pillar of the fauces, one or both sides, could be taken out without any trouble. One might expect considerable difficulty with the wound, but cicatrization was very satisfactory; the whole scar drew up under the jaw, and there was little or no deformity. His patient's condition was in marked contrast with what it had been before the operation, when he was pallid, greatly emaciated, suffering from pain, and saliva constantly running out of the mouth, and inability to swallow even fluids. He had since gained largely in weight, was not troubled with his saliva, pain had disappeared, and could swallow easily with a full mouth, the last drops giving slight trouble.

In order to obtain perfect results, it was necessary to feed these patients per rectum a number of days. Then while the wound was healing, the food was introduced through a stomach tube. This patient was able to make himself understood in spite of the fact that all the tongue had been removed.

The very satisfactory results obtained from these more thorough operations for carcinoma furnished an argument of irresistible force against the lesser operations which were at first so attractive to the patient but so absolutely unsatisfactory to the surgeon and patient in the end. For instance, what could be more unscientific, because out of proportion to the disease and danger of extension, than Whitehead's operation which was being performed so frequently in England?

No provision was made by the Whitehead operation against secondary formations, either those that were present or likely to develop. It seemed to Dr. McBurney that no operation should be undertaken for malignant disease of the tongue without thorough removal of adjacent lymphatics. Anything less was a deception, not only to the patient but to the surgeon himself, and worked an absolute injury to the cause of surgery. So in tumors of the breast an operation of small grade upon a small tumor of the breast was a fraud. There was no propriety, no matter how small the carcinoma of the breast, in taking out the breast alone. No matter how small the carcinoma, the operation should never be much less than the one he had described. Laboratory examination had shown that, however small the tumor, the disease could be found at a considerable distance. Since he had made it a rule to have the axillary glands examined in every case, he had not seen an instance in which one or more of them was not involved, however small the mammary tumor, or however far from the axillary region. That fact alone, in view of the extent of his experience, was sufficient to quite justify his statement that a small operation on the breast was a fraud certain to be rapidly followed by recurrence of disease.

He said Dr. Halsted had furnished an excellent contribution to the subject of small tumors of the breast by showing that the disease was already present in the fascia of the pectoral muscles, even when the tumors were extraordinarily small.

A Case of Filaria.—The President, DR. ANDREW H. SMITH, presented a patient with the following history: An Englishman, aged twenty-eight, admitted to the hospital November 26, 1895. Family history negative. Formerly he had been a hard drinker, lately only a moderate one. About four years ago, while in South America, he began to suffer from severe paroxysms of chills and fever, at first occurring about every fourth week, oftener after a year or two. They came on without warning, the chill lasting one or two hours, followed by high fever of two or three days' duration. He said his temperature often reached 105° F. After the fever there was sweating. During the paroxysm he had a great deal of pain in the stomach, nausea, and sometimes vomiting. Three years and a half ago the left leg began to swell, increasing in proportion to the frequency and severity of the paroxysms. He left South America several times, visiting Bermuda and other places with the hope of getting rid of these attacks. No kind of treatment seemed to benefit him. A year later the same phenomena which had appeared in the left leg began to show themselves in the right one, having been preceded by swellings in the groin and red inflammatory streaks down the thigh. Having lost strength and about fifty pounds in weight, he followed the advice of his doctor and came to New York, where he remained during his first visit about six months. He had one attack two weeks after his arrival and three or four others, but they were not so severe. Not being benefited by treatment, he went to Canada, but the paroxysms continued to come on, although at longer intervals. The left leg became very painful. A surgeon introduced an aspirating needle deep into the calf and withdrew pus. An incision was then made in this locality and the patient stated that about three pints of pus escaped. The scrotum, which had begun to swell about the same time as the legs, was also incised in front and behind, and a small amount of pus was found. He was laid up about six weeks after these operations, and at the end of that time the swelling of the leg and scrotum had markedly subsided. He then left Canada and came to New York. The left leg began to swell again, the paroxysms recurred about once in four months, but in milder form. On resting a few days the swelling of the leg subsided

considerably, but it prevented him from going about much and caused much pain on walking. The urine was normal in amount except during the paroxysms, when it was markedly diminished, and afterward contained sediment and was dark in color.

The hospital notes, taken since November 24th, were as follows: On that day he had a severe chill, followed by fever and sweating; severe headache, nausea, and vomiting. Two days later, on admission, the temperature was 103.8° F., pulse 96, respiration 28, urine negative. A week later the urine contained about five per cent. of albumin and a few casts. The area of dulness over the spleen was increased, extending on deep inspiration about half an inch below the ribs.

The left leg was swollen about twice the size of the right, there was considerable tenderness along the tibia, the old cicatrices were present, the scrotum was much swollen.

About two days after admission his blood was examined at night, after the paroxysm had subsided. It was full of thread-like material, of different lengths and sizes—filaria. This continued to be found until two nights ago, when it was absent. None of the filaria showed movements. Photographs were taken. Dr. Smith said the history of the case corresponded with that of others of *filaria sanguinis hominis*. The filaria were filament-like bodies, about the diameter of a blood corpuscle and averaging about one seventy-fifth of an inch in length.

Discussion of the cases being in order, DR. BRYANT inquired of Dr. Sexton what was likely to be the final result on the hearing in his case.

DR. SEXTON thought the hearing would remain good. Ten years having elapsed, it was not likely to diminish except so far as it might be influenced by old age, as in other persons. Of course the maintenance of an opening in the drumhead was important, but that was a simple matter.

DR. BEVERLEY ROBINSON inquired what had been the nature of the operation in this case, and Dr. Sexton replied that it was removal of the drumhead and malleolus. Dr. Robinson then mentioned the case of a patient who had visited many eminent otologists in this country and abroad, and as no improvement had been experienced he submitted to this operation at the hands of a distinguished otologist here, with Dr. Robinson's consent. Dr. Robinson regretted having had the operation done, for the patient had told him that his subjective sensations were more distressing than they had been previously. Of course one case proved little, yet he thought, even when nothing remained to be done except this operation, the patient should be informed beforehand that it might not result in improvement.

DR. SEXTON inquired what were the symptoms which had been exaggerated after the operation.

DR. ROBINSON replied that the human voice had become more unpleasant to him.

DR. SEXTON said it was easy to understand how the patient's condition could be rendered worse by a bungling operation, but it was not so plain how this result could follow an operation skilfully performed. He had known patients not to be benefited, but not many. When Dr. McBurney had described a certain treatment for cases of cancer as fraudulent it had set him to thinking that the treatment which had been in vogue many years in these ear cases might be designated by a similar term, although he would not have used it had he not been encouraged by the example of Dr. McBurney. Many of these cases which had come to him had for years been floating around from one doctor to another, having their ears inflated and their throats treated, without the slightest benefit. Until we recognized the fact that the only way to arrest a progressive disease of this kind was such an operation

as had been described, we would not be doing full justice to our patients.

DR. ROBINSON wished to say further, that he had given considerable attention to this subject and had tried to follow up the opinions of others, and the impression which he had received was that, while the majority of otologists undoubtedly were of opinion that in many instances old suppurative trouble of the middle ear was benefited by taking out the ossicles, yet there was a difference of opinion as to the propriety of removing the drumhead and ossicles in the form of catarrh spoken of to-night. That was a very different matter. We might not improve the hearing and we might render the patient's appreciation of sound distressing, much more distressing than the tinnitus which had previously existed and which could be relieved largely by judicious medication.

DR. GEO. F. SHRADY asked Dr. McBurney, in connection with his case of carcinoma of the breast, how many such he had had without recurrence after three or four years, operated upon by the older methods.

DR. MCBURNEY replied that in hospital practice one lost sight of most of these cases. He could not just then recall a case in which the breast was removed by older methods for tumor, no matter how small, and which had remained perfectly well since. He had seen plenty of recurrences.

DR. SHRADY thought recurrence was the rule. He had, however, followed one case for eleven years after removing the breast and cleaning out the axilla. There was no recurrence, and after death examination revealed no cancerous disease. In another case, operated upon three years ago, there had been no recurrence.

DR. ShradY thought there was no argument against this more radical operation described by Dr. McBurney, but he had not yet had any personal experience with it. It had always been his habit to clean the pectoral muscle, and sometimes to remove more or less of it. In one case three years ago he took nearly the whole of the pectoralis major away and a portion of the pectoralis minor, and also cleaned out the supraclavicular region, but in that instance recurrence took place, showing that the operation was not even radical enough. Of course the rule to operate wide of the disease was one well recognized in general surgery, and he believed that every surgeon cleaned out the axilla even in the old method of operating. The result of the later more radical operation as to motion of the arm was very satisfactory, although he would not have expected it.

DR. JOSEPH D. BRYANT said he had given the subject of cancer careful consideration during the last four or five years, and he was very glad to witness to-night the results of the later operation described by Dr. McBurney. He wished to state most emphatically that he regarded it as the proper method of procedure. To his mind there was no greater evil existing in the profession of this country to-day than the disposition of some to regard a tumor of the breast as of little consequence simply because it happened to be small when first observed, or because there seemed to be no accompanying enlargement of the glands in the axilla. In this connection he could not do better than mention four cases which had come under his observation in the last three months. One was a case of tumor the size of a hen's egg in the lower portion of the breast. He was asked to remove it, the statement having been made that there was no enlargement of the glands in the axilla, nor could he feel any himself, but not being satisfied with this form of examination he made a free incision in the axilla and then had no difficulty in finding quite a number of enlarged glands which he proceeded to remove. The mammary tumor in this case had been present only three months. The next case was one of tumor a little larger than a walnut in the

upper part of the breast. No glands could be felt in the axilla, either by manipulation or by incision, but being convinced that it was a malignant tumor he removed it and entered the axilla, and then, being able to get the tissues between his thumb and finger, enlarged glands could be felt.

Regarding the order in which the glands enlarged, they did not enlarge one after another according to their distance in the lymphatic chain from the tumor. They enlarged irregularly. He had found enlarged glands in the apex of the axilla when scarcely any change could be found along the border of the pectoralis major.

A case of malignant growth of the breast operated upon at St. Vincent's three years ago had demonstrated another point to his satisfaction, namely, that the glands in this disease might be degenerated without showing increase in size. These facts emphasized the point made by Dr. McBurney, that the only course to pursue was to perform a thoroughly radical operation.

DR. PEABODY, who had come in after Dr. McBurney's patient had been shown, asked whether surgeons could give assurance of successful result by any operation.

DR. ROBINSON said there were small tumors of the breast of whose nature the physician sometimes felt himself ignorant and he referred the patient to a surgeon, who also might be in doubt. He would ask, therefore, whether all doubtful tumors of the breast should be removed. A case in point was that of a lady who had a tumor removed from the breast while abroad, the nature of the tumor not having been revealed to her. She came to him subsequently with a small tumor of the breast, and owing to the previous history he was more than ordinarily suspicious and referred her to a surgeon. The surgeon was in doubt, introduced an aspirating needle, withdrew some fluid, and concluded that it was cystic, not malignant, and did not remove it. This was two years ago, and to-day there is no disease of the breast. Should all doubtful tumors be removed, no matter how small?

Recurrence or New Growth?—DR. CLEMENT CLEVELAND mentioned the fact that if there were freedom for five or six years after removal of a malignant growth it was thought there would be little likelihood of recurrence. Yet within two years he had seen an insane woman in the Bloomingdale Asylum, ninety-two years of age, who had had the breast removed thirty-two years before and who was at the time he saw her suffering from cancer in the old scar and died of the disease three months later. Was it a recurrence, or was it a new growth?

DR. MCBURNEY thought it would be acknowledged almost universally by surgeons that Dr. Cleveland's case was one of cure and that new disease developed. It was generally recognized that a case which had gone five years without recurrence could be fairly regarded as cured, but there was no reason why a patient who had had cancer once should not have it again, no more than that a patient who had been cured of inguinal hernia should not have it on the other side.

DR. MCBURNEY repeated that this operation for carcinoma of the breast was not a blind one done with a view of going as far distant around the tumor as possible; it was a scientific operation, elaborated by many years of anatomical and surgical study. As to freedom from recurrence, the difference between the older and the later method of operating was that by the former the best result was six per cent. free after a year and a half; by the latter, sixty per cent. free after five years.

He believed that most surgeons were agreed on the point that where there were no contraindications it was best to take out all small tumors of the breast. An exploratory incision was the grand resource in cases of

doubt. An expert pathologist could pass upon the nature of the tumor at once, and the operation could be completed in accord with his report. A good general rule was to get rid of all abnormal growths.

DR. F. P. KINNICUTT, discussing Dr. Smith's case of filaria which he had also seen in the hospitals, replied to an inquiry that inflammations, œdemas, and suppurations were common in this affection. The parasites were discharged from the pouch of the adult female worm in great numbers into the blood and lymph channels, and as long as this occurred only after they had reached maturity they were supposed not to block up either the small lymph or small blood vessels, for their diameter was about that of a red blood corpuscle. But the immature parasite was coiled up, forming a ball many times the diameter of a red blood cell, and if it were aborted into the blood-vessels in this state it would be likely to cause obstruction producing œdema, suppuration, etc. The only unusual circumstance about the case shown by the president was, it seemed, that all the parasites were found dead. This had sometimes been observed before, but usually the parasites were full of life, and wriggled vigorously about on the slide of the microscope. In the adult female the vaginal pouch extended almost from the mouth to the tail, and out of the opening just below the head enormous numbers of the embryo were discharged.

DR. W. GILMAN THOMPSON showed a photograph given him by Dr. Byrom, taken about six years ago, of the parasite in motion, being the best on record. It was of interest also from the fact that the worm was kept alive in undiminished vigor for twenty-four hours outside the human body. It was a marvel to see it in the midst of a lot of blood corpuscles gathered up in its coil and pushed aside with great vigor. The diameter of the worm was somewhat greater than that of a red corpuscle, and the diameter of the latter was even greater than that of some of the capillaries so that they had to double up in order to get through them. Further, the length of the worm was greater than that of the capillaries. It must, therefore, do a great deal of twisting in order to get through from the arterial to the venous circulation.

DR. PEABODY recalled a case in which the man suffered from difficult micturition from chylous urine and the passage of what appeared like partial casts of the urethra, and Dr. Kinnicutt stated that the patient presented this evening had suffered in a similar way. Manson's writings having been referred to, Dr. Peabody said the explanation given by that authority was that the mosquito drank of the blood of the infected host, alighted upon water, there died and the worm, undergoing transformation and becoming mature, infected the water. It was through drinking this water that persons became infected. Monkeys were wiser, refusing to drink it.

The Bicycle Doctor.—An enterprising Chicago cyclist has distributed the following: "Bicycle surgery. Acute and chronic cases treated with assurance of success. Languid tires restored to health and vigor. Tires blown up without pain. Wind free. We understand the anatomy, physiology, and hygiene of wheels and give homeopathic or allopathic treatment as individual cases require. Sure cure guaranteed. Testimonials: 'My wheel had three ribs fractured and you cured it in one treatment.' 'My tires were suffering with a case of acute aneurism, which had been pronounced fatal by other bicycle doctors, but you cured the disorder and I did not lose a day of my tour.' 'I was troubled with varicose tires, involving frequent ruptures and incontinence of wind. You cured me.' Thousands of testimonials like the above sent on application."

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 16, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Empyema.—The meeting was under the direction of the Pædiatric Section, Dr. Floyd M. Crandall, Chairman. The topic for discussion was empyema, on which three papers were read.

The Bacteriology of Empyema in Children.—DR. HENRY KOPLIK read this paper. In relation to the bacteriology, there were four main groups of cases of empyema in children. By far the largest group was that of meta-pneumonic pleurisy, comprising probably two-thirds of all cases occurring in children and in which was present the diplococcus pneumoniae, although there might also be present streptococci. Here the empyema followed pneumonia, but sometimes the lung process was so slight as scarcely to attract attention. The next group was that in which streptococci were the cause. Some of these cases were benign, others developed putrid pus and probably some specially virulent micro-organism was the cause. A third group was due to the tubercle bacillus. In some instances this bacillus had not been found in the exudate, while streptococci were present, but inoculations producing tuberculosis in animals proved the real nature of the pleurisy. Then from time to time there had been published cases in which other bacteria, as that of typhoid fever, had given rise to empyema.

In regard to the streptococci group, the infection could start from various localities, as retropharyngeal abscess, osteomyelitis, etc. In adults the tuberculous group was much greater than in children, the tubercle bacilli having been found in at least twenty-five per cent. of the cases, and probably being the cause in over sixty-per cent., while in children the meta-pneumonic group and other forms than tuberculous comprised most of the cases.

The Diagnosis and Peculiarities of Pyothorax in Children.—DR. AUGUST CAILLÉ thought physical diagnosis as applied to the thorax gave such positive evidence of abnormal conditions that it would seem impossible to overlook general or localized pleuritic exudate, yet it was of daily occurrence that mistakes were being made and wrong conclusions arrived at through faulty interpretation of physical signs. After some preliminary remarks upon the bacteriology, frequency, origin, and other points, the author passed to the subject proper of his paper, diagnosis and peculiarities of pyothorax in children. Purulent fluids, as distinguished from serous fluid, in the chest could be determined by the aspirating needle alone. The presence of peptones in the urine in pyothorax was by no means a distinguishing feature, as it had been observed in intestinal ulceration, the third stage of pneumonia, syphilis, etc. One should bear in mind the possibility of a hydrothorax being due to disease of the heart or kidneys. A severe case of pleurisy, with irregular temperature curve, pain, cough, and dyspnoea due to effusion, would be readily recognized by a careful observer. The change of a simple pneumonia into a pleuropneumonia was not difficult to recognize. Children with simple pneumonia cried readily, without much evidence of pain, while pleuropneumonia caused them to cry with pain on handling, diaphragmatic respiration stopped, and the entire thorax was lifted with each inspiration.

Puzzling cases were those in which the question came up whether the patient was suffering from an unresolved pneumonia, dulness still persisting, or pleurisy with effusion. In both there might be absence of expectoration, irregular temperature curve, pain, cough, dyspnoea, and the physical sign dulness. Aside from aspiration, our judgment must rest upon

inspection, palpation, auscultation, and percussion. Lateral curvature of the spine, lack of movement of the affected side, bulging of that side, bulging or retraction of the intercostal spaces on inspiration, displacement of heart, dyspnoea, cutaneous oedema, enlargement of cutaneous veins, pallor of skin—all these signs might be present and most of them could be absent in empyema. Moderate dyspnoea on exertion was usually noticeable; occasionally he had observed concavity instead of convexity on the affected side. Poor appetite was usual. In pyothorax displaced heart's action was not commonly seen. Cutaneous oedema and enlarged veins were occasional; lateral curvature might be present in old cases. Fever might be absent in pyothorax, as he had witnessed in a few cases. Bulging of the intercostal spaces was generally absent in the presence of small exudate, retracted thorax, or small intercostal spaces. Vocal fremitus was usually absent over the fluid, but it could not be relied upon to distinguish between serous fluid and pus. Make the child cry and compare the two sides. In auscultation absence of respiratory sound over fluid was a classical sign, but there were exceptions to the rule. A thin layer of fluid in the lower part would not obscure the breathing sound. Tubal breathing might be transmitted from the adjacent or underlying compressed lung. Friction sounds could be heard before effusion and after its absorption. Amphoric, cracked-pot, and other sounds, usually absent, were sometimes heard. Rachitic flat, or deformed chest might give apparent flatness on percussion and mislead the examiner to diagnose fluid. Consolidated lung, thick fibrinous exudate, and tumors must be excluded as causes of the flatness. Marked resistance to the finger on percussion was of great value as a diagnostic sign of fluid. Marked displacement of neighboring organs was rare in children. Alteration in height of fluid by change of position was an indistinct sign in children.

Bearing in mind the variability in the physical and rational signs of fluid in the thorax, it became evident that the etiology was important in order to interpret the physical conditions present in doubtful cases. When fluid was suspected, its presence or absence could be best proved by use of the aspirating needle, and this was the only way to tell its character. Some cases of difficult or erroneous diagnosis were cited. Empyema in children usually ended in complete recovery if operated upon early. Even in desperate cases free incision should be made at once.

The Treatment of Empyema in Children.—DR. JOSEPH E. WINTERS thought the natural history of empyema offered a clear indication of what the treatment should be. There was no doubt of the disastrous issue of nearly all cases when left to themselves, and when cure took place it was by discharge and drainage externally or through a bronchus. Treatment should consist in removing the pus by external incision, preventing reaccumulation of fluid, securing complete expansion of lung, leaving behind no deformity. Dr. Winters held that emptying the chest cavity of pus after incision was not by gravity, but by expansion of the lung and pushing up by the diaphragm. We should try to maintain full expansion of the lung, and if this did not take place the prognosis as to ultimate recovery was doubtful. It had been said that the diminished mortality of recent years was due to improved methods of treatment, but Dr. Winters attributed it to earlier diagnosis and prompt incision.

Statistics were quoted to show the greater safety of incision compared with exsection of part of a rib in empyema in children. The incision should be at least two inches above the base of the fluid, and at least two inches long. The aspirating needle could be left in after finding pus, as a guide for the

scalpel. Chloroform was preferable to ether. The patient should not be fully anæsthetized, as it was desirable he should cough in order to expel the pus and exudate forcibly. Some considered irrigation dangerous, but Dr. Winters had not found it so, and had even seen stimulation follow when only hot water was used, 125° F. to 130° F., the patient lying at the edge of the bed and resting on the affected side. Give a teaspoonful of whiskey to produce coughing as well as stimulation. The main factors which lead to obliteration of the cavity were: 1, expansion of the lung; 2, sinking of the diaphragm; 3, falling in of the chest. The latter was not desired until there had been complete expansion of the lung. Later it was proper to resort to exercises for the expansion of the lung, such as blowing on wind instruments.

Pleurisy and Chronic Pneumonia.—DR. A. JACOBI opened the discussion under protest. He fully agreed with a remark of Dr. Winters that empyema was now less frequently wrongly diagnosed as chronic pneumonia than formerly. But he understood one of the speakers to say that when fever lasted a number of weeks and there was dulness it signified pleurisy. This was not necessarily so, for he had seen quite a number of cases of inflammatory peribronchial infiltration, a form of chronic pneumonia, which had been attended by fever and dulness for a number of weeks. After a time the peribronchial exudate contracted and caused bronchial dilatation, and this in later life was mistaken for signs of incipient tuberculosis—dulness, retraction of the upper lobes, prolonged expiration, bronchophony.

Resects a Rib.—DR. B. SCHARLAU said he must differ from Dr. Caillé and Dr. Winters, who advocated incision in preference to rib resection in the treatment of empyema. In former years Dr. Scharlau had employed the various methods in vogue, including incision, but in the last five years had adopted rib resection exclusively, and therefore must have good reason for doing so. During the last-named period he had resorted to resection in more than two hundred cases. He believed that in empyema, as in all cases of large abscess, there should be a free opening for drainage. In about fifty per cent. of cases in children there were large clots in addition to purulent fluid, which must remain unless a free opening were made and they could be reached if necessary by forceps. After resection he had seen recovery in ten or eleven days, often before three weeks, while after simple incision six weeks elapsed. In incision there was more danger of inaccessible hemorrhage.

Difficulties of Diagnosis.—DR. W. P. NORTHRUP thought that in a child a year or a half old, to determine whether flatness on one side of the chest meant fluid or pneumonia was one of the most difficult problems. It had been something of a standing reproach between himself and his colleague at the Foundling Asylum that in a large number of cases they were unable to say positively until the aspirating needle had been used whether the physical signs meant pneumonia or fluid in the pleura. When one habitually followed up his mistakes by autopsy, in case of death, he became shaky in his confidence. The presence of a bronchial element beyond a moderate pad of fluid, he could not tell from a central pneumonia. In aspirating, internes coming there from other hospitals uniformly selected too small a needle. One could make his incision wherever he wished, provided he struck fluid. The sixth intercostal space in the axillary line in pleurisy of the right side was a fairly good place.

DR. H. D. CHAPIN was glad to hear the remarks of Dr. Northrup, for he knew of no disease in very young subjects more difficult to diagnose than empyema. The older the patient among young subjects,

the easier it became to recognize the physical signs. Many children were lost, owing to the fact that the true nature of the disease was overlooked until late. According to his experience, bulging of the chest did not occur in children with a moderate amount of fluid. The reason was that the point of least resistance in them was the lung. The physical signs of bronchial breathing were also apt to be present. For these reasons, in cases of doubt he used the needle, a large one. As Dr. Koplik had stated, a large number of cases of empyema followed pneumonia. Notwithstanding the fact that the physical signs might remain much the same, our suspicions should be aroused if the patient assumed a pinched, anxious look, and we should then use the needle.

In regard to treatment, at a discussion a year or more ago, before the County Medical Society, all surgeons favored resection of a rib, while the physicians favored incision. Wishing to form an unprejudiced opinion, he afterward resected a rib in some cases, but had again returned to incision, for the reason that in two cases sinuses had formed after resection, which were difficult to heal. It was time to resect when the patient failed to recover under treatment by incision.

THE PRESIDENT was requested to speak, and said that at the meeting referred to by Dr. Chapin the discussion turned chiefly upon technique of operation, he believed. Now, when physicians were able to report one hundred or more cases of resection of rib, he thought it about time for surgeons to go to them for information. At any rate he had found himself called upon to do the operation less frequently than formerly. He was convinced, however, that resection was preferable to incision, for the discharge was freer, the fibrous clots were more promptly expelled, and the patients recovered sooner.

DR. CRANDALL thought an important point brought out in the discussion was the fact that empyema in children was almost always secondary, and usually secondary to pneumonia. It should teach us to be careful about criticising the physician who had seen the patient before us, and who had only diagnosed pneumonia. The chances were that he was correct, the patient having started out with simple pneumonia, empyema developing afterward.

DR. WINTERS thought simple incision alone should be practised in recent cases of empyema, resection of rib not until later, if at all, and he had found this the practice in hospitals which he had visited in England the past summer. Diagnosis ought not to be difficult. During inspiration, press backward and upward with the finger on the pit of the stomach to prevent descent of the diaphragm, and a sound would be obtained entirely different from that produced by solidified lung. A most important sign was the peculiar sense of resistance to the finger used as a pleximeter during percussion over fluid.

Committee on Library Fund.—In accord with a resolution passed February 7, 1895, the president appointed a committee of twenty-five, together with some honorary members, for the purpose of increasing the endowment of the library to \$100,000. The following gentlemen have been induced to serve: Honorary members: Daniel S. Lamont, Roswell P. Flower, A. S. Hewitt, E. A. McAlpin, D. Willis James. Physicians: Samuel Alexander, Clement Cleveland, H. Holbrook Curtis, W. H. Draper, E. H. Grandin, Everett Herrick, E. G. Janeway, A. Jacobi, A. M. Jacobus, F. P. Kinnicutt, Hermann Knapp, H. P. Loomis, P. F. Mundé, H. D. Noyes, S. S. Purple, W. M. Polk, W. R. Pryor, A. A. Smith, M. A. Starr, Andrew H. Smith, D. M. Stimson, T. Gaillard Thomas, R. F. Weir, W. Gill Wylie, J. Blake White. On motion the president and secretary of the Academy were added to the committee.

SECTION ON GENERAL SURGERY.

Stated Meeting, January 13, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Hip-joint Amputation by the Bloodless Method.

DR. JOHN A. WYETH, being ill at home, sent several cases, which were presented by Dr. J. A. Bodine. The first case was that of a young man who had had a periosteal sarcoma of the thigh, for which Dr. Wyeth performed amputation at the hip, September 8, 1895. The bloodless method was employed by using two long pins, one of which was inserted above the anterior superior spine of the ilium, the other under and close to the symphysis pubis, and around these the rubber tourniquet was applied, to shut off the circulation. The high insertion of the pins permitted disarticulation without any interference by the tourniquet. It would be remembered that by the original technique, when the pins were inserted lower, the tourniquet had to be removed as soon as the vessels were ligated. The patient had made a good recovery.

Removal of Half of the Inferior Maxilla for Osteo-Sarcoma.—Dr. Wyeth's second patient illustrated an operation which had been performed by Dr. J. Marion Sims, in 1847, and described under the title, "Osteo-Sarcoma of the Lower Jaw; Removal of the Body of the Bone without External Mutilation." The orbicularis oris was stretched and held wide open by silk sutures passed through the lips; the lower jaw was divided at the median line and disconnected from the soft parts and its articulation, and removed. The patient was a girl, aged sixteen, who had had a tumor, shown by microscopical examination to be an osteo-sarcoma. The remaining half of the inferior maxilla was fastened to the superior maxilla, in order to hold it in natural position during healing. The operation commended itself for absence of external mutilation.

The Deformity-producing Laundry Mangle.—Dr. Wyeth's third case was one of cicatricial deformity of the hand in a young woman, produced by the laundry mangle, and for which he had transplanted to the palm of the hand skin of the abdomen. The first operation was done October 25th, consisting in dissecting the cicatricial tissue of the palm of the hand and fingers, and making attachment to a flap of skin raised on the upper margin of the abdomen. The connection between the hand and abdomen was severed on the eleventh day. With future supplementary operations it was hoped to restore considerable of the usefulness of the hand.

Perforating Ulcer of Stomach; Operation; Recovery.—DR. R. F. WEIR presented the case, which was described in our report of the Practitioners' Society, January 3d.

Restoration of the Nose.—The chairman, DR. CURTIS, presented a young man who had lost by supuration all the bones of the nose, leaving the skin intact. The skin having fallen into the cavity, Dr. Curtis performed an operation for raising it by introducing an aluminium tripod, one branch of which sank into a hole drilled into the frontal bone, the other two into holes drilled into the superior maxilla. The latter supported the alæ, and sloped downward, this being one of the precautions taken to prevent the whole framework from slipping down toward the mouth, which was its constant tendency. The platinum plate from which the support was made was one-sixteenth of an inch wide for the bridge, somewhat narrower for the branches. He would prefer the bridge somewhat wider.

DR. WEIR said that four or five years ago he introduced here this method of raising the nose with a support, it having been employed previously in France by Martin. Since then he had resorted to it ten times.

In two cases there had been difficulty from ulceration of the bridge of the nose caused by the plate, and in a third the syphilitic process had interfered, for syphilis was the usual cause of these deformities of the nose. In his first cases, too, he had drilled little holes for the reception of the tripods on the bone below, but, as it was difficult to fit the pieces into these, he had in later cases simply rested them upon the bone, where they tended to form an indentation for themselves. In two cases he separated the upper lip and introduced the support, but, being a foreign body in living tissue, it set up inflammation. The bridge must be free in the nostril, so that all secretions could escape in that direction. For saddle nose celluloid was the best material, being better borne in living tissues than any other substance. It would be remembered that the introduction of celluloid testicles was one of his hobbies.

The Finger as a Nose.—DR. JOHN GIRDNER described the case of Dr. Thomas Sabine's, in which, a number of years ago, that gentleman had transplanted the middle finger of a patient to replace the nose, which had been eaten away by lupus. To Dr. Girdner, as house surgeon, fell the task of removing the finger nail and trying to destroy the matrix. He supposed he had succeeded, but it showed a tendency to grow after the transplantation had been effected, and he had to use fuming acid a number of times before it was finally destroyed. It was nearly three months before the circulation of the finger in its new situation would justify severing its connection with the hand, and then some trouble arose from necrosis of the end of the bone constituting the tip of the nose. Photographs of the case from the Academy library were shown.

DR. SAMUEL LLOYD said that other cases had been reported, in which the nail had grown on the finger-nose.

The Operative Procedures for Removal of Large Neoplasms of the Naso-Pharynx, Antrum Maxillare, and Superior and Inferior Maxillæ.—DR. WYETH'S paper on this subject was read by Dr. Bodine. In it he described the methods of operation which he had practised in several cases of the kind indicated in the title. In 1888 a lad, aged sixteen, presented himself with a vascular fibroma growing from the vault of the naso-pharynx. Dr. Wyeth tied both external carotids, which controlled hemorrhage, and two weeks later removed the tumor through a space of three-fourths of an inch in the roof of the mouth. There was not much hemorrhage, oozing being controlled by packing. He did not deem it wise to close the surgical wound in the vault of the mouth at that time, and, as it was not done subsequently, the boy was left with a surgical cleft palate. He had then decided never to operate in this manner again. There had been no recurrence of the growth.

In 1894 a young man came under his treatment, who previously had been under the care of Dr. Rufus P. Lincoln for a number of months for treatment by galvano-cautery of a naso-pharyngeal growth. When seen by Dr. Wyeth, the tumor had attained such size as to fill the antrum of Highmore and the pterygoid fossa, and to swell out the face and partly to displace the eye. December 12, 1894, in the presence of Dr. Lincoln and others, Dr. Wyeth operated by what he believed was a novel method, and one which he would recommend in similar cases. The patient was in very low condition, not at all suitable for a formidable operation, and he therefore introduced a syringe into a vein, to be ready to make injection of salt solution as the operation proceeded. Opium narcosis was largely relied upon, only about two drachms of chloroform being used during the hour and forty minutes.

The incision was begun on the temporal arch, about two inches back of the outer angle of the orbit, was carried along the temporal arch to near the orbital cav-

ity, was then carried parallel with and one-eighth of an inch from the edge of the orbit to near the orbital foramen, then down to the level of the ala of the nose, and then brought out near the line of opening of Steno's duct. Hemorrhage was stopped by ligation of larger vessels and by pressure. The soft tissues were not dissected up from the bone, except at the orbit for introduction of the saw and division of the junction of the malar with the frontal bone. The saw was then turned and carried downward alongside the floor of the orbital cavity, following the incision through the soft parts and cutting into the antrum of Highmore, completely exposing this and the fossæ filled by the new growth. The flap being turned back, he thoroughly removed the tumor. The bone with its skin attachments was then replaced, and the soft parts sutured. No sutures were introduced into the divided bones. The cavities had been filled with iodoform gauze which projected from the anterior inferior angle of the wound. The patient made an uninterrupted recovery; there had been no recurrence, there was no deformity of the orbit, the scar on the face was insignificant, and the orbicularis palpebrarum had not been paralyzed as one might have feared. During the operation the pulse became almost imperceptible, and the patient's condition was very serious. Saline solution was immediately injected freely, so freely that the hemorrhage during the remainder of the operation was almost that of brine.

Dr. Wyeth emphasized the value of morphine narcosis in these cases, and of the use of saline solution.

In another case, operated upon in 1895, he removed a myxomatous tumor of the naso-pharynx and antrum of Highmore of the left side, by chiselling away the anterior wall of the antrum of Highmore, after dissecting up the soft parts through a curved incision, commencing near the outer angle of the orbit and carried inward, downward, and outward, terminating near the opening of Steno's duct. For almost all neoplasms this was the best method.

Another case was one of fibro-sarcoma, which he curetted through an opening in the antrum of Highmore, but it continued to grow, and, wishing to save the patient the disfigurement which would arise from a formidable operation, he tried the toxins of erysipelas and the bacillus prodigiosus without success. Finally he succeeded in inducing an attack of erysipelas, but it had no effect on the tumor. He then removed that half of the upper jaw, leaving a rim of the orbit, which prevented deformity of that cavity. The operation was done in 1895. There had not yet been recurrence.

The two cases already presented, in which he performed the operations practised by Dr. J. Marion Sims about 1847, were then described.

Galvano-Cautery almost Uniformly Successful.

—DR. RUFUS P. LINCOLN said it was fortunate that such complications as were present in the first case related were not common. He said fortunate, for any one who witnessed the operation must be fully aware of its hazard, while admiring the skill of the operator. Dr. Lincoln had read a paper before the American Laryngological Association, in 1883, in which a table of cases of naso-pharyngeal growths operated upon by surgeons was given, and out of a total of 20 so treated, there had been 8 deaths during or attributable to the operation, and 14 recurrences within a year. To Dr. Lincoln the case related by Dr. Wyeth was of special interest, for the reason that he had operated upon the young man by a method—galvano-cautery—which had proved almost uniformly successful, but which the results showed was not sufficient to meet the requirements in this case. Recognizing this fact, he had advised the patient to submit to Dr. Wyeth's suggestion. A pertinent inquiry was, Why was not the operation, which proved successful in Dr. Wyeth's hands, resorted

to before? Dr. Lincoln answered by referring to the statistics in the paper already alluded to, and to his own experience with the galvano-cautery and *écraseur* in 14 cases, all successful but 2, one of which Dr. Wyeth had just reported, the other with cerebral symptoms and inoperable at the time when he first saw the patient. One of his cases had been operated upon nineteen years ago, and there had been no recurrence. Where extreme surgical interference was called for, he commended the method devised by Dr. Wyeth.

THE CHAIRMAN thought the operation for removal of the lower jaw better suited to cases of necrosis than those of malignant disease.

DR. HOWARD LILIENHAL expressed surprise at the use of the term "stretching the mouth." He thought it must at least involve rupturing the mucous membrane and skin. It was not like stretching the sphincter ani. The mouth had been held open by ligatures, which gave more room. In operations upon patients in very low condition, it had been suggested that, in addition to saline infusion, a rubber ligature be previously thrown around the thighs, which, in case of emergency, could be loosened, allowing more blood to enter the exsanguinated vessels.

Officers.—Dr. B. Farquhar Curtis was re-elected *Chairman*. Dr. John B. Walker was elected *Secretary*, Dr. Whitman declining a renomination.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 18, 1896:

	Cases.	Deaths.
Tuberculosis.....	128	119
Typhoid fever.....	3	5
Scarlet fever.....	214	21
Cerebro-spinal meningitis.....	1	3
Measles.....	330	22
Diphtheria.....	332	40
Small-pox.....	1	0

Extra Dispensary Facilities.—*Dispensary Patient to Medical Attendant.*—Can I hang my sealskin where it would be safe until you get done with me?

"Certainly, madam; kindly wait your turn and get a check from the superintendent."

"How long must my coachman wait?"

"He must stand in line until his number is called."

Foreign Medical Practitioners in Paris.—It is said that there are in Paris as many as 521 foreign medical men, or rather more than one-sixth of the total number (2,922) of Paris physicians.

Dirty Thermometers.—Those who are constantly preaching the germ causes of disease are the very fellows who many times are as careless as their unbelieving friends. How frequently do we see physicians take the temperature of their patients, regardless of the existing disease, wipe the instrument with their handkerchief, which is the linen most liable to be full of germs, or a towel, or even use the sheet, and carefully place it away in a case prepared with a small amount of absorbent cotton in the bottom to keep from breaking, and unintentionally preserving the germs from time to time, to be conveyed to the next unfortunate, who may be the first patient called upon. This seems to be a very simple thing to discuss, but any reasonable person can readily see the necessity of having his thermometer thoroughly cleaned every time it is used. It should be washed

with soap and water, and if any cotton is used in the bottom of your case, let it be sublimated cotton, and occasionally renew it.—*Charlotte Medical Journal*.

An American Medical Poet.—Among the American medical poets about whom little is known, is Thomas Holley Chivers. He was a Georgia doctor, and the author of seven or eight volumes of verse, issued between 1834 and 1858. Mr. Joel Benton has recently called attention to him in *Collier's Weekly* as being the predecessor of Poe. It is not only the swing of his verse, says Mr. Benton, but the epithets of this bizarre poet that show the mannerisms of Poe. Any one who has ever read Poe, and would then read the following verse from the poem called "Lily Adair," will see at once that though Poe was a better poet, he followed the style of the Georgia doctor:

Her eyes, lily lidded, were azure,
Cerulean, celestial, divine—
Suffused with the soul light of pleasure,
Which drew all the soul out of mine.
She had all the rich grace of the Graces,
And all that they had not to spare;
For it took all their beautiful faces
To make one for Lily Adair—
For my Christ-like Lily Adair,
For my Heaven-born Lily Adair,
For my beautiful, dutiful Lily Adair.

Aseptic Communion Cups in California.—According to the *Sun*, the question of contagion from the use of a common communion cup in the service of the sacrament in Protestant churches is to be brought before the State Board of Health of California. The Rev. V. Marshall Law, an Episcopal rector of Oakland, invented and patented a hygienic communion cup, but was snubbed by his superiors in the church when he asked them to adopt it. Dr. Law believes in his cup, and in the danger of the common cup, and proposes to ask the local and the State Boards of Health to pass on the question of communion cups in general and the miscellaneous way in which they are used. He claims that the ritual of the church is subject to the laws of the commonwealth, and will ask the authorities to take some action in the interest of the public health.

Crossed Otorrhagia.—M. Le Fort has pointed out a new sign in severe fractures of the base of the skull, which is very important from the point of view of prognosis. He gives the histories of three cases of fracture of the skull, with autopsies. All three fractures presented a similar peculiarity, viz., that the fracture of the vault of the cranium had produced a complete fracture of the petrous portion of the temporal bone on the opposite side. In the first case the fracture of the vault was in the temporal region; in the second, in the fronto-temporal region; and in the third, in the occipital region. In all three cases there was bleeding from the ear on the side opposite to that which was struck. Incomplete fractures of the petrous portion of the temporal bone following a fracture of the vault are common enough, but not complete fractures. Of course, in making use of this sign, care must be taken that the hemorrhage is not due to some trivial external cause.—*Medical Times*.

The Narrow Pelvis of the South German Woman.—Dr. Schultz, of Rostock, says that narrow pelvis is comparatively rare among North German women. Among 2,083 pelves examined at the clinic of Rostock only 65, or 3.2 per cent., were universally contracted pelves; 93, or 4.5 per cent., were non-rachitic flat pelves, and only 1 per cent. rachitic pelves. In the Berne clinic, on the other hand, narrow pelvis existed in 22 per cent. of the cases, and in the Dresden clinic in 24 per cent. As a consequence, absolute and relative Cæsarean section, symphyseotomy, and

induction of premature labor were very rare; prophylactic turning was the usual operation.

Diphtheria Antitoxin in Montreal.—The report of the Protestant section of the Contagious Diseases Hospital for the last six months gives the result of the antitoxin treatment as follows: Out of 34 cases of diphtheria treated with antitoxin there were 4 deaths, while out of 12 which did not receive the treatment 2 deaths occurred.

The Matteawan Hospital for Criminal Insane, New York.—The Hannigan trial and similar proceedings, where the plea of insanity prevails as a defence for crime, naturally suggests to many an inquiry as to what provision the State of New York has made for the custody of the criminal insane. One of the most recently erected institutions in the State is the Matteawan State Hospital, yet next to Utica it is the oldest State asylum for the insane, having been opened at Auburn for the reception of patients in February, 1859, nearly thirty-seven years ago, antedating in this respect the English asylum for criminal lunatics at Broadmoor. Originally established for the treatment of insane convicts, its scope from time to time has been widened until at present it practically receives all the criminal insane in the State, both from the courts and from penal institutions. It is discretionary with the judges making commitments to send patients to any of the State hospitals, but with very few exceptions all cases of insanity charged with crime are committed directly to Matteawan, or subsequently reach there by transfer. The criminal insane as a class have always been objectionable as patients in the civil hospitals, partly from the nature of their crimes and partly from the greater restrictions necessary for their safe custody, which more or less curtails the general privileges of the house, and also because of the fact that over seventy-five per cent. of them possess homicidal and dangerous tendencies. The power of transferring such patients from the other State hospitals to Matteawan, which was formerly wholly vested in the Supreme Court, is now exercised as well by the State Commission in Lunacy. In the thirty-seven years of its existence the hospital has treated over one thousand seven hundred patients. During the past four years the increase in population has been very rapid, and at present the number of inmates is five hundred and thirty-four, nearly its full capacity. Only about one-third of the inmates are patients who are undergoing sentence, and these upon recovery are returned to penal custody. It frequently happens that many of the admissions from penal institutions are of patients who evidently were insane at the time of their trial and yet in whose cases either the disease was not recognized or the plea of insanity failed to be established. In this connection it is interesting to observe that seventeen per cent. of the life men in the State are inmates of the Matteawan State Hospital. Their insanity in some instances was the causative factor of the crime. In others the disease developed subsequent to conviction. Among court cases, crimes against the person are by far the most prevalent and delusions of persecution almost universal. The rate of recovery among this class is not large, and many patients the details of whose homicidal acts filled the public press some years ago are still inmates there or have gone to swell the list of the great majority. The accumulation of such a class at this hospital relieves the other hospitals of a class undesirable and objectionable, and allows them a freedom in this respect which they have long sought to procure.

A special committee of the English House of Lords in 1860 reported that it was inexpedient to confine, among the ordinary insane, lunatics charged with

crime. The asylum at Broadmoor and that at Matteawan are conducted along similar lines. At the former institution dangerous patients are detained during "the Queen's pleasure," and at the latter until discharged by due process of law. By reason of the present large population at Matteawan, it is necessary that increased provisions be made for the custody of the criminal insane, and in so doing an effort will be made to furnish accommodations whereby the convicted patients undergoing sentence shall be cared for separately from those who are "criminals" simply because of their insanity, which for many obvious reasons is desirable. While such patients themselves have always been and still are objectionable in the general hospitals for the insane, yet in turn they should be kept from contact with the habitual criminal, whose insanity usually arises after conviction as a passing incident in a life devoted to criminal acts, and does not enter as a factor into the determination of this responsibility. It is only a step in the direction so frequently pointed by medical men that measures taken by the law for the repression of crime should be suited to individuals and not solely to crimes.

The Matteawan State Hospital is situated a few miles from New York, in the midst of the most charming scenery of the Hudson River, and commands the widest view of the upper Highlands and of the Hudson River Valley above Fishkill.

The Egyptian Origin of many Modern Jokes is well known. The Egyptian origin of many medical recipes has recently been demonstrated by Prof. Georg Ebers. Old medical recipe books, both English and German, contained, down to the very end of last century, the formulæ, if they may be so termed, of remedies which are found in ancient Egyptian papyri. The problem is, how did these prescriptions find their way from Egypt to Europe? Clearly not through the Greek writers, since their works contain nothing of the kind. Ebers suggests that they were handed down by the famous old school of Salerno. The teachers in that school are known to have been acquainted with Egyptian medicines through Coptic and Arabic translations. One of the most celebrated of them, Constantinus Africanus, had visited Egypt, and he "conveyed" a good deal of the medical lore which he learned there into his own writings. Ebers gives a number of examples, showing how recipes for eye lotions, methods of treating prolapse of the womb, predicting the sex of an unborn child, etc., which appeared in old English and German books, could be traced back to Egyptian sources.

Mediæval Gynecology.—Dr. W. G. S. Robertson gives (*Edinburgh Medical and Surgical Journal*) the following description taken from the works of Father Mayster Alexis of Piemont, who lived in the latter part of the sixteenth century: The tampon and postural method were evidently well known at that time: "To heale a woman that hath the matrice out of her natural place. Take a flint stone that hath been alwaies in the earth and not taken the aire, and put it in some basket covered in a great fire, and when it is verie hotte put it in a little tubbe or barrell, and wet it with vinegar cast upon it, and cause the woman to stand over it to receive the smoake or parfume of it, and then let her goe to bed. Ye shall after this take the juice of Rue and make a little rounde ball of cotton, whereunto ye shall tie a threede, and then dippe the saied ball in the saied juice of Rue, and put it into the mouth of the matrice, the whiche will incontinent take the ball and drawe it in, and then it will return into his natural place again. But you must binde and tie the ball sure and well, least peradventure it should remaine within. After this an ointment

is to be applied to the reynes of her backe, and laye hotte towe upon it, and then swaddle her as women do young infantes. And so she must be laied in her bed with her bellie upwarde and her heade lower than her buttockes. This must ye doe from night to night three times and she shall be healed. She must also eate hot things in operation, as pigeons and hennes, with spices and other like things."

House Nerves.—This is the latest name invented by medical experts for the peculiarly depressing set of ailments which afflict people who stay indoors too much. The discovery of the novel malady is due to a journal devoted to science, and it is a mark of unusual and undoubted condescension that the name of the disease should be so simple and so easily understood. There was nothing, as far as can be seen, to prevent the scientific godfathers from naming their child "ækoganglia," or something equally terrifying to the unsophisticated. Merely as "house nerves" we can regard the ailment with some complacency; but for all that it is not a thing to be laughed at. All over Europe the rush of existence is playing havoc with our sensitive cerebro-spinal fibres. We recognize all the symptoms which the inventors of "house nervès" describe as quite common in England to-day. They are "low spirits and brooding," much irritability, and a generally "morbid habit" of mind. "Women," we read, especially women who are delicate and afraid to go out owing to the weather, are those who suffer most from this malady. They have a way of imagining that something awful is happening to their husbands or children when they are out of sight; they "conjure up accidents, analyze their feelings, and lose their power of will." All this occurs because people are too sedentary, and stay at home too constantly. Unfortunately, a housewife, as her name implies, is one whose duty is to stay at home for a considerable portion of each day; and all the mischief arises from her not being able to tear herself away from home ties and forget all about them in some form of out-of-door amusement or occupation. A woman who gets "house nerves" begins to study herself, her own wants and ailments and loneliness, to a painful extent, until—we are solemnly warned—she "is on a fair road to an asylum, did she but know it." Journals devoted to medical science often indulge in these pleasant little predictions; yet the reading public never accuse their editors of suffering from "science nerves." Putting aside the hint of the asylum, as both alarmist and irrelevant, we have to admit that there is a great deal of truth in the idea that "all home and no spree makes Jill a dull she." Not only does it make her dull, but it often, in the humbler walks of life at any rate, gives rise to that "nagging," which drives husband to the public house or deplorable personal violence. There may be happy lands—say Boeotia or the "peasant-state" of Bulgaria—where nerves are unknown. Probably they affect the south of Europe less than the north, because there the climate allows of life being passed more in the open air, and sunshine and ozone are great nerve tonics. In Russia the consumption of tea and Tolstoi leads inevitably to neurotic catastrophe. Nor is Europe the only sufferer. In no country in the world are human nerves exposed to greater wear and tear than in the United States. The combined effects of the negro question, unlimited candy, an addiction to rapid eating, iced drinks, and business hurry, are too powerful for any nerves not built of cast-iron to withstand; and thus it comes about the typical American is a neurotic patient long before he has attained to middle age. Fortunately, the disease is not left without a remedy, and the prescription for a person afflicted with "house nerves" is a very agreeable one. There

is no help to be got from medicine or doctors. All that has to be done is to pay visits to others, to take walks in the open air and sunshine, and to go in generally for gayety and innocent amusements. The patient is also recommended to "repress every morbid thought, as it arises, or expel it by thinking of a necessary duty." This advice is, perhaps, more easily given than followed. Hundreds of people would be only too delighted to repress morbid thoughts, but the more they try to repress them the more morbid do they become. It is sad to think that not only adults, but also "imaginative children," suffer from the "domestic nerve," and when such is the case they should be sent to "play with merry companions," whose merriment, let us hope, will be subdued enough to spare the "house nerves" of other people. Of course, there is nothing strikingly novel about the advice to try out-of-door exercise for morbid mental conditions; but these "hints to those about to go into hysterics," will be of use if they help to impress on us the fact that a good deal of the excitability, the irritability, and the depression which afflict so many nowadays are really of a nature of a disease and should be treated with common-sense remedies, instead of useless reproaches.—*Calcutta Medical Review.*

Suicide in European Cities.—Recent vital statistics show the following numbers of cases of suicide per 10,000 of population: Munich, 1.93; Berlin, 2.98; Vienna, 3.2; Brussels, 3.29; Paris, 3.6; Breslau, 3.91. The Vienna correspondent of *The Lancet* furnishes some interesting data concerning suicides in that city. In every 100 cases, 77 were men and 23 women. Adolescents appear to have even more frequent recourse to this method of terminating their real or supposed miseries, the highest rate being registered at the age of sixteen to twenty-five years. Among 100 suicides, 32.5 ended their days by hanging; 28.5 by pistol-shots; 22.4 by poisoning; 5.8 by drowning. With respect to the poisons, cyanide of potassium was resorted to in 12.7 of the cases, caustic lye in 22.7, phosphorus in 26.1, and sulphuric acid in 7.2. As for seasonable distribution the proportions were: in January, 8.5 per cent.; in February, 7.6 per cent.; in March, 8.9 per cent.; in April, 9.1 per cent.; in May, 10.5 per cent.; in June, 8.7 per cent.; in July, 8.1 per cent.; in August, 7.2 per cent.; in September, 7.4 per cent.; in October, 8.3 per cent.; in November, 7.8 per cent., and in December, 7.9 per cent.

Contraindicated during Pregnancy.—Dr. Huguenin mentions as chief of the remedies which are dangerous to the pregnant woman salicylate of sodium and ergot. Purgatives—castor oil, mineral salts, and especially aloes—should be avoided. Oxalic acid and its salts—oxalate of potash, etc.—may prove dangerous. Antipyrin frequently taken inhibits the lacteal secretion; cocaine locally applied for fissured nipples has the same effect, and should be proscribed for nursing women. As to operative measures, they are not absolutely contraindicated; we may, for example, extirpate a peri-uterine tumor, the development of which hinders pregnancy, provided the operation is speedy and little blood lost. It is better to wait until the fourth or fifth month before operating. Operations in the vagina or uterus, no matter how minor, should be avoided in order to avoid suspicions of abortion in the patient's mind.—*Journal of the American Medical Association.*

Alimentary Glycosuria.—The temporary presence of sugar in the urine can be readily induced by the ingestion of one hundred grains of sugar in hysterical subjects, pregnant women, those poisoned by phosphorus, and in cases of atrophic cirrhosis.—JAKSCH, *Prag. Med. Woch.*, No. 27, 1895.

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A CONTRIBUTION TO BRAIN SURGERY, WITH SPECIAL REFERENCE TO BRAIN TUMORS.¹

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GENTLEMEN: Before entering upon the subject of operation for brain tumors, which I have been asked to discuss, I desire to say a few words regarding operative interference in cases of epilepsy. It is, of course, admitted by all that in ordinary idiopathic epilepsy with general convulsions, or with attacks of a *petit mal* type, there is no reason for any surgical interference. The only type of epilepsy in which a question of operation can arise is that of so-called cortical epilepsy, where an irritant lesion of one region of the brain produces localized spasms. Such lesions may be traumatic in origin, from fractures, localized meningitis, small hemorrhages, or cysts; or the epilepsy may be the first sign of a beginning tumor, abscess, or sclerotic patch. It is for this class of cases that operations have been very largely undertaken in the past and are still being done.

In my book on "Brain Surgery," published in March, 1893, I collected twenty-nine cases from literature and recorded thirteen cases of my own, in which operations had been done for the relief of this condition. Thirteen of these were reported as cured. Since that time a very large number of cases have been reported, and I have had eight more cases operated upon. I will not take your time by any detailed statement of these cases, but wish to say that I am exceedingly disappointed with the final result of operations in this type of disease. Experience seems to show that, although after an operation a cessation of attacks may occur, these attacks are almost certain in the end to recur, and hence that the patients are not actually cured. Therefore I am becoming more and more reluctant, even in cases of well-defined cortical epilepsy, whether of traumatic or of spontaneous origin, to recommend surgical interference.

In cases in which the brain itself has been injured and a cicatrix has formed there exists a focus of irritation, and it is not possible by excision of this cicatrix to produce a result very different from that which is already present, for the cicatrix of the incision made by the surgeon is little different from that produced by a trauma, and hence in these cases I regret to say that little permanent effect is produced.

Turning now to the subject of brain tumors, it must be stated at the onset that the experience of investigators during the past three years has seemed to confirm the statement which I made in "Brain Surgery," that only about seven per cent. of tumors of the brain are open to operation. The difficulties in the way of operation in brain tumors are, first, the diffi-

culty of locating the tumor accurately from the symptoms alone, and, second, the difficulty of reaching the tumor when accurate localization is possible.

There are a number of distinguished surgeons who have advocated a removal of a portion of the skull in every case where the diagnosis of brain tumor is made, irrespective of the possibility of locating the tumor, and irrespective of the possibility of excising it. The object of such an operation is to relieve the intracranial pressure produced by the growth of the tumor and thus to relieve the symptoms of headache, vertigo, vomiting, and optic neuritis. The experience of many surgeons who have trephined for a brain tumor without finding it, but who have seen a certain amount of relief to these symptoms after an operation has led to this suggestion. Thus Park¹ and Horsley² have recorded cases in which considerable relief was obtained. Clarke and Norton³ operated for the relief of pressure by taking out a section of bone from the parietal region. The headache and the optic neuritis subsided after the operation, but inasmuch as the tumor was not removed the symptoms gradually returned, and the relief lasted only about five months. Diller,⁴ operating under the same circumstances, was not equally successful in relieving his patient, for the symptoms continued about the same after the operation, and the patient died a month later. Albert⁵ reports three cases operated upon in this manner. In one there was no improvement whatever, in the other two a slight improvement, lasting through a month or six weeks, was obtained.

Horsley has urged this procedure very strongly and has even gone so far as to state that it may have a beneficial effect upon the growth of a tumor. He has recorded two cases in which relief of intracranial pressure has been followed, not only by a subsidence of the symptoms, but apparently by a progressive decrease and final absorption of the tumor; the patients recovering after a year from all cerebral symptoms.

I have recommended this procedure in one case at the Presbyterian Hospital in a patient seen with Dr. A. H. Smith, and subsequently operated upon by Dr. McCosh. The man had all the symptoms of a tumor of the corpora quadrigemina, with very great distention of the ventricles, producing a tremendous increase of intracranial pressure. The removal of a considerable section of the skull from the parietal region relieved his headache for a few weeks, but had no effect upon the optic neuritis or upon the other symptoms, and he subsequently died.

These facts should certainly be considered in the management of any case of brain tumor. And while at first sight it may appear that the operation of trephining in such cases merely prolongs the life of a patient whose sufferings are extreme and whose death is sure to follow, and is in no sense curative, yet it is well known that surgeons undertake operations for the removal of tumors in other parts of the body, even when it seems probable that these tumors will recur;

¹ Dennis's "System of Surgery."

² British Medical Association, 1893.

³ British Medical Journal, April 13, 1894.

⁴ New York Medical Record, March 22, 1895.

⁵ Wiener Medicinisch. Woch., 1895, Nos. 1, 2, 3.

¹ Address delivered at the meeting of the New York State Medical Society, January 29, 1896.

and there are many patients who prefer to take the risks of an operation in order to secure a longer lease of life. It is also to be remembered that a marked change in the circulatory conditions, consequent upon the relief of the intracranial pressure, may in some cases aid in the effect of the absorptive power of some drugs. For it is not to be forgotten that there are cases of brain tumor in which the diagnosis is perfectly certain, which have recovered under the use of mercurial inunctions together with very large doses of iodide of potassium. Oppenheim,¹ in his recent monograph on brain tumors, calls particular attention to this fact, and I desire to put on record a case which offers a striking confirmation of it. I do not allude in this connection to cases of gummy tumor, for I think it is generally admitted that under the American system of treatment by inunctions of mercury, continued to the point of salivation, and very large doses, as high as five hundred grains a day of iodide of potassium, gummy tumors can be absorbed. I have, personally, records of four such tumors absolutely cured and now under observation a year or more since the cure, and I have no doubt that my experience in this respect can be duplicated by many who are present.

The following case, however, is one in which syphilis could be absolutely excluded. The patient was a boy, sixteen years of age, of perfectly healthy parents, there being no direct or indirect history of syphilis in either parent, and the boy himself presenting no evidence, direct or indirect, of having had the disease. In March, 1895, he began to suffer from a disturbance of his eyesight, and it was noticed that his eyes had a peculiar appearance. He was taken to a certain specialist in New York, who immediately discovered muscular insufficiency and divided the internal recti without any relief. Two weeks later he began to suffer from very intense headaches, vomiting, and marked mental dulness, and it was noticed on every occasion that he staggered slightly in walking. Lateral oscillation of the eyeballs was then noticed, and his headaches, which increased in intensity, interfered with his sleep at night. On April 24th, when I first saw him in consultation with Dr. Story, of Flushing, L. I., the boy was very ill. He was confined to bed and any motion increased the intense headache from which he constantly suffered. He was extremely emaciated, and frequent vomiting was attended by great vertigo and prostration. His eyes were prominent, his pupils were dilated, there was a slight deviation of the left eye outward, he saw double, vision was reduced two-thirds, and there was very marked nystagmus on any lateral movement of the eyes. Examination by the ophthalmoscope revealed a double optic neuritis, with great distention of the veins but without hemorrhages in the retina. There was no paralysis of the face, but he complained of numbness in the left side of the face and some weakness in the muscles of mastication on the left side of the jaw. His tongue deviated to the left. There were no paralysis or ataxia of the hands and no disturbances of sensation in the extremities or body. There was no paralysis or ataxia of the legs when at rest, and his knee jerks were normal. There was no clonus. On standing up, his head fell forward, but he was able to straighten it with some effort, holding it, however, somewhat forward and toward the left. He staggered painfully in standing and in walking, so that he was unable to walk without assistance. The staggering was of the type recognized as cerebellar. There was considerable ringing in the left ear, but his hearing was the same on both sides. He had had on three occasions retention of urine which had to be relieved by a catheter, and he was extremely constipated.

With these general symptoms of brain tumor, and

with the local symptoms of cerebellar disease, together with an affection of the fifth, eighth, and twelfth nerves on the left side, it seemed evident that this boy must have a tumor involving the cerebellum and producing compression of the left side of the cerebral axis; a tumor, in a word, whose position was such as to make any operation absolutely impossible. In the absence of any history of syphilis it seemed proper to give an absolutely unfavorable prognosis, and yet to resort to inunctions and large doses of iodide as affording the only possible hope. These were immediately begun and the iodide rapidly run up to two hundred and fifty grains a day. A steady improvement began in about two weeks after the treatment was instituted, and by June 15th he was up and about, without headaches, without vomiting, and walking without assistance quite well. He still staggered slightly, however, with a tendency to go toward the left; his tongue still deviated to the left. The left side of his face was still hyperæsthetic and at times painful. His eyesight was improved and the optic neuritis was subsiding. The improvement went on during the entire summer, and at present the boy is quite well, with the exception of nystagmus and a slight right facial paralysis which has developed slowly. The appearance of his eyes is such as to suggest the previous existence of a neuritis, though his sight is normal. He is still taking two drachms of the iodide of potassium daily.

This case then shows that even in some individuals where there is no history of syphilis medical treatment for a brain tumor occasionally succeeds. Whether this treatment may be aided by diminution of the intracranial pressure may be left an open question.

In three cases of cysto-sarcoma in which the diagnosis was confirmed either by operation or autopsy, I have seen very great improvement in the symptoms follow a course of treatment with mercurial inunctions and iodide of potassium. The only manner in which such relief of symptoms could have occurred must have been by an absorption of the fluid in the cystic spaces of the tumor. In another case of cerebellar tumor this treatment was, however, without effect.

It must, therefore, be admitted that anything which diminishes the intracranial tension in cases of tumor may relieve the symptoms for a time, hence trephining for the relief of pressure is justifiable.

Turning now, however, from symptomatic treatment to the radical cure of brain tumors by removal, it is to be remembered that the necessary preliminaries to any operation for brain tumor must be accurate diagnosis of its position and a reasonable possibility of reaching it.

First, in regard to the diagnosis, it is now possible to distinguish sharply between the general symptoms common to tumors in any location—such as headache, optic neuritis with consequent blindness, vomiting, vertigo, mental dulness, polyuria, and general exhaustion—and those that are strictly local in their significance, such as spasms, paralysis, the various forms of aphasia, hemianopsia, anæsthesia, cerebellar staggering, rotary movements, and cranial nerve palsies. There is one local symptom not generally known to which I desire to call your attention. It was first pointed out by Macewen. It is a change in the percussion note elicited by auscultatory percussion of the skull. I can confirm Macewen's statement that on the side of the tumor or abscess there is sometimes found a clearer, higher-pitched, and more resonant note than upon the opposite side. This is not uniformly obtained. Horsley has recently noticed that tenderness to pressure is often found over a tumor when tenderness to percussion cannot be elicited. It is upon the local symptoms that the decision with regard to the possibility of operation distinctly rests. In a small

¹ "Die Geschwülste des Gehirns," Wien, 1896.

proportion of brain tumors it seems easy to determine the fact that the tumor must lie in a definite position, and if that position is one upon the convexity of the hemisphere where access to it through the skull is easy, it seems justifiable to undertake an operation. Yet my own experience and that of other operators has convinced me that even in regard to these local symptoms mistakes are possible.

Thus in a patient operated upon by Dr. McBurney for me in November, 1895, a patient who had been carefully watched since May and had presented symptoms of a tumor located in the arm centre of the left hemisphere (viz., all the general symptoms of brain tumor, and spasms beginning in and for a time limited to the hand and face, followed by temporary paresis), a large exposure of the cortex failed to reveal the existence of a tumor on or near it, and the subsequent autopsy showed that the tumor (a sarcoma) had lain deep within the centrum ovale and had invaded the basal ganglia, although the symptoms pointed distinctly to the cortex as its point of origin. I think it is still impossible to distinguish accurately between cortical and subcortical tumors, and that no practical advance has been made in the differential diagnosis since the classical article of Seguin and Weir published in 1888.¹

Another difficulty in the way of operation is the fact that the nature of the tumor is always a matter of uncertainty until the tumor is exposed. Thus in a case operated upon by Dr. McBurney for me in May, 1895, where every symptom pointed to a tumor of small extent in the leg centre of the right hemisphere, it was found at the operation that a very extensive glioma occupied both central convolutions and extended downward as low as the face centres, so vascular in its character as to make its incision or excision impossible, and so imperfectly defined in its extent as to make it impossible to accurately determine its limits. I am willing to admit that in a case such as this very extensive excision of the brain is possible. Thus in September last, in London, I saw Mr. Horsley cut out a portion of brain substance, measuring four inches by three inches in surface extent and one and a half inches in thickness, from the motor area of the brain for the relief of chronic congenital athetosis with paralysis, and by careful tying of the vessels before the brain itself was incised, the method employed being that of passing horsehair sutures with an aneurism needle deep into the brain and out again all the way around the contemplated incision, he caused little hemorrhage and the life of the patient did not seem to be endangered by the extensive loss of brain substance. It is also well known from the experience of treatment in brain abscess that a large amount of cerebral tissue may be lost without fatal result, and the experience of Von Bramann and of Czerny has confirmed the possibility of large excisions of glioma of the brain without loss of life. Yet here again the fact confronts us, that although the patient may recover from the operation, he does not recover from his disease, for symptoms of a permanent character remain, which insure a life of invalidism.

It is only when the tumor is small, lies on but does not invade the cortex, and can be removed without serious damage that the prognosis is absolutely good. This was the condition in an angioma removed by Dr. McCosh at the Presbyterian Hospital in November, 1894. The patient had developed epilepsy with maniacal attacks after a blow on the left parietal region which had left a very tender and painful spot on the skull. There were few symptoms of tumor, but trephining at this spot revealed the existence of a small angioma, easily removable. The boy recovered and has been entirely well ever since.

¹ Amer. Jour. Med. Sci., July-Sept., 1888.

Secondly, coming now to the record of what has been done in the treatment of brain tumors by operation, I have summed up the results in the following table. This table is made from the list of brain tumors to be found in my "Brain Surgery" up to 1893 (ninety-seven in number) and from the lists of tumors here appended (sixty-five in number) which I have gathered from medical literature between 1893 and January 1, 1896.

Table of Results of Operations for Brain Tumor.

	Cere-bral.	Cere-bellar.	Total.
Total number of cases operated upon for brain tumor.....	137	25	162
Cases in which tumor was not found.....	39	9	48
Cases in which tumor was found but not removed.....	5	2	7
Cases in which tumor was removed and patient recovered.....	65	7	72
Cases in which tumor was removed and patient died.....	28	7	35

It will be seen that these cases fall into three categories:

1. Cases in which the tumor was not found at the operation. These cases number forty-eight, of which thirteen only have been recorded within the past three years. The errors in diagnosis which have led to a futile operation have been in the majority of these cases inevitable. In many of the cases the symptoms have pointed to the motor area or to the cerebellum as the site of the tumor. The tumor has really lain either deep beneath the cortex, or at some distance from the motor region, or in the frontal lobes. Since tumors at some distance from the motor region may cause motor symptoms indirectly by irritation or by pressure, it seems impossible in some cases to avoid this first error. The occurrence of ataxia of a cerebellar type from lesions of the frontal lobes has led to the second error. Bruns' was the first to point out the fact that frontal lesions often cause ataxia of a cerebellar type, and this fact has been confirmed by Cenas,² Dinkler³ and Hermanidas.⁴ In a recent monograph on brain tumors, Bruns⁵ has pointed out the differential points between frontal and cerebellar ataxia, as follows: frontal ataxia is often associated with hemiparesis or with monoparesis; there is usually a localized tenderness to percussion or to pressure over the frontal region; optic neuritis occurs late in the course of the disease, and mental dulness is an early symptom. In cerebellar ataxia there is rarely hemiplegia; there is no tenderness over the frontal region; optic neuritis with hemorrhage in the retina occurs very early in the course of the disease and is attended by blindness, and while other symptoms of brain tumor such as vertigo, vomiting, and slowness of pulse develop early, mental symptoms such as dulness and apathy occur late. These points should be noticed, inasmuch as a staggering gait has been supposed to be quite characteristic of cerebellar lesions. It is well known that operations for cerebellar tumors have a more unfavorable prognosis than those for tumors in any other portion of the brain. In fact out of twenty-five operations for cerebellar tumor, while seven cases have recovered from the operation and have lived a few weeks, but two have been really permanently benefited. It is possible, therefore, that operation has been refused to some cases which have been considered as cerebellar because of the gait, when as a matter of fact the tumor lay in the frontal region and was accessible. In a recent case of Stewart and Annandale⁶ of successful operation for cerebellar tumor, consider-

¹ Deut. Med. Woch., 1892.

² Loire Méd., March 15, 1893.

³ Deut. Zeitsch. f. Nervenhe., vol. vi., 435.

⁴ Neurolog. Centralbl., 1895, p. 181.

⁵ Gehirntumoren. "Realencyclopädie d. ges. Heilk." Encyclop. Jahrb., v. Bd., 1895.

⁶ Edinburgh Hospital Reports, 1895.

able stress was laid upon the fact that the pain suffered was in the opposite frontal region. This is another indication of the intimate relation between the cerebellum and the frontal lobes. I think it is evident, therefore, that with regard to the cases in which tumor has not been found at the operation a more careful study of the symptoms might in future prevent mistakes.

2. The second class of cases are those in which a tumor was found at the operation but its removal was impossible. This was usually due to the nature of the tumor. In any case the nature of the tumor is a matter of uncertainty. Should it turn out to be a glioma it is often very difficult of removal, yet Von Bramann has recorded¹ a case of glioma in which three operations have been performed, each a year after the preceding one, with a consequent prolongation of the patient's life, and, as already stated, it is not dangerous to make large incisions into the brain. Cases in which the removal has been impossible, however, are cases where the tumor has been very diffuse, very vascular, and very large. In all these cases it seems to me that an earlier attempt at operation might have succeeded. It is noticeable that while prior to 1893 five such cases are recorded, since 1893 but four such have been put on record, and this appears to show that with greater care in the selection of cases for operation, and an earlier adoption of this procedure, this class of cases will be eliminated in the future.

3. We come now, thirdly, to the class in which tumor was successfully diagnosed, was found at the operation, and was removed. These now number 107, with 72 recoveries from the operation—a very satisfactory record when it is remembered that the first case in which operation was undertaken occurred in 1885. It is to be recollected that statistics show that out of one hundred and twenty autopsies in a hospital, brain tumor is found in one case only, and I have already stated that only seven per cent. of brain tumors are open to operation.² Hence this record shows that the operation is now being undertaken in almost all suitable cases, and it is also a satisfaction to find that, in the cases more recently recorded, the percentage of recoveries from the operation is greater, and the percentage of final recovery from all symptoms of disease is also greater. It has been an objection to the operation, that even when tumors are removed they are liable to recur, and that the destruction of brain tissue produced before the removal renders the patient a helpless invalid under all circumstances. This statement, however, is erroneous; for sufficient time has now passed to warrant the assertion that many patients are alive whose tumors were taken out successfully, four, five, or six years ago and many other patients are now alive, free from all symptoms, from whose brains tumors have been removed. I cannot but feel that in the future the prognosis in such operations will be more favorable than it is at present, and that we have every reason to go on with this work of removal.

As we look over the history of the successful cases it is evident that the most favorable cases for operation are those in which the tumor has been situated in the motor region of the brain, producing first localized spasms and then localized paralysis, or in the speech area of the brain, or in the visual areas of the brain. In all these areas the local diagnosis is easy, acces-

sion to the cortex is easy, and removal of the tumor should not present many difficulties in the hands of a skilful surgeon.

In the following table will be found a list of the varieties of brain tumor operated upon during the past three years and the result.

Table II. Variety of Tumor Removed and Results—1893 to 1896.—

Variety.	Recovered.	Died.
Sarcoma.....	10	5
Glioma.....	3	1
Glio-sarcoma	2	0
Cystic	3	5
Tubercular.....	3	3
Gumma	1	2
Fibroma	0	1
Angioma.....	1	0
Not stated.....	3	4
	26	21

It is evident that sarcoma is a tumor most frequently removed at the operation, and with the best prognosis. There appears to be little difficulty in removing cysts, but subsequent results are less favorable, for it is not sufficient to evacuate the cyst which then refills, but its wall must be dissected out; and this can rarely be done without serious injury to the brain, which may be followed by hemorrhages or by the formation of an abscess. Thus in a case operated upon by Dr. McBurney for me in January, 1895, in which headache and attacks of spasms, beginning in the arm and extending to the face, then to the body, and finally becoming general, were the chief symptoms, these symptoms having developed subsequently to a blow on the head, which had not produced any fracture, trephining over the arm area revealed the presence of a cyst containing about two drachms of clear fluid. The wall of this cyst was removed. Two days later a gradually increasing hemiplegia and mental dulness indicated the existence of compression which was found on investigation to be due to a hemorrhage that had occurred from a small vein of the pia subsequently to the operation. About eight ounces of blood clot were removed from the surface of the brain, with immediate subsidence of the mental dulness and of the hemiplegia. The patient then went on to recovery and remained well for five months, when the spasms recurred. Investigation showed that another cyst had formed at the seat of the old one. This was evacuated and the attempt was then made to secure its healing from the bottom by packing and an open dressing. This appeared to succeed, but at the end of six weeks, when only a very small sinus remained, the boy suddenly went into a condition of coma and died, and the autopsy showed a third cyst which had formed beneath the others, had invaded a large area of the brain, and had ruptured, causing death. The cases reported from Australia, of cysts that are evacuated, are largely of the hydatid variety which we do not see in America. Many of these cases recover and do not recur.

In regard to glioma, it is to be stated that in order to remove the glioma extensive excision into the brain is necessary. This need not prevent the operation, however, as vessels can be tied, either before incision is made, by means of an aneurism needle carrying a ligature deep into the brain around the tumor, or subsequent to its excision, as such vessels appear. It is a remarkable fact that even when glioma recurs it can be excised a second time or even a third time, as the cases of Von Bramann and Cleghorn prove. The probability of a return of a glioma after extirpation makes this fact important.

Tubercular tumors have been successfully removed from the brain, Krönlein having collected¹ fifteen such

¹ "Zur operativen Chirurgie im Hirngeschwulste," Beiträge zur klin. Chir., xv., 25, 1895.

¹ Archiv für klin. Chir., li., 1, 1895.

² Thatcher reports that in 512 autopsies at the Presbyterian Hospital from February 1, 1893, to January 10, 1896, there were four tumors of the brain and seven abscesses of the brain. In 4,000 autopsies made by Beadles in one of the insane asylums in England there were 45 cases of tumors of the brain. In 6,177 autopsies made by Beck in Heidelberg, tumors of the brain were found fifty times. In 13,411 cases in the Nervous Department of the Vanderbilt Clinic to date, brain tumor was diagnosed 16 times.

cases, in five of which permanent cure resulted. It must be admitted that this tumor is liable to recur, and hence the objection which Von Bergmann has made to this operation may be thought to be warranted, yet, on the other hand, there are several cases on record in which patients have lived three or more years after the removal of the tumor without any recurrence; therefore in any case in which it is evident that other organs beside the brain are not invaded by the tuberculous process operation must be considered justifiable. The question of operating for gummy tumors is also an open one. There is no question that many of these tumors can be absorbed by full antisyphilitic treatment. There are others, however, which appear to be so large as not to yield to medicines, and in these cases I do not think we should hesitate to operate, for in several cases already on record, after removal of the tumor antisyphilitic treatment previously ineffectual has resulted in complete recovery.

It is not my function to comment upon the surgical aspects of these cases, and yet my experience in brain surgery, now reaching over sixty cases of various kinds, leads me to urge the adoption of the flap operation rather than the operation of trephining, and also leads me to warn those who have not had experience from entering upon this field of surgery. I cannot but feel from the observation of many cases that it is essential to success that these operations should be done in a hospital, and should be done only by those who have had considerable practice in the performance of these operations, both upon the cadaver and upon the living subject. In this way delay is avoided; shock, which is the most dreaded feature, is obviated, and the many complicating accidents of hemorrhages, etc., are more skillfully met.

Table III. Tumors Successfully Removed.—

Central Region.—Verco, *Trans. of Australian Congress*, 1893. Cyst hydatid evacuated. Died.—Eskridge, *Jour. Amer. Med. Assoc.*, Sept. 30, 1893. Sarcoma of fronto-parietal region, partly removed. Patient died.—Springthorp, *Australian Medical Journal*, Oct., 1893. Sarcoma removed, recovered. Glioma removed, died.—Chisholm, *Australian Medical Gazette*, 1893, p. 38. Hydatid cyst removed. Two cases, both died.—Harrison, *British Medical Journal*, Dec. 23, 1893, p. 1368. Gumma removed, but patient died.—Parry and Davenport, *Australian Medical Gazette*, 1892, p. 315. Hydatid cyst evacuated. Death on 20th day.—Pauly and Jaboulay, *Lyon Medical*, Feb. 5, 1893. Cyst. Patient died four days later.—Cleghorn, *New Zealand Medical*, Jan., 1893. Recurrent glioma operated on four times with temporary improvement.—Diller and Buchanan, *International Medical Magazine*, Sept., 1893. Cyst. Patient recovered and improved.—Brigattie Albertoni, *Revista sper. d. fren.*, 1893, p. 1. Glioma. Patient much improved thirteen months later.—Annandale, *Edinburgh Medical Journal*, April, 1894. Sarcoma. Patient recovered and was well three years later.—Vierordt and Czerny, *Fortschr. d. Med.*, 1894, No. 13, vol. xii., p. 193. Subcortical tubercular tumor in motor region. Patient recovered from first operation at which nothing was found, and from second operation one year later, at which tumor was removed; at end of one and a half years after removal of tumor patient was much improved.—Rossolimo, *Deut. Zeitschr. f. Nerv.*, vol. vi., No. 1. Cyst evacuated. Patient improved; living two months later.—Sweeney and Ancker, *North West Lancet*, July 15, 1894. Cyst evacuated. Patient recovered entirely.—Pel, *Gazette des Hôpitaux*, Jan., 1895. *Berlin klinische Wochenschrift*, Jan. 29, 1894. Fibroid tumor removed. Patient died.—Steele, *Jour. of the Amer. Med. Assoc.*, Jan. 27, 1894. Sarcoma. One year later patient had recovered entirely.—Dana, *Journal Mental and Nervous Disease*, 1895, June. Sarcoma, partly

removed. Patient improved at end of one year.—Wood and White, *University Medical Magazine*, Jan., 1895. Subcortical glioma of arm area. Patient recovered.—Nixon, *Trans. of the Acad. of Med. of Ireland*, vol. xii., 1895. Gumma. Patient died one month later from hemorrhage.—Murray and Richardson, *Lancet*, March 16, 1895. Sarcoma. Patient recovered and was well nine months later. Riegner, *Deut. med. Woch.*, 1894, No. 23. Sarcoma removed, but symptoms remained some months later.—Grasser, *Deut. med. Zeit.*, 1895, No. 34. Cysto-sarcoma of the left motor area only partially removed without relief of the symptoms. Patient died four weeks later.—Gaykiewicz, *Neurolog. Centralbl.*, 1895, p. 181. Gumma. Patient recovered entirely.—Bremer and Carson, *American Journal of Medical Sciences*, Feb., 1895. Sarcoma. Removed in part. Patient died on seventeenth day.—Bruns, *Neurolog. Centralbl.*, 1895, p. 125. Sarcoma. Patient died of septic meningitis.—Beevor and Balance, *British Medical Journal*, Jan. 5, 1895. Sarcoma of centrum ovale under motor region operated and largely removed, July 1, 1894. In November the patient was alive and improved.—Gibson, *Lancet*, Dec. 14, 1895. Gliosarcoma, recovery.—Horsley, *Clinical Journal*, Feb. 13, 1895. Tumor. Recovery six months later.—Roth, *Berlin klinische Wochenschrift*, 1895, No. 41. Tumor. Patient recovered entirely.—Krönlein, *Beiträge zur klinischen Chirurgie*, xv., 251, Dec., 1895. Tubercular tumor. Patient recovered entirely.—Mya e Cadevella, *Il Policlinico*, March, 1894. Cyst removed. Complete recovery. Delorme et Schwartz, *Bul. d. l. Soc. d. Chir.*, Paris, April, 1895. Tumor removed. Patient improved.

Temporal Region.—Nicholaysen, *Annals of Surgery*, July, 1893. Sarcoma, temporal region. Recovery.

Parietal Region.—Colquhoun, *New Zealand Medical Journal*, July, 1890. Sarcoma, parietal region. Patient recovered from operation.—Rose, *Medical Press and Circular*, February 14, 1894. Sarcoma, parietal area, only partially removed. Patient died.—Starr and McCosh, *American Journal of the Medical Sciences*, November, 1894. Angioma, parietal area, removed. Patient recovered entirely. Is now well.

Occipital Region.—Rodgers, *Medical Times and Register*, 1888, ii., 343. Gliosarcoma, occipital region, removed. Patient recovered, but symptoms remained.

Region not Stated.—Esteves, *Buenos Ayres Semane Medical*, 1894, May 17th. Cyst removed. Patient recovered.—Horsley, *British Medical Journal*, December 23, 1893. Tubercular tumor, found, removed. Patient lived two years. No return of brain symptoms.

Cerebellum.—Macewen, *British Medical Journal*, December 23, 1893. Three tuberculous tumors of cerebellum. Patients were much improved, but tumors recurred and caused death after some months.—Parry, R. H., *Glasgow Medical Journal*, July, 1893. Tumor of cerebellum partly removed. Child died.—Hermanidas, *Neurologisches Centralblatt*, 1895, p. 181. Tumor of cerebellum removed. Patient improved. Two tumors of the cerebellum found and removed. Patients both died.—Stewart and Annandale, *Edinburgh Hospital Reports*, 1895. Sarcoma, right cerebellar lobe. Patient much improved two months later.—Munn, *International Journal of Surgery*, February, 1895. Tumor of the cerebellum found but not entirely removed. Patient died the next day.

Table IV. Tumors Trephined for, Found but not Removed.—**Central Region.**—Horsley, *British Medical Journal*, December 23d, 1893. Fibroma, motor zone, too large for removal. Death.—Bruzeliuss and Berg, *Centralbl. für Nerven.*, 1895, p. 529. Glioma of the central convolutions. Not removed. Patient died two months later.—Nicholson, *British*

Medical Journal, December 23, 1839. Sarcoma of motor area, could not be removed and patient died.—Starr and McBurney. Glioma of central area too extensive and vascular for removal. Patient died ten days after operation.

Table V. Tumors Trephined for but Not Found.

—*Frontal Region*.—Chipault, *Revue Neurologique*, 1893, p. 149. Glioma, frontal subcortical. Not found at operation. Died.—Fagnet and Lannelongue, *Mercredi Méd.*, 1895, No. 12. Right second frontal convolutions, subcortical gumma, trephined over motor region, died within a few days of operation.—Aldibert, *Revue de Chir.*, 1895, No. 2. Tumor of the first and second frontal convolutions. Trephining done over Rolandic region. Death three months after the operation.—Hernanidas, *Neurolog. Centralbl.*, 1895, p. 181. Tumor of the second frontal convolution supposed to be cerebellar. Patient died soon after operation.

—*Parietal Region*.—Walton and Richardson, *American Journal of the Medical Sciences*, December 18, 1893. Aphasia. Tumor located in left parietal region not found at operation. Patient lived two months. Some relief of general symptoms for two weeks. At autopsy sarcoma at junction of parietal and occipital areas.—Horsley, *British Medical Journal*, December 23, 1893. Tumor not found, but trephining in parietal region relieved symptoms. Died two years later; no tumor found at autopsy.—Gibson, *Lancet*, December 14, 1895. Glioma of corpora striata, not found. Died.—Schlesinger, *Neurolog. Centralbl.*, 1895, p. 702. Trephined over the motor region. No tumor found. Patient living two months after the operation.—Sanger, *Neurolog. Centralbl.*, 1895, No. 10. Tumor of the inferior parietal lobule, trephining over motor region. Patient died seven months after operation.—Starr and McBurney, sarcoma of centrum ovale under motor area. Patient died ten days after operation.

—*Region not Stated*.—Keen, *American Journal of the Medical Sciences*, January, February, 1894. Occipital tumor not found. Patient died four months later. Glioma of third ventricle not found. Patient died nine hours after operation. Tubercular tumor, motor area, not found. Patient died seven months later.

Transmission of Tubercle Bacilli.—Drs. Baraud and Rénon reported to the Société de Biologie of Paris, in June, 1895, that they had investigated the question of the direct transmissibility of the tubercle bacillus of Koch, through the placenta, to the human fœtus. In five cases they took a quantity of blood from the umbilical vein and injected it under the skin of the abdomens of guinea pigs, immediately after the birth of the child. In three of these cases the guinea pigs did not become tuberculous, while in two they did. In the first case the mother was in the third stage of phthisis, the sputa containing bacilli. There were no lesions of the placenta present, apparently. The guinea pig which was injected developed a chancrous ulcer at the point of inoculation, and died with tuberculosis of the liver and spleen at the end of two months. The bacilli were found in the spleen, pulp, and in the caseous masses of the chancrous ulcer. An autopsy performed on the still-born infant gave negative results. Three guinea pigs were injected with the juice of the pulp of the lung and liver and peritoneal serum, and two of them died. In the second case, the mother had pulmonary cavities, but no examination of the sputa was made. The child died of broncho-pneumonia on the fortieth day. The placenta presented a normal appearance. At the moment of birth, blood from the umbilical vein was injected into two guinea pigs; one pig died of generalized tuberculosis, the other lived.

THE THEORY AND TREATMENT OF RHEUMATISM.

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ONE approaches the subject of rheumatism with some diffidence, because there is so much about it that is obscure, and because in the advance of modern pathology rheumatism has been left behind. Still, for these very reasons it will be profitable to debate those theories which have obtained most prominence. One of these, the miasmatic theory, seems to be especially worthy of a careful consideration, though the lactic-acid theory still holds its ground.

We need also draw our lines more definitely in regard to diagnosis and differentiation of rheumatism and rheumatoid conditions. As to treatment, a curious condition of professional opinion exists. Many of those whose medical experience antedates the salicylic era, are faithful believers in that system of treatment, while a later generation of writers, including some eminent men, such as Osler, maintains that the salicylates act chiefly by relieving pain, but do not influence the duration of the disease nor prevent the occurrence of cardiac complications. The management of chronic rheumatism would also seem to afford an opportunity for mutual conference as to methods of management and their value.

Pathology and Theory.—It is a fact that rheumatism, one of the most prevailing of all affections, receives comparatively small attention from the pathological investigators. The cause of rheumatism in all its forms is extremely obscure. Often enough exposure to moisture and cold is the occasion of its beginning, but thoughtful attention to the subject leads one to the conclusion that these factors are not sufficient in the absence of a predisposing cause. Heredity as a factor in the causation of rheumatism receives daily confirmation, and when we watch particular families for a series of years, it becomes very striking. The slightly deformed fingers of the mother are the distorted fingers of the grandmother, but in an earlier stage, and the grandchild is just beginning to complain of aching joints. The constitutional nature of rheumatism is recognized in that it is believed to be a cause of diseases of the skin, throat, eye, nervous system, and, indeed, almost every tissue of the body.

Garrod and many other observers have studied the blood in rheumatism with regard to the corpuscles, but it does not seem that their conclusions are of any great value. The loss of red blood corpuscles is very rapid in the beginning of acute rheumatism, and the recovery is rapid during convalescence. The white blood corpuscles are increased in number. It is not at all clear that there is any difference between the action of the corpuscles in acute rheumatism and the changes they undergo in any other equally severe febrile disease.

Another school of pathologists is impressed with the relation between the cause of rheumatism and that of malaria. Pel, of Amsterdam, in 1890, in the *British Medical Journal*, shows, from the records of the Amsterdam Hospital, that in those years in which malarial fevers were prevailing, there was the smallest number of rheumatic cases, and vice versa.

When we decide that rheumatism is due to a blood poison, the poison may still be supposed either to arise within the system or to enter in from without. These two opposing ideas are represented by the prominent theories. If we had only chronic rheumatism to consider, or only acute rheumatism to con-

sider, it would not be so difficult for us to decide between the lactic-acid theory on the one hand, and the miasmatic and bacterial on the other, for, while the former lends itself easily to the idea that it is due to the products of malassimilation, or imperfect tissue metamorphosis, the latter presents the picture of an infectious disease. Long ago the excessive acidity of the perspiration, urine, and saliva suggested an acid as the cause. Then the theory was advanced that lactic acid accumulating in the blood caused the symptoms. They reasoned thus: The cause of this excess may, of course, be either in the increased formation or a defective elimination, or both. Lactic acid is a result of the destruction of tissue during exercise. If elimination occurs without interruption, there is no accumulation; but if the perspiration be checked or something interferes with the elimination of carbonic acid from the lungs, an accumulation may happen, and the condition leading to an acute rheumatic attack follow. Lactic acid is eliminated through the lungs after being decomposed into carbonic acid and water. Unfortunately, the chemical determination of lactic acid is a very difficult one. Had it been easy, the truth or falsity of the lactic-acid theory of rheumatism would have been more readily settled. In this instance, the backward development of chemistry is much at fault. The acid reaction of the secretions and excretions is easy enough to determine, but the difficulty of detecting the special organic element to which this is due has led to differences of results by different chemists; still, most observers are in favor of identifying lactic acid as the cause of the acid reaction of the perspiration in rheumatism.

About thirty-five years ago, B. W. Richardson, of London, conducted experiments which have become historical. His chief result was the induction of an artificial endocarditis in animals, by injection of lactic acid. Also in man the administration of lactic acid in the treatment of diabetes has been followed in a number of cases by rheumatic symptoms. The lactic-acid theory is still upheld by Richardson, as it has been for many years. He says the action of the poison in ordinary rheumatism is by direct action on the fibro-serous surfaces, for if the poison were conveyed by the blood through the coronary circulation, in the case of the heart, both sides would suffer alike, which is contrary to the observed fact, and that such poison should be looked for, not only in the arterial, but also in the venous blood. In the experiments on animals with lactic acid by which endocarditis was induced, he had an opportunity for observing such inflammation in the several stages of its progress.

William A. Haig claims that rheumatism, like gout, is due to an excess of uric acid precipitated from the blood, but those who have read Haig's book will remember that he is an enthusiast on the subject of uric acid, so we must not take his judgment without analysis. Still, Haig's uric-acid theory of rheumatism is not without plausible support. The fact that uric acid is not in excess in the urine in rheumatism is explained very plausibly by assuming that the chief predisposing causes of rheumatism diminish the alkalinity of the blood, or of the fluids of local tissues; hence the uric acid, rendered less soluble, is attracted to and made to unite in the tissues in quantity sufficient to cause pains and rheumatic inflammation, while the blood in the general circulation and the urine would yield less than is natural, because the blood has a less quantity in solution. This explanation of rheumatic pains, which Haig also applies to gout, he supports by ingenious experimentation upon the quantities of uric acid excreted under certain conditions. It would be curious, indeed, if at this late day we should revert to the ancient belief that rheumatism and gout were identical diseases. Though

this is not at all probable, there are sufficient analogies to make the comparison instructive.

The prevailing theories of rheumatism show a persistent attempt, continued year after year, to make at least acute rheumatism a bacterial disease, though there is a strong and very general adherence to the lactic-acid theory. Aside from microscopical evidence, which up to the present time is conflicting, the association of acute rheumatism with tonsillitis, the analogy between acute articular rheumatism and the joint conditions often observed in septic states, and the general appearance of the patient, all point to an infectious disease. On the other hand, the rarity of true suppuration in the joints of rheumatism, the imperceptible gradations between acute, subacute, and chronic rheumatism, the absence of a specific bacillus or coccus, the absence of contagion and inoculability, all point to a chemical, or, at least, miasmatic, rather than a bacterial cause.

The reign of bacteria in pathology has led many observers to attempt to prove that rheumatism is caused by special organisms, but up to the present time it is extremely doubtful whether any demonstration will hold. That there are micrococci present in the lesions of rheumatism has been abundantly shown, but that they are the cause of the disease remains to be demonstrated.

In studying rheumatism from the theoretical point of view, after reading and carefully considering the literature of the subject, it was rather a surprise to find that the miasmatic theory was the one that seemed most tenable. The bacteriological reports do not seem at all convincing, and in every respect the course of the disease would lead us to look for an organism more of the type of that of malaria. The long and sluggish course in its chronic and subacute form, its fearful severity in some of its acute attacks, make a close analogy to the action of *plasmodium malariae*. This view is more easily held if we distinguish between the action of the rheumatic poison and its chronic tissue effects. Suppose that the body is at some time invaded, or, if already invaded, it sometimes becomes susceptible. This germ may be active at times, and at other times quiescent, but the thickening of the joints and the chronic inflammation of the tissues will continue between the attacks to a degree depending upon resistance and the recuperative power of the individual. The miasmatic theory can easily be brought in line with the lactic-acid manifestations. The formation of lactic acid has always been spoken of as an accompaniment of rheumatism, of which it may or may not be the cause. It is easy to suppose that the lactic acid is a product of the life or activity of the miasmatic organism, which we suppose to cause a disease, or, as it is more in line with experiment, that it is the result of increased metamorphosis of muscular tissue due to the disease. The fact that this organism has so far escaped our vision is no more surprising than that a similar organism, which is probably the cause of cancer, has likewise defied certain identification. The analogy between rheumatism and gout is not close enough to lead us to the necessity of predicating a similar cause for that disease. Gout bears all the marks of a nutrition disorder, while rheumatism bears many indications of an infectious disease.

Varieties.—What impresses one in the clinical and literary study of rheumatism is that under this name there are included probably a considerable number of different pathological entities, and yet at the present time it is not at all easy to know just where the lines of demarcation are to fall which will finally differentiate them.

A noted rheumatic charlatan is in the habit of telling his patients that there are sixty-four varieties.

It is probable that there is more than one disease included under the name of rheumatism, but we need not suppose so many different varieties, since differences of structure, age, and character of attack will explain nearly all the kinds. Mixed cases do occur, however. Thus, in a case recently brought under my care, the patient had distinct rheumatic family history. He was subject to attacks of articular rheumatism of the typical ordinary variety, but in addition he had an equally typical gonorrhœal arthritis, affecting the joints of the feet, with a characteristic location in the bursæ under the tendo Achillis.

Several years ago I heard Dr. Lyman, of Chicago, read a paper, at a meeting of the Association of American Physicians, in Washington, in which he described what he called gastro-enteric rheumatism; that is, rheumatic pains which were caused by errors of digestion, and probably depending upon the absorption of some substance caused thereby. This is, of course, a misuse of the term "rheumatism," and I quote it to illustrate the fact that the name rheumatism is used too often as synonymous with pain in the extremities. Likewise it is an error to put down hastily as rheumatism every joint disease. Nearly every case of tuberculous disease of the joints is at first supposed to be rheumatic, and the same is true of many cases of neuritis.

A clinical picture of acute articular rheumatism is, of course, extremely characteristic. We find our patient with high temperature which has come on suddenly, with one or more joints extremely painful, so that the patient dreads the slightest movement. Very soon other joints are involved, and the case becomes fully developed.

Subacute rheumatism is the form, however, most frequently coming to us for treatment. Acute articular rheumatism is not numerically very common. The cases are so severe, and the course so prolonged, that we get the impression that we have a great many more than we really have. When we come to count our histories, we will always be surprised to note how few the cases are, as compared with the impression they have left upon our minds. The very chronic forms do not come to our notice very often, as compared with their number, because, unfortunately, most of these patients have lost faith in our ability to help them. So it is that the subacute cases make up the bulk of our rheumatic experience. The subacute form follows the type of the acute, but there is less fever, fewer joints are involved, and there is a greater tendency for the disease to become chronic.

Muscular rheumatism has of late years developed a good deal of discussion as to its true nature. Its clinical symptoms are familiar enough. It attacks usually certain groups of muscles, causing lumbago when in the loins, torticollis when in the neck, pleurodynia when in the intercostal muscles. It would seem that differences of opinion as to its real nature often rest upon an actual difference in cases. It has been regarded by some as an inflammation of muscular tissue; by others as neuralgia of the smaller nerve endings; by others as a rheumatic affection involving the fibrous structure connected with the muscles. The last, which is the oldest theory, is probably often the true one.

Complications.—The most frequent and at the same time the most dangerous complication of rheumatism is the involvement of the heart. Indeed, it is this complication which raises apparently insignificant attacks to a high degree of importance. Unfortunately, the risks of involvement of the heart are not always in proportion to the apparent severity of the disease, and the only safe rule is to treat all cases of acute rheumatism as if the heart were already involved. In rheumatism the heart acts very much like a joint, but

with this disadvantage, that it is a joint that cannot be put at rest. But by confinement in bed, in a recumbent position, we can lessen the strain and thus reach a comparative quiet of the organ. It would seem that the alkaline treatment would diminish the frequency of endocarditis, and, indeed, this is my feeling in the matter. By giving alkalis until the urine is alkaline and maintaining it so, we are certainly not doing any harm. However, the pathological anatomy of endocarditis is not such that we could expect too much from this very slight change in the composition of the blood bathing the valves. It is not an ulcerative endocarditis. The valves may be rough enough to cause collections of fibrin from the blood, such as are called vegetations, but there is usually no solution of the continuity of the covering of the valves. The theory that the cause of endocarditis is a poison acting directly from the blood upon the valves is not tenable, in spite of the classical experiments of Richardson. Endocarditis may occur after the inflammation of the joints has to a great degree subsided. A comparatively safe rule is to keep a rheumatic patient in bed for one week after the disappearance of pain from the joints, and to insist upon the wearing of woollen underclothing. Even this does not exempt every case from the late occurrence of cardiac inflammation. I remember a case which made a very strong impression at the time of its occurrence. A young woman had an attack of acute articular rheumatism, during which daily examination of the heart did not suggest the existence of endocarditis. She was kept in bed according to the above rule, until the pain had been absent for a week, and then allowed to move about her room. About the tenth day after the disappearance of joint symptoms, attention was called to her heart by dyspnoea and pain. She had developed a very extensive endocarditis and pericarditis.

Pericarditis is not so frequent as endocarditis, but is more frequent in connection with rheumatism than with any other disease.

Pleurisy is not very common in rheumatism, though, on the other hand, the worst cases of pleurisy that we see may be rheumatic in origin. When there comes to our notice a patient suffering with pleurisy affecting both pleuræ together with pericarditis and endocarditis, we can presuppose rheumatism as the cause. I remember such a case, in which the pleurisy and cardiac disease occurred with tremendous severity after joint symptoms so slight that they had not attracted the particular attention of the patient. This patient had effusions into both pleuræ and into the pericardium, so that alternate withdrawals of fluid from the chests were necessary to give sufficient breathing-space. He finally made a good recovery.

The diagnosis of endocarditis is not the simple matter that one might suppose. There may be in the course of rheumatism murmurs produced by other causes than inflammation of the valves, and, on the other hand, post-mortem examination frequently shows the presence of endocarditis which has given no sign during life. Of course, when the disease is very marked there is no difficulty, but statistics of the frequency of endocarditis are very misleading. Pericarditis is not so common as endocarditis, but its diagnosis is, perhaps, more certain. Its signs are characteristic, and presence of effusion in the pericardial sac when this takes place is easily enough appreciated. During the course of rheumatism the cardiac complications usually require but little treatment. The bad effects come after weeks or months, from the interruption of the functions of the circulation, due to a gradually increasing deformity of the valves. Pneumonia may occur, but not more frequently than in other equally severe acute diseases. Cerebral complications occur in a certain number of cases of rheuma-

tism. It may cause simply delirium during the febrile stage of the disease, or it may occur later, in which case there may be doubt whether it is due entirely to the disease, or to the effect of the salicylate treatment. A certain number of cases of acute rheumatism are followed by mental derangement, which may last for a good while after the termination of the disease.

Treatment.—A great advantage of the miasmatic theory of rheumatism is that it gives us a definite and hopeful hypothesis upon which to conduct our treatment. When we meet a case of malaria we are in the habit of administering a sufficient quantity of quinine to render innocuous the malarial organism. We do not stop at a few grains, but we give enough to accomplish our purpose. In chronic malaria our efforts are not nearly so successful as in acute attacks. For rheumatism we have no antidote so good as quinine in malaria, but we have one which approaches this drug in its mode of action. Salicylic acid has an antirheumatic action, approaching in kind, if not in degree, the action of quinine in malaria. In the presence of an acute attack of rheumatism, we should give this drug in one of its forms, either salicin or oil of wintergreen, or fresh salicylate of sodium, in sufficient quantities to relieve the pain and bring down the temperature. The salicylate has not the power of bringing the local inflammation to an immediate end, but it seems to have the power of modifying the action of the rheumatic poison. Our chief failure is that we do not give enough of the drug, either from a lack of appreciation of the necessity, or because some patients cannot stand it. Salicylic acid is not all that could be desired as an antirheumatic drug, but it seems very probable that since its introduction and its almost universal use the severity of acute rheumatic conditions has been a good deal modified. It seems to me that even within my recollection the popular fear of so-called "inflammatory rheumatism" has also become a great deal less. Many careful observers concur in the belief that the salicylates do not protect the heart. On the other hand, the alkalies are quite uniformly believed to do so. The mistake usually made in the administration of alkalies is in ordering too definite an amount. I have seen a great many cases of articular rheumatism treated according to a regular formula. It was a mixture of citrate of potash and acetate of potash, of which a certain number of grains were given at certain intervals. This is not the best way of giving alkalies. It is much better to lay in a good supply of bicarbonate of sodium, and give this persistently in drachm doses as often as practicable, until the urine becomes alkaline. We can give other alkalies in combination if we wish, but the main point to remember is the importance of influencing the reaction of the urine. Bicarbonate of sodium is so familiar a substance that it is easy to get the patient to take a sufficient amount.

The Treatment of Chronic Rheumatism.—The treatment of chronic rheumatism has been rendered even worse as an opprobrium medicorum, by having been confounded with the treatment of so many other local conditions. The first step is to form a clear notion as to the particular case. How much is it an arthritis of non-rheumatic origin? How much of it is gout? How much of the pain is due to a local complicating neuritis? If the case is rheumatism, have the ordinary established methods been fairly tried? Several times it has been surprising to see a case of the most chronic rheumatism yield to the administration of salicin when given in sufficient doses. The routine treatment in dispensaries is to give a rheumatic mixture in small quantities, three times a day, thus ruining the reputation of the mixture, and not doing the patient any good. Twenty grains of salicin every two

hours until there is relief of pain, and then continue twenty grains three times, is an average plan of procedure. Attention to diet is also important, but the disease is one of such long duration that very strict rules cannot be adhered to; however, there are certain things that can be avoided. We should avoid overtaxing the digestion. Carbohydrates, such as potatoes, should be limited, and, on the other hand, the proteids should be of the easily digested kind. Milk is a very good food for rheumatics, and if taken in a proper manner, can usually be well borne. Cod-liver oil is often extremely beneficial as an alterative in these cases.

But the picture of chronic rheumatism is a composite one. We have two sets of signs and symptoms. The one set consists of chronic thickening of structures of the joints, with the deformity, contractures, pain, and disability due to this cause. Secondly, there may be pains and inflammations due to rheumatic poison circulating in the blood at particular times. The latter suggests the importance, as recommended above, of applying to all cases of chronic rheumatism, for a time at least, the active treatment which we find useful in acute rheumatism, since it is impossible to say at any particular time how much of the pain is due to chronic tissue changes, and how much is due to the original rheumatism still acting. The absence of any degree of fever is a strong argument against the presence of an active rheumatic condition, but in the investigation of an unfamiliar case even this should not prevent a study of the effect of the use of salicin in sufficient quantities. For the relief of pains and inflammation in chronically thickened tissues and deformed joints, local treatment is necessary. In the treatment of chronic rheumatism we must give hydrotherapy and massage an important place when possible. These are best carried out at some watering-place, where they can be combined with the internal use of large quantities of water. Where there is impairment of movement and stiffness of a joint, the case must not be considered hopeless. Very many cases have been relieved by massage, passive motion, and even the forcible breaking up of adhesions. This, of course, must be accomplished with proper judgment.

Conclusion.—Hence we see that the miasmatic theory of rheumatism, in the absence of a positive discovery of an organism, affords the best working theory. We see that the severity of acute articular rheumatism has been modified in recent times, and we are justified in the supposition that this is due to the introduction of salicylic acid in its treatment. We see that in certain cases of chronic rheumatism the effect of the salicylates is satisfactory, and that these are cases in which the rheumatic poison is still acting, but that we cannot by this means control conditions due to chronic tissue effects of a previously existing rheumatic inflammation. We have purposely avoided a multiplicity of therapeutic suggestions, hoping that these will be brought out in definite form in the discussion.

30 WEST THIRTY-SIXTH STREET.

Medical Practitioners in Russia.—There were, up to July 1st, in all Russia 15,740 qualified medical men and women, 310 of whom did not practise. This gives about one doctor to 8,000 persons throughout the empire, but as the overwhelming majority of the doctors are resident in towns, while the urban population of Russia is only about fourteen per cent. of the whole, some idea may be formed of the amount of medical aid available for the peasant. Of the physicians enumerated twenty per cent. are military or naval surgeons. The women practising medicine number 553, about 1 in 30 of the total number of physicians.

ENDOMETRITIS.

By JAMES E. FREE, M.D.,

BILLINGS, MONTANA.

A KNOWLEDGE of the minute anatomy of the female organs of generation is of special importance to the practitioner when treatment of their diseases is undertaken. The uterus is principally a big muscle lined on its surface with a mucous membrane. A muscle's business in life is to contract. Rupture of the uterus is one of the consequences of too vigorous action. This possibility is an index pointing to the fact that damage may be done in childbirth which may lead to inflammation of various grades in the organ afterward. Repair of ordinary accidents and injuries is usually a quick process in the parturient uterus. At this time the uterine muscular tissue is enormously hypertrophied. It is organized so that it can disappear rapidly afterward. At term the development of the uterus can go no further. Resistance of the organs of the body to the encroachments of the pregnant uterus, expressed by reflex impulses, is the reason for the approach of labor. Territorial acquisition must now halt. The lungs, liver, kidneys, and bladder unite to demand the enforcement of the Monroe doctrine, and the administration issues its ultimatum. After delivery, the mushroom tissue must disappear by waste metamorphosis. The placenta cuts considerable of a figure in the nourishment of the uterus, as well as of the child. When it has been removed, there is death of structure by starvation. Body heat keeps the dead elements in a liquid state, ready to be hurried out of the organ as rapidly as possible. An interference with excretory function means that there will be retained in the body a mass of material ripe for decomposition. Besides, the retention of this matter forces nature to hand it out to the various structures for nourishment, but it has no food value and is in the way of better food. A septicæmia may be caused in this way without the intervention of germs. A putrefactive change cannot stand still. Leucocytes undergo fatty degeneration; chemical action murders some outright. And so the process of multiplication will go on until serious dangers are threatened. Antisepsis, by establishing a local diaphoresis through the uterine mucous membrane, will relieve the engorged tissues, and sometimes cause an abnormal temperature to drop. High temperature, pus formation, and the various results of inflammatory action, radiating from a uterus crippled by traumatism, will carry off the victim in short order.

The mucous membrane of the uterus must be extra tough and elastic, or it could not tolerate the pressure of childbirth. Other mucous surfaces, if subjected to a tithe of such severe handling, would rebel vigorously. An accident of childbirth might be paralysis, if the uterus were built that way. It seems probable that this feminine organ is side tracked from the main line, so as to escape the burden of responsibility for dead nerve force. Still it easily stands at the head of the list when it comes to accumulating stores of human electricity. Plausible explanation of infantile reproductive organs, sterility, and various malformations are thus knocked in the head.

There is a large amount of mucous tissue ready to be involved in an endometritis. Beginning with the ovarian end of the system, and coming toward the os vaginæ, there is a large square surface, in feet and inches, to be protected. An endometritis is not confined to any particular period. Ease of communication with the outer world has much to do with the disease. The half-grown girl who is struggling to establish her menstrual function may have a catarrhal endometritis which keeps her puny and headachy.

Such cases often occur in school girls who need glasses for defective sight. If properly treated early in the disease they are spared a lifelong martyrdom to the "whites." Again, the discharge may only be the expression of active development. The growing uterine tissue calls for a large supply of constructive material and effort to use it results in a waste from the mucous surface. Healthy granulating surfaces pour out this building material in the same way when it reaches the peripheral boundary. It is unable to make the return trip, owing to the pressure exerted by the heart. The new force of puberty transmitted along the nervous tracts is at the bottom of this activity. The medical philosopher can find illustrations of nerve impulses, causing functional waste, at his back door. Here is a young rooster, standing on the fence post, conscious of a new faculty. He crows fifteen times in succession, and next day has a typical case of preacher's sore throat.

The sexual function has something to do with the establishment and maintenance of an endometritis. Too much and too long-continued congestion leads to chronic hyperæmia and inflammation. Hypersecretion is the evidence that the mucous membrane is infiltrated with lymph and oedematous. This inflammatory product is constantly making pressure on the nervous apparatus. An abnormal quantity of blood is also kept streaming through the tissues, which helps to aggravate the peripheral nerve filaments; and they in turn respond by stimulating the gland cells to constant secretion. Prostitutes after a "busy" season furnish examples of mild endometritis. All mucous surfaces secrete a constant product. In the case of the conjunctivæ the tears carry off the mucus, but if an inflammatory process is lighted up the increase of the secretion becomes so great that it acts as an irritant. The nasal membrane owns a chemical laboratory and works it day and night. When the product accumulates and interferes with respiration, the handkerchief, that septic abomination, is brought into play. Mucus seems to have a digestive action. It is not only to furnish a lubricant that it is poured out so freely, but also to act as a germicide.

The uterus is tucked safely away at the end of a sort of stovepipe. It is meant to be out of harm's way, and at the same time to be accessible for all practical purposes. Say that an inflammatory action travels up the vagina to involve the uterus. So long as there is a vent for the discharge, the matter may not be serious. If the trouble should extend into the Fallopian tubes, more serious complications arise and shine. Suppose a spermatozoon, carrying a gonococcus, obtain an entrance into this holy place; the conditions may be present which will lead to septic disease and degeneration of the ovary.

Treatment.—The treatment of an endometritis depends upon where it was born, how it has been raised, and who its relatives are. A disease of the uterus comes nearer to being an outsider than anything met with in the body. Prognosticating uterine complaints is not always easy. The crack of nature's rifle is the only unerring guide. Glandular elements are more abundant in the endometrium than in any mucous tissue in the body. Its epithelial lining extends down into the glands themselves, furnishing thousands of little suckers ready to snap at the chance to convey poison to the deeper structures. An endometrium which is the choice location for a pathological process is usually so because it is the surface which communicates with the world, the flesh, and the devil. The inflamed membrane is a menace and an incubus to its alma mater, just as a tubercle in a lung, or a phlyctenular spot on the cornea, may be the hooks to drag out respiration and sight. The main object in treatment is to remove the endometrium as completely as

the bark can be peeled from a tree. Not by the same heroic method, however. It is not so hard to do on the instalment plan as it sounds. Menstruation goes to show that shedding the membrane is at least a partial success each month. To make the uterus do by art what it is in the habit of doing by nature is the problem. Altered nerve force and better circulatory arrangements must be obtained. To meet these indications means to bring about contracted gland mouths, lessened cell activity, and better ways of removing the products of metamorphosis. An unobstructed supply of blood to the endometrium must be secured. This suggests the importance of the heart's action. Digitalis, that prince in the house of the heart, has been found to lend a helping hand. Treatment is to be divided, like an army, into divisions, and it is not always necessary in battle to use the full strength of the organization. Where a campaign is going on in the wilderness even, the reserve corps of the *materia medica* will not always save the day. If Solomon had been a gynecologist he would have had plenty of practice at home, and he could have answered his famous inquiry, Where shall wisdom be found? in one word, Antisepsis. Escharotics are sure death to germs, but they are too destructive of valuable tissue at times. The curette should always have antiseptic precautions attached. Where the curette has been used it is an unpardonable antiseptic sin to fail to wash out the debris thoroughly. It is not a soft job by any means, as anybody who has used the curette on the tough walls of the uterus can testify. Recamier's instrument can be used with considerable force on the Montana uterus; and the little devil has about the same attributes the world over.

Combined with these household remedies are others of minor importance. Every country practitioner gathers a sheaf of them with his experience, and usually reaches the conclusion, before he reaches the end of his journey, that success depends almost wholly on their entering into the case. If this were not so many a consultation would be a barren fig-tree. Time of performance of some operations is often regarded as of critical importance. Here is one of the beautiful possibilities where the operator is not too busy. For instance, if the object to be obtained is a rejuvenated membrane, the time to use the curette might be just before the period when the menstrual function is doing its level best to renew the organ's youth. Add to the time element new surroundings, new methods of exercise, and new bill of fare, and the prospects for success have an upward tendency.

Bicycle riding is forging to the front as an expedient in mild endometritis. It is what might be called the blue-blooded Rex. The benefit derived from its use is not due to giving the calf of the leg extra work, but it depends upon a peculiar tonic motion to the pelvic structures, caused by the springiness of tire and saddle. This motion, in combination with exhilarated respiration, supplies more oxygen to the tissues, and relieves congestion and sluggish circulation.

A combination of strychnine and atropine frequently has a beneficial action on a catarrhal endometritis. Its effect on alcoholic gastric catarrh is well known. The stomach is a primary, secondary, and tertiary sufferer from the bibulous habit. A course of treatment with the above-mentioned remedies usually leaves the ex-inebriate in an improved condition. His appetite is good, so is digestion. The result of the hypodermic method has been to stimulate the nervous system from a new angle. The arterioles are contracted, vasomotor function has been regulated. Extra nerve force, due to the use of strychnine and atropine, is met by capillary resistance. Stronger heart action moves the blood on its circuit. Cell function

feels the different conditions. Large quantities of a digestive fluid are poured out. Some of the nervous energy which should be used at other points is recklessly expended in the stomach. Gastric juice which is secreted under such high pressure may be deficient in some of its constituents. Whether or not it has the right proportion of the digestive ferment and of hydrochloric acid is questionable. The characteristic dryness of the throat and mouth, caused by the atropine, gives a clew to what has taken place in the stomach. A halt has been called on the leakage of gastric juice. Various drugs check the flow of secretion from mucous surfaces. There is morphine for example. It turns the key on every gland in the body, but its *modus medendi* is the opposite of atropine. The latter seems to be possessed of physiologic tact. It causes the peripheral nerve filaments to exert a drawing-string motion on the mouths of the glands. Elaboration of secretion is also retarded.

Where strychnine and atropine are used in a case of endometritis there is a spot of inflammation set up by the hypodermic injection. This is in effect counter-irritation, when continued for several weeks, and might be of as much value as a seton or scarification. In a few days the patient will say her leucorrhœa is diminishing, and it shortly subsides entirely. Then comes the tug of war, in maintaining the mucous membrane in the condition which secures the cessation of the discharge. Hydrotherapy offers us valuable aid at this juncture. Each morning the patient gets her hypodermic injection of strychnine and atropine, and at night is treated to a cold salt-water sponge bath, followed by brisk rubbing with Turkish towels. The tonic effect on the circulatory system is marked, and at the same time an oblique sedative action is produced on the nervous system, which means sleep. Not only does this plan build up bodily vigor by securing rest and improved appetite and digestion, but it does something more, which is of importance to women, namely: it increases personal beauty. Semi-invalids do not have the ambition needed to keep the skin in a healthy condition. Filth anywhere may become the resting-place for germs which threaten life. The skin and clothing ought to be as nearly aseptic as possible. Half the world does not know how seldom the other half takes a bath. "Oh, that the world would wash itself!" is the cry of the antiseptic reformer.

Why Women Live Longer than Men.—In the forty-ninth registration report of Massachusetts the compiler presents the statistics of 203 persons who were reported as having died during the ten years (1881-90) at the age of one hundred and over. Of this number, 153, or 75.4 per cent., were females. By the State census of 1885 the number of females living over eighty years of age was nearly double that of males. The greater exposure of men to accidents, to weather agencies, to the constant strain of business life, to the anxiety of providing for the family, all tend to shorten the life of men. The deaths by accident among men are more than threefold greater than among women, and men commit suicide in about a threefold ratio as compared with women.—*Boston Medical and Surgical Journal*.

A Member of the Imperial Family.—The most appalling misadventure befell the physician of the Emperor Rudolph the Second, who, in trying to feel his illustrious patient's pulse under the bedclothes, grasped a different part of the anatomy, and was informed of his mistake by His Majesty, in the following dignified words: "*Erras, amice, hoc est nostrum imperiale membrum.*"

SOME INVESTIGATIONS TO DETERMINE THE EFFECT UPON THE PERITONEUM OF SUCH SUBSTANCES AS ARE APT TO FIND THEIR WAY INTO THE ABDOMINAL CAVITY DURING OPERATIONS THEREON.¹

By J. W. STICKLER, M.S., M.D.,

ORANGE, N. J.

I FIRST introduced a considerable quantity of laudable pus into the peritoneal cavity of three guinea-pigs. In all the animals the abdomen was freely opened in the usual manner, in order to imitate, as far as possible, the usual surgical conditions. None of these pigs had subsequently a supranormal temperature, nor were there any indications of peritonitis or visceral inflammation.

The abdominal cavities of the next three pigs were thoroughly inoculated with fecal matter, obtained from a typhoid patient. One of the trio, forty-eight hours later, had a slight diarrhœa, but no elevation of temperature or peritonitis. The diarrhœa ceased in twenty-four hours. The other two showed nothing abnormal after the inoculation.

The abdominal cavities of the third set of pigs were inoculated with urine. The following morning they were as lively as usual, temperature was normal, and appetite good. Later, there was no local or general disturbance.

The fourth set of pigs were inoculated with perspiration, each abdominal cavity receiving about twenty drops. The perspiration was obtained from a man who was given a hot-air bath, the collection being made from the axillæ, sides of chest, and surface of abdomen. Perspiration from these regions would be as likely to cause peritoneal inflammation as if collected from the face. There was no peritonitis, septicæmia, elevation of temperature, or other disturbance.

Into the peritoneal cavities of the fifth set of pigs I introduced the various germs found in the mucus derived from the throat of a patient who had scarlatina (kindly furnished by Dr. Harvey), and those found in pus taken from a woman supposed to have tuberculous disease of the spine. There was not the slightest evidence of inflammatory or septic trouble in any of the pigs except one; that one collapsed immediately after the opening of the abdominal cavity and did not rally, dying within thirty-six hours. The post-mortem revealed an injected peritoneum, and a congested left kidney.

The five sets of pigs were all carefully examined after being killed, and not one showed the faintest evidence of any peritoneal or visceral lesion.

Allowing for any difference of susceptibility which may exist between guinea-pigs and man, it would seem from these experiments that fecal matter, pus, perspiration, urine, and such germs as have been alluded to, are not so likely to cause trouble when introduced accidentally or purposely into the abdominal cavity as has been supposed. Assuming this to be true, I should feel less concerned than before in the event of an accidental introduction of any of these substances into the abdominal cavity during an operation. At the same time I should take every precaution to keep all foreign matter out of the cavity, and, should any be introduced, I would, of course, resort to every available means to remove it.

Another accident which may occur during laparotomy is the leaving of a pair of forceps in the cavity of the abdomen. I therefore concluded to ascertain what would happen should dangerous foreign bodies find their way into this part of the body. I accordingly introduced several carpet tacks into the abdominal cavities of four guinea-pigs. In one case the in-

testine must have been punctured at the time tacks were put in, or very shortly after, for death followed twenty-four hours later. The post-mortem showed that even in that brief time the tacks had been glued to the intestines and omentum by adhesive inflammation. Some were fixed at right angles, the flat surface of the heads being next to the intestinal surface; others were attached sideways; all were held firmly in place by the plastic lymph.

The other animals were not affected adversely by these foreign bodies. When killed, three weeks later, it was found that in each animal some of the tacks were fastened to the intestines, others to the omentum, by plastic lymph, and so firmly were they fixed that it required considerable force to detach them. None of the tacks was free. There was no sign of inflammation of the parietal peritoneum. None of the pigs had a supranormal temperature.

These experiments appear to prove that foreign bodies of medium size, even though they be as sharp and dangerous as carpet tacks, may be well taken care of in the abdominal cavity by the good management and forces of nature.

Progress of Medical Science.

One Hundred and Thirty-Three Cases of Placenta Prævia.—Boss kept a record of the cases which occurred in two institutions in Breslau between April, 1884, and April, 1895. In one of the hospitals there was 1 case of placenta prævia to 216 of normal labor, in the other only 1 in 42. In 27.9 per cent. the placenta was central, in 61.6 lateral, in 10.5 marginal. The presentations were as follows: 66.2 per cent. head, 1.8 breech, 8 footling, and 24 transverse. Eight mothers out of the 133 died—5 from the effect of loss of blood and 3 from fever and exhaustion. Twenty-seven per cent. of the children were born alive. In 7 cases the tampon with expectant treatment was employed; in 9 cases rupture of the membranes, with forceps in 1; forced labor in 115; all the maternal deaths occurred in this latter class, and all cases in which combined version was used were very severe. One patient died from air in the veins nine hours after labor.—*Centralbl. f. Gynäk.*, No. 35, 1895.

Dr. Schleich's Method of Producing Local Anæsthesia.—He uses the following solution:

℞ Cocainæ muriatis	1.00
Morphinæ muriatis	.25
Sodii muriatis	2.00
Aquæ destillat.	1000.00

M.

The maximum dose is, as a rule, 50 cubic centimetres containing .05 gram or $\frac{3}{4}$ grain of cocaine. It is injected into the tissues by means of a hypodermic syringe.

Epilepsy Treated by Flechsig's Method.—The treatment consists, according to Dr. Davenport (*Amer. Jour. of Insanity*, 1895, No. 2, p. 207), of opium in one-half grain doses and increased by the same dose per day till fifteen grains are reached. Then opium is stopped and mixed bromides are substituted, thirty grains four times a day. The author concludes: (1) That the treatment does not result in recovery. (2) That it is of benefit in that it gives many of these unfortunates a gratifying respite from the attacks, and thus adds to their comfort. (3) That it is soothing and quieting to the irritable patients and exhilarating to those suffering from depression, thus relieving distressing symptoms in both cases. (4) That through the cessation of the seizures and other annoying symptoms the patient is enabled to enjoy something of life

¹ Part of Annual Address, delivered before the Orange Mountain Medical Society, January 10, 1896.

in general, and to recuperate physically, and for these reasons it is desirable to repeat the treatment at intervals of two or three months, if thereby we can obtain the results mentioned above.

Treatment of Zona.—Dr. Albert Robin claims that the eruption should be kept dry. He recommends an application which will also relieve the pain, as follows:

℞ Powdered starch.....	60 parts.
Zinc oxide.....	20 "
Powdered camphor.....	2 "
Powdered opium.....	1 part.

In elderly people be on guard against ulceration. The neuralgia which accompanies the eruption is treated by the following:

℞ Extract of datura stramonium.....	gr. $\frac{1}{2}$
Extract of gelsemium.....	gr. $\frac{1}{2}$
Extract of belladonna.....	gr. $\frac{1}{12}$

The above is made into a pill. Four a day should be taken. If not effectual, antipyrin is to be substituted. —*Bulletin Général de Thérapeutique*, 1895, 40 liv., p. 358.

Hemorrhage after Vaginal Hysterectomy.—Pichelin thinks clamp operations are attended with danger from hemorrhage. The clamp may cut through the included tissues, or the tissues may slip from the clamp. Slipping is especially liable to occur when the upper portion of the broad ligament is twisted, as it always is when it is clamped from above downward, and the stump is eventually drawn into the vagina. Cases of fatal hemorrhage, on removal of the clamps forty-eight hours after operation, have been known to occur. Some surgeons have succeeded in checking the hemorrhage with tampons, but others have been compelled to resort to celiotomy. The author advises compression of the aorta, and would use clamps only in cases of hysterectomy for pelvic suppuration, where it is impossible to draw down the uterus. [It is inferred that this writer has been unfortunate, in that his instruments must have been imperfect.]—*Gaz. Méd. de Paris*, 1895, No. 11.

Cerebral Uræmia.—Rendu considers two factors in relation to cerebral uræmia, namely: 1. A dominating toxic element caused by the failure of the diseased kidney to perform a satisfactory elimination of the debris of the organism. 2. A mechanical factor, cerebral œdema, the localization of which in motor zones may cause convulsions, either general or limited to one side, to one member, or merely to several facial muscles. In some cases the uræmia presents an apoplectic form, in others it is hemiplegic; both depend, however, on cerebral œdema. The writer thinks that uræmia causes many cases of hemiplegia ordinarily supposed to be due to hemorrhage or softening. Autopsy on a number of cases of hemiplegia showed no lesion, but this might be accounted for by the theory that the area of œdema disappeared at the moment of death.—*Jour. de Méd. et de Chir. Prat.*, July 10, 1895.

Treatment of Epididymitis.—The affected testicle should be wrapped in lint and be moistened constantly, either with lead water and opium or the following:

℞ Tincture of aconite,	
Tincture of opium.....	āā fl. $\frac{3}{4}$ i.
Dilute lead water,	
Water.....	āā fl. $\frac{3}{4}$ ij.

—DENNIS' *System of Surgery*.

Treatment of Syphilis.—(1) Mercury should be the foundation of the treatment; potassium iodide is a useful accessory agent of medication. (2) The mercurialization ought to be initial, prolonged, and

of sufficient dose for giving to the future a relative security. (3) The case in which the mercurial treatment has been abandoned before the end of the second year is one insufficiently treated. (4) Mercury has a preventive action against all the manifestations of the disease; the proof of this is, for example, the constantly favorable action of mercurial treatment administered with the purpose of avoiding the hereditary manifestations in the descendants of syphilitics. —DR. MOREL-LAVALLÉE, in *Revue de Thérapeutique*, 1895, No. 21, p. 651.

Gonorrhœa.—Repeated observations of the sexual organs of infected women have demonstrated the presence of gonococci in the mucous membrane of the uterus as well as in the adnexa. But hitherto these microbes have not been encountered in the muscular coat of the uterus. Dr. Madleuer, of Munich, has now, however, recorded a case of gonorrhœa in which the uterus had to be removed seven weeks after confinement, and where numerous colonies of gonococci were discovered in the muscular coat both of the cervix and fundus. The author believes that the negative results of previous examinations may have been due to the fact that the gonococci are unable to maintain a lengthy vitality in the uterine muscular structures.—*Münchener Medicinische Wochenschrift*, December 24, 1895.

Objective Tinnitus Aurium.—Under this title a case has been reported by Dr. Kauffmann, in which noises originating in the patient's ears were distinctly audible by others. The case was that of a boy, fourteen years of age, who had fallen on the back of his head. He remained unconscious for nearly two weeks. The noises were bilateral, but more distinct on the left than on the right side. The sounds were described as crackling and seemed to depend on movements of the arch of the palate. Dr. Kauffmann expresses the opinion that the noises were due to clonic spasm of the tensor veli palatini. It is stated that under appropriate treatment the tinnitus gradually subsided.—*Deutsche Medizinische Zeitung*, January 6, 1896.

Rupture of Left Lateral Ventricle.—Under this title Dr. B. Merrill Ricketts, in *Medicine* (July, 1895), reports rather an exceptional case. The patient was a boy, twelve years of age, who had had fair health up to this illness. His symptoms when Dr. Ricketts saw him on the fourteenth day were: Normal temperature; right pupil widely dilated and giving no response to light; pulse 120 to 150. The patient was very sluggish and unable to swallow. No paralysis of sensation or motion in any group of muscles. No drawing of the face to one side. There was no history of injury or ear trouble. On post-mortem there was no indication of perforation of any of the basilar bones. On removing the dura, however, a rupture of the brain substance on the under surface of the sphenotemporal lobe was noticed. The laceration extended into the left lateral ventricle, which was found to contain about two ounces of bloody serum. Both gray and white matter around the perforation was very soft. The dura was intact and there was no trace of inflammatory action. Dr. Ricketts thinks that this was a case of effusion in the ventricle, which caused a rupture of its lower wall into the sphenotemporal lobe. Dr. Ricketts also reports three cases in which he operated on the brain for epilepsy, in all of which there was some slight improvement in the condition of the patient.

Alkalinity of the Blood and Microbic Infection.—Dr. Fodor records a number of experiments showing the influence of the alkalinity of the blood on diseases

produced by micro-organisms. Four series of experiments on animals are first reported, which show clearly that, by the administration of alkalis (sodium bicarbonate by the mouth or by subcutaneous injection), the power of resistance against infection with cultures of anthrax bacilli is greatly increased. The normal alkalinity of the blood was determined by the examination of seventy-six healthy rabbits, and four experiments are reported, showing the increase in the alkalinity of the blood which occurs after the administration of sodium bicarbonate. The author then records the results of a large number of observations on the alkalinity of the blood in rabbits after infection with the bacilli of anthrax, cholera, typhoid fever, tuberculosis, and erysipelas. These observations show that in the living organism after infection with certain bacilli, there is first an increase of the alkalinity of the blood and then a diminution of the same, more or less. If the infection is fatal, the diminution of the alkalinity is marked and progressive; if not fatal, the diminution is slight, and is followed by an increase of alkalinity, which then remains high, permanently. Thus there exists a connection between the pathological action of certain bacteria and the alkalinity of the blood. Those rabbits having the greater alkalinity of the blood, as well as those in which the alkalinity of the blood is increased to a greater extent after infection, have greater power of resistance against certain infectious organisms (anthrax bacilli) than the rabbits in which the alkalinity of the blood is less. It appears, therefore, that the degree of alkalinity of the blood, as well as the power of the organism to increase this alkalinity with corresponding intensity after infection, is of essential influence upon humanity.—*British Medical Journal*.

Trichloroacetic Acid in Purulent Inflammation of the Middle Ear.—Dr. Okuneff is convinced that with this remedy one may always obtain a complete cure of chronic otorrhœa with a re-establishment of hearing. The suppuration may be quickly arrested, the offensive odor removed, and the regenerative power of the membrana tympani awakened to repair the perforation and re-establish normal audition.—*Revue de Laryngologie, etc.*

Tenneson's Acne.—Hallopeau and Macrez insist upon the difficulties which the diagnosis of this affection may present from that of pityriasis rubra pilaris. It is distinguished by the absence of localization upon the backs of the fingers, by the projection of filiform comedones, by the presence in the loins of isolated lesions presenting the same features. Bacteriological examination shows an absence of the fine bacilli pointed out by Unna as characteristic of acne vulgaris; this keratic acne thus differs essentially from it.—*La Trib. Méd.*, December 25, 1895.

The Microbe of Scurvy.—Drs. Testi and Beri have succeeded in isolating from a piece of scorbutic gum a micro-organism which they believe to be the cause of scurvy (*The British Medical Journal*). The microbe stains in all the aniline dyes, resists Gram's stain, is perfectly round, and generally united with one or more of its kind. Its culture renders gelatin fluid, and gives rise to a sawdust-like deposit. Inoculation of these cultures into guinea-pigs and rabbits gave rise to fever, and the necropsy showed hemorrhagic stains in various parts of the body, and nodules of connective-tissue new formation. Experiments were made in four cases, and in three out of the four the above-mentioned results were obtained; in the fourth case the authors attribute their negative results to the fact that the patient had improved considerably under treatment. The diplococci found by the authors

differ considerably from any that are usually present in the oral cavity of man.

Operations on the Adnexa During Pregnancy.—Dr. Delagénière reports three successful cases of cœliotomy during pregnancy (*The American Journal of the Medical Sciences*). In one the patient had an attack of peritonitis during the third month, and when this subsided an ovarian tumor was discovered on the left side, the pedicle being found to be twisted when the abdomen was opened. The cyst, which was generally though not firmly adherent, was removed, and the patient went on to full term and had a normal confinement. The second patient, five months pregnant, suffered from general abdominal pain and tenderness with tympanites and obstinate constipation. On opening the abdomen it was found that both tubes were much enlarged and contained a bloody fluid, the ovaries being nearly normal, while several coils of intestine were adherent to the uterus. The adhesions were separated and both tubes and ovaries were removed; the patient had a normal convalescence and was delivered at the usual time, the only symptom noted being a sudden attack of abdominal pain a few hours after the delivery, attended with vomiting, which lasted only a short time, and was probably due to the separation of an adhesion. In the third case a movable dermoid cyst was removed during the fifth month without interruption of the pregnancy, which concluded normally. The writer infers from his experience, that so far from pregnancy being a contraindication to ovariectomy, it is actually an urgent indication for operative interference. The prognosis as regards the continuance of pregnancy is better if the operation is uncomplicated and it is not necessary to handle the uterus.

Stone in the Stomach.—Dr. Manasse has recently observed the following case: A man, aged forty-four, complained of anorexia, headache, etc., had a coated tongue, and slight tremor. His symptoms were attributed to alcoholism, and after a month's treatment he was much improved. Later he died of rapid tuberculosis of the lungs and diaphragm. Besides this the autopsy revealed a deep chronic ulcer of the stomach situated close to the pylorus, and causing adhesion of this part of the stomach to the liver. Near the ulcer was found a calculus of flattened cylindrical form, measuring 10 cm. in length, 5 cm. in width, and 4 cm. in thickness, and weighing 75 grammes. It was very dark green in color, of a resinous appearance, showing a laminated structure. Chemical examination confirmed the view that the concretion was of a resinous material, resembling shellac. The patient was a joiner, and Manasse thought that he probably habitually drank some of the alcoholic solution of shellac used in his trade, and that the shellac, precipitated in the stomach, gave rise to the calculus. His master, when asked about it, said that the man had habitually drunk shellac polish, and that he had repeatedly warned him on that account. In this case there was only one concretion, but in Carl Friedländer's case there were many shellac stones in the stomach and intestines, and they gave rise to fatal occlusion.—*Berliner klinische Wochenschrift*.

The Fresh-Air Treatment of Pertussis.—Dr. Ullmann is thoroughly convinced of the efficacy of the fresh-air treatment of pertussis (*The American Journal of the Medical Sciences*). For sake of comparison between the period passed out of doors and that passed in the house, he has noted, in a series of cases, the hours spent in each, and the number of paroxysms and their intervals under the two conditions. From these data he concludes that the fresh-air treatment is one

of the most efficacious, if not the only one, for the management of a case of whooping-cough. The child should pass the entire day out of doors, not only in the warm season, but even at all times of the year, provided it be not stormy. It is considered only necessary to prevent the child from running, or talking, or otherwise provoking an access of coughing. Contrary to general teaching, he advocates the open-air exposure of the patients even when there is bronchitis or broncho-pneumonia, whether consecutive to pertussis or not, the only precaution being to have the little ones well wrapped up. This plan he has practised with infants a year old, suffering from grave broncho-pneumonia. During this treatment the author employs neither a specific nor narcotics. In the presence of very grave broncho-pneumonia he prescribes spirits of camphor with an expectorant.

Acute Articular Rheumatism and Pregnancy.—

From the study of sixteen cases in which rheumatic fever occurred as a complication of pregnancy, Dr. Clivio draws certain conclusions as to the influence pregnancy has upon the rheumatism, and conversely. With regard to the course, duration, and local results of the rheumatic process in pregnant patients, the cases seen seemed to show little difference from the phenomena observed in the non-pregnant condition. At the same time, the morbid process showed a certain tendency to be protracted, and the joint most affected required rather a long time before it fully regained its functional activity. In two cases the mothers died, in both from rather uncommon complications: in one instance from endocarditis affecting in an ulcerative manner the aortic valves, in the other from cerebro-spinal meningitis. As to the influence of the rheumatism on the pregnancy, Clivio found that out of the sixteen cases four went on to labor at the full term; in three the patients left the hospital undelivered, but recovered from the rheumatic attack; six times there was premature labor; once there was an abortion, and on two occasions obstetric interference was required to free the patient from indications of urgency. Seven instances of premature labor and abortion out of a total of sixteen cases show that rheumatic fever has a very prejudicial effect on the progress of a concomitant pregnancy; but at the same time it was to be noted that there were in several of the cases circumstances (complications, etc.) which served to some extent to explain this high rate of interference with gestation. In only three cases could it be maintained that the rheumatic fever alone had put a stop to the pregnancy. With regard to evil effects arising from the use of salicylate of sodium in the treatment of these cases, Clivio does not believe that the drug injuriously affects the fœtus, although Schatz has affirmed the contrary; and that it has an abortifacient action on the uterus he considers as not yet determined.—*Edinburgh Medical Journal*.

The Relation of Graves' Disease to Rheumatism.—

Dr. Mackenzie observes that quinsy and rheumatism are antecedent or coincident in a significant number of cases. Out of some forty cases he has noted quinsy in nine and acute rheumatism in five, this agreeing with the evidence of others. S. West records two cases, and remarks that they present two features of interest, viz., that they occurred in sisters, and that in each there was a history of rheumatic fever and heart lesion. In a previous report of fifty-six cases, rheumatic fever had occurred in 11 per cent. Heredity seems in many cases to have an undoubted influence on the occurrence of Graves' disease. Thus we have already alluded to two sisters, one with Graves' disease, the other with myxœdema, reported by Oppenheimer. In Mackenzie's forty cases five had

a family history with exophthalmic goitre. West's two cases were sisters. Ball, cited by Oppenheimer, reports a case of a mother and two sisters, and Oesterreicher, also cited by the same writer, has recorded a remarkable instance of a hysterical woman who had ten children, eight of whom had exophthalmic goitre. Maude reports a woman with myxœdema, whose daughter had exophthalmic goitre. Progressive muscular atrophy, in association with Graves' disease, is reported by Bathurst, though Beevor thought it might possibly be a case of pseudohypertrophic paralysis. Bryson's symptom in Graves' disease has been investigated by Patrick, who found the average chest expansion in forty cases to be 4.3 centimetres (hand grasp 43.75 kilog.), in twenty-eight other chronic diseases 4.8 per cent. (grasp 56.36 kilog.)—that is, the expansion in Graves' disease is diminished half a centimetre (the grasp 12.61 kilog.). Thus the chest expansion is diminished 10½ per cent., and the hand grasp 22½ per cent., the grasp being diminished more than twice as much as the expansion, and thus the idea that the diminished chest expansion is simply part of a diminished vitality or energy is borne out both by these figures and by the history of the individual cases. He believes that the diminished power of conveyance often observed and the occasional affection of the laryngeal muscles are quite analogous to these other findings, and are simply parts of a general myasthenia. The value of the Bryson sign thus loses its importance as a diagnostic sign of Graves' disease.—*The Hospital*.

The Question of Stitch Abscesses.—

Dr. Lauenstein has studied the cause of the stitch abscesses observed in patients after aseptic operations. He made 216 observations on different suture and ligature materials in regard to their bacteriological relations. Among these bacteria capable of development in so-called sterilized catgut were found 35 times. In 149 samples, 107 were sterilized by dry heat; but 29 were afterward found to contain bacteria capable of development. The bacillus subtilis occurred most frequently, although the micrococcus tetragenus and the staphylococcus albus were also found. The author summarizes his observations as follows (*The American Journal of the Medical Sciences*): 1. Clinical observation shows that there are cases of wound infection which have their origin in the catgut used in the operation. 2. It cannot be definitely settled in any case that the catgut was the source of infection. 3. But it can be said that the so-called sterilized catgut sold in shops contains bacteria capable of development and growth. 4. So long as this catgut is found to contain bacteria, it cannot be free from the suspicion of being the source of infection in wounds. In the discussion that followed, Kocher, of Berne, said that since 1888 he has employed silk only, and that in his goitre operations before that time he had only 35 per cent. of absolutely primary healings, while since then he has had 85 per cent. Kocher believes that the suture material should be not only aseptic, but also antiseptic. The past winter he has placed his silk in a watery solution of arsenious acid, and as a result in 35 cases has had absolute primary union.

The Treatment of Intra-abdominal Lesions.—

One of the unsettled questions in surgery is the treatment of intra-abdominal lesions, the fatality of which is notorious. We have the usual divergence of opinion, largely owing to the fact that a correct diagnosis is extremely difficult, for in these cases we find comparatively slight external evidences of injury, although the general condition of the patient is suggestive of a serious internal lesion. Deaver thinks that the majority of these cases demand abdominal section; although, except in extreme cases, he would not advise

it unless the diagnosis was tolerably certain. Chaput, Berger, and Michaux are also in favor of early intervention. Michaux regards it as certain that an exploratory laparotomy should be at once undertaken in severe contusions of the abdomen. He insists that good results can be insured only by early and rapid operation. Of six patients on whom he has operated within the first twenty-four hours none died; but of four cases in which operation was delayed to the twenty-third and twenty-sixth hour, third and seventeenth day respectively, two died. Sorge writes in a similar strain, and refers to fourteen cases of abdominal injury (stabs, gunshot wounds, contusions) in which he performed laparotomy as soon as possible, and of whom nine recovered. Battle is of opinion that operation should be resorted to if the shock is considerable or increasing, and associated with a large or increasing amount of blood in the peritoneal cavity. In favor of a more expectant plan of treatment we find Berger, Manley, and Chaput. The last-mentioned thinks that we should always abstain from intervention in cases of severe shock, unless there are such distinct symptoms of hemorrhage as to demand operation; but he considers that an operation is indicated by a previously existing shock, accompanied by abdominal pain, retraction of the abdomen, nausea, and bilious vomiting. Delorme refers to nine cases of severe contusion of the antero-lateral walls, of which two only were subjected to operation; the other seven recovered spontaneously. Bryant recorded twenty-seven cases of severe abdominal contusion treated on the expectant plan (for it was before abdominal operations were thought of in these cases), and all recovered except one. In summing up these various opinions, it seems pretty clear that except in very severe cases exploratory operations are unjustifiable. It is well known that blows on the epigastrium are capable of producing the most severe symptoms, without causing any distinct lesion; and the knowledge of this fact alone should make us cautious in too hastily deciding to operate in the presence of mere shock. Where there are symptoms of severe hemorrhage or laceration of a viscus, our course is clearly to operate without delay; but in more dubious cases we can afford to wait and see whether the symptoms are improving or getting worse—a point which can generally be decided within twenty-four hours—and then plan our treatment accordingly. Manley truly observes of these cases: "Laparotomy, serious as it is and always must be . . . does occasionally offer the only possible hope of saving life, and for such should be recommended."—*Bristol Medico-Chirurgical Journal*.

Unruptured Membranes at birth are of such rare occurrence that Forman records an instance in which delivery followed a single pain in a woman of twenty-two, pregnant for the second time.—*Journal de Méd. de Paris*.

Syphilitic Heart Disease.—At a late meeting of the Charité Aerzte of Berlin, Dr. Israel showed a specimen of this kind. During life the patient, aged forty-seven, had presented the appearances of hepatic cirrhosis. The pulse, 136, was small and irregular at first, but improved under digitalis. A systolic murmur was heard in the left second and third intercostal spaces, with an accentuated second sound. There was no clinical evidence of syphilis. Eight days after admission there was a profuse and fatal hemorrhage from the stomach. The autopsy showed the heart to be hypertrophied, but only slightly dilated. No circulatory obstruction could be proved at the mitral orifice. Islets of fibrous tissue were present at the base of the papillary muscles, and the muscles themselves had undergone fibrous changes. Fine strands of fibrous tissue were seen in the slightly

brown cardiac muscular tissue. The dilated left auricle presented peculiar appearances. The wall was rigid, with only the remains of a few yellowish-brown muscular fibres. The auricular appendix was greatly shrunken. Very irregular and easily detached excrescences were found on the inner wall of the auricle, and were specially well marked on the upper surface of the mitral valve segment. The gummatous formation in the heart muscle could only be due to syphilis. In the liver fibrous changes with the remains of gummata were found. There was induration of the uterus with chronic endometritis, also of syphilitic origin.—*Berliner klinische Wochenschrift*.

Neuralgia Cured by Resection of the Eighth Cervical.—Drs. Chipault and Demoulin report a successful case of this kind. A man of thirty-eight, otherwise in good condition, had for four years suffered from a continuous pain localized in the little finger and inner part of the hand, with exacerbations shooting along the inner border of the forearm. He had been submitted to all sorts of remedial measures without relief; among others, stretching the dorsal cutaneous branch of the ulnar and section of the same in the epitrochlear fossa. When he came under the author's observation examination showed that the hyperæsthetic zone comprised the inner surface of the little finger with the corresponding part of the hand and two strips on the arm and forearm, one and one-half centimetres wide—one anterior, the other posterior. From the researches of one of the authors it is proved that this is the exact area of cutaneous innervation from the eighth cervical. It was therefore decided to open the spinal canal. After resection of the vertebræ, nothing abnormal was found in the spinal canal or in the intervertebral foramina. The dura was then laid open and the posterior root of the right eighth cervical, with the nerve above and below, was resected between the ganglion and the cord. These adjacent nerves were resected also, because physiology teaches that section of a single root is insufficient to anæsthetize its territory. Two hours after the operation the zones of hyperæsthesia and spontaneous pains had disappeared. The patient was able to use his hand for eating soup and for writing, which had been impossible for years on account of pain. Four months after the operation the recovery still persists with no consecutive trophic troubles. On the contrary, those remaining after the resection of the ulnar nerve have disappeared. Some interesting physiologic manifestations were noticed during and after the operation, among them—electrical stimulation of the posterior roots produced a manifest vasoconstriction in their territory. The resection of these three roots caused only a slight hyperæsthesia of the arm, which disappeared in twenty-four hours.—*Journal of the American Medical Association*.

Compression of the Carotid Arteries and Senile Epilepsy.—The nature of senile epilepsy is not very well understood. Dr. Naunyn believes that cerebral anæmia may account for some of the phenomena. At any rate he has recently had three old men under observation in whom compression of the carotids would always bring on epileptiform attacks. The patients all had arteriosclerosis and feeble hearts. Carotid compression in persons without a history of epileptic seizures and without arterial changes did not produce more than temporary vertigo. But in two men over fifty years of age and having signs of arterial sclerosis, Naunyn observed loss of consciousness, a retarded pulse, and even mild convulsions, following carotid compression. Naunyn thinks that his observations, although not numerous, tend to show that senile epilepsy may be due to disturbances of circulation caused by cardiac and vascular degeneration.—*Zeitschrift für klinische Medicin*.

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EMERGENCY RATIONS IN ARMIES.

In a previous issue we have alluded to certain experiments made under supervision of the commissary department of the United States Army. Compressed foods, we pointed out, were not likely to become very popular in our country, where an abundance of palatable provisions is within reach of the vast majority of all the people.

In times of actual distress, however, or in sudden emergencies, such as have recently been conjured up by prevalent war scares, questions of concentrated foods and minimum rations will have a timely interest, which under normal conditions would be wanting.

Major C. A. Woodruff, United States Army, of Washington, assistant to the commissary-general of subsistence, has made and is still making a number of experiments along these lines. This work is being done preparatory to the adoption of an emergency ration for our soldiers.

Major Woodruff, we are informed, has also received reliable reports describing the emergency rations of several foreign armies. These rations merit examination.

In France they use a compressed vegetable preparation consisting of potatoes and peptonized meat, predigested according to the Koch process. Each soldier is given four small packages of this composition, each package containing eight rations, the cost being a penny a ration. A two days' ration for the French soldier consists of hard bread, rice, salt, sugar, coffee, preserved meat, and condensed soup, weighing in all a little over four pounds and a half.

In England they have employed a compressed vegetable preparation, to be used with Chicago compressed beef as an emergency ration. A new emergency ration now in the experimental stage consists of a package about the size of an ordinary cartridge box, to be strapped to the belt. Each of these package contains in a compact form sufficient food to keep the most robust soldier in fighting trim for twenty-four hours. The constituents are soup, milk, and sugar in a dry state. Cocoa, milk, and sugar are packed in similar boxes.

The emergency ration of the German army, to be used only in extreme cases, consists of biscuit, meat, rice, coffee, and salt, packed in aluminium capsules and weighing in all four and one-fourth pounds. The

German army formerly manufactured for itself a similar ration by compressing a mixture of peameal, fat, and bacon into sausages.

The Australian soldier carries an emergency ration weighing a little over a pound and a half. This contains compressed biscuit, preserved meat and soup, salt, and tobacco.

Soup tablets and bread tablets have given satisfaction in our army, and compressed coffee and tea sweetened by saccharin are being experimented with.

The outcome of the various food experiments now making, will, it seems to us, bear watching. Natural food in bulk will never be supplanted by artificially compressed and condensed products. But reserved for actual emergencies, they will have to command attention.

THE BACTERIOLOGICAL DIAGNOSIS OF TYPHOID FEVER BY ELSNER'S METHOD.

ALTHOUGH typhoid fever is now quite generally accepted as one of the group of microbic maladies, the diagnosis of doubtful cases by bacteriological tests has not yet found its way into every-day practice. The identification of the typhoid bacilli has hitherto been beset with time-robbing difficulties. For this reason physicians have relied on the older methods of clinical diagnosis.

But it now appears that the recent observations of Dr. Elsner (referred to in the *MEDICAL RECORD* of January 25, 1896) have already received corroborative recognition from other observers.

Dr. Lazarus, of Berlin (*Deutsche Medizinische Zeitung*, January 13, 1895), has recorded a number of typical cases of typhoid fever in which the method of Elsner amply confirmed the clinical diagnosis. In every case (with one exception) forty-eight hours sufficed for the growth by culture of typhoid bacilli. Even in convalescent cases bacilli were still found, a point of practical importance according to the author, as foreshadowing the possibility of relapse. In the single case alluded to, the growth of the microbes was not complete before the end of the third day. Yet, in this instance also, the final result was a positive one.

The same author also refers to three doubtful cases in which bacterioscopy gave negative results, and in which the subsequent course of the disease showed that enteric fever was out of the question. Lazarus emphasizes the great simplicity of this method, especially as compared with the oftentimes difficult bacteriological diagnosis of cholera.

Prof. L. Brieger, of Berlin, has likewise confirmed the utility of the method of Elsner in eleven cases, published in the *Deutsche Medicinische Wochenschrift*, No. 50, 1895. In all his cases the cultures became plainly recognizable in forty-eight hours. The identity of the bacilli was further established by Pfeiffer's test, namely the power of the blood of enteric-fever patients to confer immunity against infection by typhoid bacilli.

We are informed, finally, that Elsner and others are at present utilizing this new method for purposes of

study in connection with the distribution of the bacilli in the ground and in water.

This discovery promises well for the future, and we await with interest its more complete development. Perhaps we shall soon be able to diagnose typhoid fever by bacterioscopy with the unerring promptitude that now pertains to the recognition of cholera.

THE EXCLUSION OF ENGLISH FROM THE MOSCOW CONGRESS.

WE have received an official communication from the secretary-general of the Twelfth International Medical Congress to the effect that the congress will be held in Moscow during the week beginning Thursday, August 19, 1897. Accompanying the notice is a list of rules drawn up for the congress, one only of which possesses any concern for English or American physicians, its peculiar and insulting provisions serving to destroy any further interest that otherwise might have been felt in the congress. The section referred to is numbered 21, and reads as follows: "French is recognized as the official language of the congress in all its international relations. At the general meetings the addresses may be delivered in other European languages. Papers may be read and discussed in the meetings of the sections in French, German, or Russian."

This is a solution of the vexed question of an international language, with a vengeance! We see no objection to the adoption of French as the business language of the congress, and even had this been proclaimed as the sole language for the scientific work of the meeting, although we might have doubted the wisdom of the measure, we should not have disputed the right of the committee on organization so to decide. But when the officers of a meeting purporting to be international in character deliberately exclude the most important language in the world and substitute therefor a tongue known only by individuals here and there in western Europe and in America—the most difficult and the least important of the six leading languages of Europe—they make of the congress a purely local affair, and give notice to outsiders that they are not wanted.

PRISON ASSOCIATION REPORT.

THE report of the committee of the Prison Association to inspect the penal institutions of New York City has just reached us, and contains some very radical suggestions for the improvement of our prison system. It recommends that the old Tombs Prison be razed to the ground, and a new prison be constructed as a place of detention and not of punishment. We can but hope that this change may soon be brought about, for there seems to be no question that the condition of the prisoners who are committed to that prison is more worthy of Siberia than of New York. The committee also recommends a new penitentiary and workhouse on Riker's Island, and that the present workhouse and penitentiary on Blackwell's Island be

changed and used for charitable institution, or torn down. It also objects to the confinement of more than one man in a cell of a city prison or of the penitentiary at Blackwell's Island; and suggests that the cells should be lighted by electric lights, and the inmates permitted to read for a reasonable time; that suitable rooms are sadly needed for hospital, for meals, and for religious services, and for exercise in bad weather; that water closets in cells should be removed and buckets substituted in their place. The committee advises canvas cots or hammocks in place of mattresses and straw beds which are now used and which are a constant source of impurity and contagion. Rain baths are recommended and that the prisoners be made to bathe at stated intervals. It is also considered advisable that the bakeries should be established in the penitentiary instead of at the workhouse, where they are now. It goes without saying that there is a crying need for reform in the city prisons of New York. We are only lately informed by a gentleman well qualified to judge, that he has rarely seen anything worse than the condition of the wretchedly overcrowded Tombs Prison in New York.

THE NEW PHOTOGRAPHY.

WE referred in a previous issue to the discovery by Professor Roentgen of rays of light which pass through opaque bodies, and also to some of the surgical and medical possibilities involved in this discovery. The recent telegrams from Europe show that the discovery is a genuine one, and that it has already been made use of in surgery. It should be understood that the process discovered by the Würzburg professor is not one which is exactly like photography, or, at least, does not give effects like those of the usual photographic picture, so far as we can understand the method from descriptions that have been given. A glass tube whose interior is as nearly a complete vacuum as possible, is made luminous by the passage of an electric current, the cathode or negative pole of the current being the one which brings out the luminosity. This luminous vacuum contains an especial kind of light which has the property of passing through some opaque bodies but not through others. Certain metals, for example, and the bones of the body are opaque to this light, but wood and flesh are not; consequently, the light from this tube when thrown upon the outstretched hand, for instance, passes through all but the bones, and casts a shadow of the skeleton of the hand upon a sensitive plate prepared to receive it. In the same way, a metal object, like a bullet, implanted in the soft tissues of the arm or leg, can be photographed, or, at least, its outline brought out. But after all, these are not so much photographs apparently, as silhouettes. Assuming that the bones are, as described, opaque to this current, we do not see that the new photography can be very largely applied in surgery, since it could not detect the presence of bullets in the brain, and it would evidently be a very confusing and difficult task to photograph a bullet of the thoracic or abdominal cavity, where the bony surroundings would

cut off the larger part of the rays of light. However, the discovery is still in its infancy, and it is possible that modifications of the process may be made which will be of immense service in surgery and medicine.

THE HEALTH BOARD AND THE PREVENTION OF DISEASE.

THE Board of Health of this city has made another advance in its work toward the prevention of disease. It recently adopted an amendment to the Sanitary Code, providing for licensing milk dealers. This amendment provides that no milk shall be received, held, kept, offered for sale, or delivered in the city of New York, without a permit in writing from the Board of Health. All dealers in milk will have to obtain these permits, and such permits will be given only to persons whose dairies have been carefully inspected. The Board, as we have previously stated, has also adopted an anti-expectoration resolution. This requires that notices be posted in all public places, warning persons against expectorating on the floors, and municipal authorities and railroad companies will be required to provide proper receptacles for expectoration which, must be kept thoroughly clean. A further amendment to the Code has been proposed, prohibiting the common use of knives, forks, and spoons on free-lunch counters, and also prohibiting the use of roller towels in the lavatories of saloons, restaurants, and other public places. The provisions of this resolution, if carried out, will give the death blow to the free-lunch counter. Some years ago procedures such as those we have just referred to on the part of the Board of Health would have called out a great deal of ridicule and violent opposition. The sanitary education of the public, however, has proceeded so rapidly that measures which are really somewhat radical now awaken only favorable comment. It is a great tribute to the intelligence and receptiveness of the people of this metropolis.

Dinner to Dr. John Byrne, of Brooklyn.—The Brooklyn Gynecological Society tendered to John Byrne, M.D., M.R.C.S., its first president, a complimentary dinner at the Union League Club on the evening of January 23d. Representatives from the different medical societies of New York and Brooklyn, together with leading citizens, paid just tribute to the distinguished guest. Speeches were made by A. J. C. Skene, Gen. Stewart L. Woodford, Dr. Egbert H. Grandin, Dr. Landon Carter Gray, Dr. H. T. Hanks, Dr. George McNaughton, Dr. William Maddren, William Cullen Bryant, Dr. W. B. Chase, District Attorney Foster L. Backus, Dr. J. Hoop, Dr. William H. Skene, and Dr. W. J. Corcoran. Dr. Byrne, after feelingly thanking the members of the Brooklyn Gynecological Society for the honor they had conferred upon him, gave a humorous yet truthful history of the early struggles of gynecology. Dr. A. Ross Matheson presided and the following committee had the affair in charge: Drs. W. B. Chase, A. J. C. Skene, Frank Baldwin, and J. C. MacEvitt.

News of the Week.

Obituary Notes.—DR. THOMAS BECKETT, of Albany, died in that city on January 8th, of pneumonia, after a brief illness. He was a graduate of the Albany Medical School in 1861. DR. JOHN P. GRUWELL, said to be the oldest graduate of the Medical Department of the University of Pennsylvania, died at Alliance, Ohio, on January 20th, aged eighty-six years. DR. EDWARD WIGGLESWORTH, of Boston, died on January 23d, aged fifty-six years. He graduated from the Harvard Medical School in 1865, and served during the Civil War. Dr. Wigglesworth was identified with dermatology, and founded a dispensary for skin diseases in 1872.

Anti-Cholera Serum.—A telegram from Berlin states that Dr. Behring has discovered an anti-cholera serum whose efficacy he is prepared to demonstrate.

Fire in the Matteawan Insane Hospital.—There was an outbreak of fire in the State Hospital for the Criminal Insane, on January 24th. The fire was started by one of the inmates, who had a mania for incendiarism. No serious damage was done.

Removal of St. Luke's.—The patients in the old building of St. Luke's Hospital on Fifth Avenue were transferred to the new hospital on Morningside Heights, on January 24th, and the old building was closed. The new building has only one wing which is completed, and about forty patients were moved into it.

Boycotted.—Our esteemed contemporary, the *Journal of the American Medical Association*, has a copious supply of news from numerous minor medical centres, but religiously excludes everything pertaining to the city of New York. The isolation is depressing. Is the journal preparing to move? If so we call its attention to a pleasant town situated on an island lying off the coast of Hoboken.

The Associated Health Authorities of Pennsylvania began their third annual session at Harrisburg on January 23d. In the discussion as to the duty of Boards of Health in the matter of diphtheria, the conclusion was reached that physicians should be called upon to report suspected as well as unequivocal cases of the disease and establish quarantine, or be subjected to a penalty. Dr. Robert L. Pitfield, Assistant Bacteriologist to the State Board of Health, dwelt upon the value of bacteriological examinations in cases of either established or suspected diphtheria. Dr. B. Meade Bolton, Chief of the Department of Pathology and Bacteriology of the Philadelphia Board of Health, presented a communication upon the "Advantages of Bacteriological Investigations to Boards of Health." "The Diphtheria Antitoxic Serum" was the subject of a paper by Dr. Joseph McFarland. Dr. J. T. Rothrock presented a paper upon "The Relation of Forests to Water Supplies" and Prof. Francis C. Phillips one on "The Protection of Water Supplies." At the closing session on January 24th the law for the restriction of contagious diseases was ex-

plained by Dr. Benjamin Lee, the Secretary of the State Board of Health. This law requires the placarding, flagging, or guarding in cities, boroughs, and townships throughout the State of all houses in which contagious disease exists. Dr. E. O. Shakespeare read a paper advocating the placing of the milk supply from its source to its distribution under the control of the sanitary board of health of the place where the milk is delivered.

Unlawful Knowing of a Female.—A bill has been introduced by Representative Broderick in the present Congress "to punish as a felony the carnal and unlawful knowing of any female under eighteen years." This is an amendment of the present law which fixes the age at sixteen.

Bellevue Hospital.—Dr. Charles E. Nammack has been appointed assisting visiting physician to the Fourth Division of Bellevue Hospital.

New York Academy of Medicine, Obstetric Section.—Dr. William Pryor was elected *Chairman* and Dr. S. Marx *Secretary* for the ensuing year.

Jefferson Medical College.—At the annual meeting of the Alumni Association of Jefferson Medical College on January 18th, Dr. A. K. Minich was elected *President* for the ensuing year. A proposition was made to collect \$10,000 from alumni of the school to aid in the equipment of the new pathological laboratory in contemplation.

For the Relief of Acting Assistant Surgeons.—Mr. Gallinger has introduced in the United States Senate a bill providing that all acting assistant surgeons whose names have been stricken from the rolls of the Pension Bureau shall be restored at once to the same, without the trouble and expense of filing a new claim; and all acting assistant surgeons shall be entitled to the benefits of all present and future pension acts the same as if they had been mustered in and out of the service of the United States. A similar bill has been introduced in the House by Mr. Baker, of New Hampshire.

The State Board of Medical Examiners of Virginia.—The General Assembly of Virginia is considering a bill providing for the appropriation of \$2,500 annually for the necessary expenses of the Board of Medical Examiners of that State. Their services were previously entirely voluntary.

The Deutsche Polyklinik.—A bill has been introduced into the New York legislature, giving \$15,000 annually to the Deutsche Polyklinik.

Dr. Eliza M. Mosher, of Brooklyn, has been made Professor of Hygiene in the University of Michigan, Ann Arbor, and Dean of the literary department.

Addison's Disease.—On the evening of January 24th Dr. William Osler, of Johns Hopkins University, delivered an address before the students of the Medico-Chirurgical College on the treatment of Addison's disease.

Dr. Orville Horwitz has resigned from the chair of genito-urinary surgery in the Philadelphia Polyclinic.

The Cooper Medical College of San Francisco held its annual commencement on December 5th and graduated a class of seventy-six. Dr. Lane has promised the college the sum of \$2,000 to establish an annual course of ten lectures. This sum will be given for each course. The first series of lectures will be delivered by Dr. William Macewen, of Glasgow.

A New Health Bill for Virginia.—A bill has been introduced into the General Assembly of the State of Virginia to amend the laws relating to its State Board of Health. It provides that the governor shall appoint seven physicians, three from the city of Richmond and four from different sections of the State, who shall constitute the State Board of Health, the appointees to hold their office for four years or until their successors are appointed, vacancies which may occur to be filled by the governor. The board is to meet at the capital at least once in every three months; the salary of the secretary to be fixed by the board, and the other members of the board to receive no salary, but instead thereof to be paid four dollars a day while engaged in the performance of their duties and their travelling expenses incurred thereby; \$5,000 per annum is to be appropriated to defray the expenses of the board.

Trained Nurses did not Like a Basement Dining-Room.—The trained nurses of the Elizabeth, N. J., Hospital left in a body, because a separate dining-room was tendered to them in the basement of the institution.

We Sympathize with the members of the Woman's Medical Club of California, in the loss of one of its members, Dr. Euthanasia S. Meade. We trust her last moments were all that her first name implies.

Three Million Dollars Bequeathed to a Hospital.—The will of Mrs. Anna A. Aspinwall, a wealthy and somewhat eccentric Pittsburg woman, who died in Edinburgh, Scotland, last December, has been filed in Pittsburg. By the provisions of the will her entire estate, estimated to be worth \$3,000,000, is given to the Hospital of the Protestant Episcopal Church, Philadelphia. This hospital is maintained for the benefit of white female sick or convalescent orphan children. The will stipulates that there shall be no denominational discrimination, and asks that a preference be given to children who have lost both parents.

Manhattan State Hospital Bill Signed.—Governor Morton has signed the Manhattan State Hospital bill, which transfers New York City and County insane to State care, and brings the New York City asylums under control of the State Commission in Lunacy.

New York Pathological Society.—The second of the Middleton Goldsmith lectures will be delivered by Professor J. George Adami, of McGill University, Montreal, in the hall of the New York Academy of Medicine, on Monday, February 3d, at 8:30 P.M. Subject: "The Relationship between Inflammation and Certain Forms of Fibrous Hyperplasia."

Among the Beneficiaries of the recent Charity Ball was the University of Pennsylvania Students' Aid Fund.

A "University" for Selling Medical Degrees.—There is an institution in Chicago, known as the "Illinois Health University," which advertises in the daily papers. The business of this university seems to be to sell degrees of M.D., without personal examination, to persons living in those States which do not have any law regulating practice. The attention of the authorities has been called to it.

Paris has 6,000 medical students, while the provincial faculties of medicine in France have 4,000, thus making a grand total of 10,000 medical students. This is coming pretty close to the educational activity of America.

Celebration of the Centennial Anniversary of the discovery of the protective power of vaccine virus by Dr. Edward Jenner, 1796. The committee appointed by the American Medical Association and the auxiliary committee appointed by the American Public Health Association to prepare a proper programme for this centennial, propose the following order of proceedings, designed to occupy one entire day of the annual meeting of the American Medical Association, to be held in Atlanta, Ga., May 5 to 8, 1896: **THURSDAY, THIRD DAY OF THE MEETING—Morning Session.**—Address on "The Character of Dr. Edward Jenner and the History of his Discovery of the Value of Vaccination," by Dr. N. S. Davis, Chicago, followed by discussion on the history and status of vaccination in this country. **Afternoon Session.**—Paper on "The Scientific Researches Relating to the Specific Infectious Agent of Small-pox, and the Production of Artificial Immunity in this Disease," by Dr. George M. Sternberg, Surgeon-General, U.S.A. Also paper on "The Propagation, Preservation, and Use of Vaccine Virus," by Dr. Francis C. Martin, Boston, Mass. Discussion, especially on the scientific principles involved in the papers. **Evening Session.**—Paper on "The Statistic Evidences of the Value of Vaccination to the Human Race," by Dr. Eugene Foster, Augusta, Ga. Discussion as far as time will permit. **COMMITTEES.**—Of American Medical Association: Drs. N. S. Davis, Chicago, Ill.; J. M. Toner, Washington, D. C.; H. D. Didama, Syracuse, N. Y.; J. F. Hibberd, Richmond, Ind.; J. S. Billings, Philadelphia, Pa. Of American Public Health Association: Drs. T. George Simons, Charleston, S. C.; C. A. Lindsley, New Haven, Conn.; Angel Contreras, Pueblo, Mexico; J. M. Toner, Washington, D. C.; N. S. Davis, Chicago, Ill.

A Psychological Twist.—Dr. T. Lauder Brunton has made a psychological analysis of President Cleveland's message on the Venezuelan question, and concludes that it is really a powerful plea for peace.

Public Baths.—The Tenement-House Commission state in their report that only 306 persons out of a total of 255,033 inspected have access to bath rooms in the houses in which they live. At the "People's Bath," in Centre Market Place, the number bathing during December last was 4,683. Plans have been accepted by the city for new city baths recommended by the Committee of Seventy. When the recommendations

are fully carried out, there will be scattered through the city's crowded districts facilities for 25,000 daily baths.

The Five Most Useful Drugs.—In order to ascertain what drugs are most useful in general practice, the Willesden and District Medical Society requested every member to send in a list, and from this the following drugs have been selected: Iodide of potassium, antipyrin, liquor arsenicalis, tincture digitalis, and liquor strychninæ.

Carlyle and Gray Powder.—Sir Richard Quain says that Carlyle was most eccentric as a patient. The only remedy he would ever take was a dose of gray powder. Says Sir Richard: "Gray powder was his drug when he had that wretched dyspepsia to which he was subject, and which was fully accounted for by the fact that he was particularly fond of very nasty gingerbread. Many times I have seen him sitting in the chimney corner smoking a clay pipe and eating his gingerbread. He overcame the difficulties incidental to this habit by his gray powder, which did him much good."

The International Congress at Moscow will open on August 19, 1897, and close August 26th. *President*, Professor Klein; *Vice-President*, Professor Kojevnikoff; *Treasurer*, Professor Filatoff; *Secretary-General*, Professor Erismann. There will be twelve sections.

We Feel Flattered.—If Colton is to be believed, imitation is the sincerest flattery. Therefore, rising above the good words and commendations upon the general appearance and general excellence of the **MEDICAL RECORD**, which come to our ear from every side, are the indications of appreciation which strike our editorial eye on looking over recent exchanges. We are pleased especially to note how well our short "hints" and "suggestions" are being taken here and there.

A Notable Judicial Decision.—The daily press announces a legal decision of interest to all physicians. Judge Stewart of Pennsylvania heard evidence in the claim of Dr. J. B. Schively against the estate of his aunt for medical attendance. Payment was refused upon several points, one of which was that the book presented by the doctor as evidence was not a book of original entry. The book was one of the standard physicians' visiting lists, in which calls are marked under dates by a dot, a cross, or a stroke, and then extended to the margin. Judge Stewart disallowed the claim, on the ground that the book was not one of original entries, but was merely a book of memoranda. As the great majority of physicians use such lists, the decision is one of moment to all members of the profession who make no other debit charges against patients. *The Journal of Medicine and Science* adds: "The substance of this item was given by Dr. Spalding in abstracts for October, and we took occasion to consult eminent legal authority in regard to its correctness. We were assured that all authority recognized that an account kept, as most physicians keep their accounts, with a mark or a dot to indicate charges,

is considered an original entry and an account kept in this way can be collected by law. When referred to this item, the answer was that there were circumstances warranting this decision or the judge didn't know the law. We intended to make this statement, and are now pleased to do so in this connection."

Acetylene Gas is a substance likely to prove useful in medicine and surgery. When lime and carbon mixed together are subjected to the heat of a properly constructed electric furnace, they are fused into a compound known as calcic carbon, which contains twenty parts of calcium and twenty-four of carbon. When water is added to this, decomposition takes place, with the result of forming calcic oxide, and a hydrocarbon compound which is known as "acetylene." This acetylene is a gas of an illuminating power from fifteen to twenty times stronger than that of ordinary gas. The light which it gives is white and brilliant, and has relatively fewer heat rays than ordinary gas. It seems that brilliant portable illuminators can be devised, and also that some cheap apparatus for thermo-caustic purposes can be produced. The portability of the gas, or of the substances which produce it, is another element greatly in its favor. The only serious objection to it, so far as we have learned, is that the gas is extremely poisonous—much more so than ordinary gas, and is of a lower specific gravity. In attempting to illuminate a house with it, therefore, perhaps some risk may be run, though probably this can be provided for eventually. It would not, in any event, apply to the limited use of the light for illumination in surgery.

Fees for Life Insurance Examinations.—The Marion County (Fla.) Medical Society has passed the following resolutions:

"WHEREAS, Some life insurance companies throughout the United States have reduced the fee for medical examination from \$5 to \$3;

"Resolved, That the members of the Marion County Medical Society refuse to make such examinations for less than \$5.

"Resolved, That this preamble and resolutions be spread upon the minutes of the society and published in the medical press of the United States."

Dr. Jameson is a Scotchman by birth, and was educated at University College, London. He became a Member of the Royal College of Surgeons in 1875, Bachelor of Medicine and Surgery of London University in the same year, and graduated as doctor in 1877. Shortly afterward he went out to Kimberley, where for many years he was the leading physician. He then formed the friendship of Mr. Cecil Rhodes, who came to him as a patient. He has been created a Companion of the Bath, and is the administrator for the British South Africa Company.

Doctors and Liquor Dealers.—The *Hospital* contrasts the change in the relative numbers of doctors and of saloon-keepers in England and Wales during the last quarter of a century, the former having increased at the expense of the latter. In 1871, the

number of doctors, in round figures, was 11,000 and of beer sellers, 14,000. In 1891, the number of doctors was 19,000 and the number of beer sellers 12,000. The *Hospital* draws a large number of interesting conclusions from these figures, which, however, seem to us to be entirely irrelevant. It is quite possible for saloons to centralize, as well as the general population, and it is within the bounds of every one's knowledge that one large saloon can sell more than three or four small ones.

Dr. Bevan Lewis, Medical Superintendent of West Riding Asylum, recently celebrated his silver wedding. He was presented with a number of valuable mementos by his friends and associates.

Hospital Superintendents and the Medical Staff.—The chief medical officer of the Cook County Lunatic Asylum has just been under trial before the county civil service board for insubordination to the lay head of the institution. It appears that without consulting his superior he made arrangements for a post-mortem of a patient whose death he could not otherwise certify.

Obituary.

KENNETH N. FENWICK, M.A., M.D.,
M.R.C.S. ENG.

KINGSTON, ONTARIO, CANADA.

DR. N. K. FENWICK, a well-known and highly esteemed member of the Canadian medical profession, died at Kingston, January 21st, at the age of forty-four. A gentleman of bright attainments, of sterling professional zeal, having a career brilliant with success, his death is a loss to the medical fraternity in Ontario, and especially to the community where he resided. Five days before his death, while operating on a child with septic peritonitis, Dr. Fenwick cut his finger, and although there was evidence of slight absorption it was only the day before his death that the case appeared serious. With terrific rapidity his forearm to the elbow became gangrenous, and the announcement of his death was to many the first intelligence of his illness. Dr. Fenwick was a native of Kingston, and for twenty years has been well known as a leading practitioner. After a brilliant collegiate course in Canada and England, he rapidly acquired a distinguished position in professional ranks. His untiring devotion to his patients, irrespective of personal comfort or health, distinguished him from the very commencement of his brilliant career. His special work in obstetrics and gynecology was early recognized and appreciated to such an extent that as a consultant he was highly esteemed. He was the author of a work on obstetrics designed for students, which has been received with considerable favor in Canada. His contributions to medical literature were always highly prized. Dr. Fenwick was a prominent member of the Canadian and Ontario Medical Associations, and held the chair in obstetrics in the medical department of Meen's University, Kingston. Reserved in manner, upright in action, and always ready to assist in every good work, this genial and scholarly Christian gentleman will long be remembered as a bright example of all those noble qualities which make up a most lovable man.

Reviews and Notices.

AN AMERICAN TEXT BOOK OF SURGERY FOR PRACTITIONERS AND STUDENTS. Edited by WILLIAM W. KEEN, M.D., LL.D., and J. WILLIAM WHITE, M.D., PH.D. Second Edition. Philadelphia: W. B. Saunders, 1895. 8vo, pp. 1,248.

THIS work, which is the joint production of a number of well-known surgeons, appears in its second edition somewhat increased in bulk. Numerous additions and elaborations have been made with a view of keeping the discussion of the multiple topics up to the requirements of recent advances in the surgical art. The announcements in the preface are, however, hardly up to the fulfilment of some of the promises; for instance, acromegaly, instead of occupying a so-called section, comprises but two or three paragraphs embodying the statements that the bone complications are really due to increased proliferation of osseous tissue and that the disease is beyond surgical skill. As to brevity of other additions very much the same may be said, but in the main they cover essential points. These are, however, minor matters, bearing in mind the necessity of keeping the bulk of the volume within reasonable limits. The Hartley-Krause method of removing the Gasserian ganglion is well and intelligently described and the illustrations serve their purposes. The osteo-plastic method of resection of the skull is also given, with some useful hints of technique. Schede's osteo-plastic operation on the chest wall is well illustrated, as is also Witzel's method for gastrostomy. The use of Murphy's button is compressed within limited range, and the description of the operation is correspondingly condensed. Macewen's method of compressing the aorta for amputation at the hip-joint receives its limited description in just comparison with other more effectual and safer ones. Symphysectomy is described with necessary precision and detail. Although the radical extirpation of the breast, which includes the removal of one or both pectoral muscles, is well described, it would be still more intelligible if a suitable illustration of the various steps had been inserted. Many of the illustrations throughout the work are new and the names of instruments have been omitted from several of the cuts, thus improving their appearance.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS IN PHOTO-LITHOCHROMES FROM MODELS IN THE MUSEUM OF THE SAINT LOUIS HOSPITAL, PARIS. With explanatory woodcuts and text. By ERNEST BESNIER, A. FOURNIER, TENNESON, HALLOPEAU, DU CASTEL, HENRI FEULARD, and LÉON JACQUET. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P., Assistant Physician to, and Physician to, the Department for Diseases of the Skin at the Middlesex Hospital, London. London: F. J. Rebman, Publisher, 11 Adam Street, Strand. Philadelphia, U.S.A.: W. B. Saunders, Publisher, 925 Walnut Street, 1895.

IT has been justly said that the wax models of the St. Louis Museum, under the skilful touch of Monsieur Baretta have reached a perfection which challenges the admiration of the entire medical world.

It is now for the first time that, in point of fact, the whole world may, if it choose, see these models; not in their reality, but so artistically reproduced as to make a visit to the Paris collection unnecessary. In the plates of Part I, which has reached us, one gets the idea of elevation of the lesions above the surface which it is so difficult for an artist to bring out when drawing from life, and as so often happens, under a time pressure. The coloring might be termed pathological perfection.

There are some eighteen hundred models in the museum which will remain, as it were, a monument to the achievement of the renowned Baretta. That a suitable selection from these is to be published will be no less a source of satisfaction to those who have already done so and who expect again to visit and study the originals, than it should be gratifying to all those who have this as their only opportunity to enjoy and profit by the celebrated collection.

An interesting feature of the Atlas is the descriptive text, which is written for each picture by the physician who treated the case or at whose instigation the models have been made. We predict for this truly beautiful work a large circulation in all parts of the medical world where the names *St. Louis* and *Baretta* have preceded it.

ATLAS OF THE DISEASES OF THE SKIN. By H. RADCLIFFE CROCKER, M.D., F.R.C.P.; Physician to the Department for Diseases of the Skin, University College Hospital; formerly Physician to the East London Hospital for Children; Examiner in Medicine at Apothecaries' Hall, London. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co.

THIS work is approaching its completion. Fasciculus XIII. is before us. We regret that only three more are to follow. Each one has been a source of renewed pleasure. Not all the drawings are of equal excellence, but the average is high. The present number contains upon its six plates no less than nineteen figures.

The Erythema nodosum strikes us as being too bright in color, but the E. iris gives an excellent idea of the affection. "Psoriasis" is not typical enough to stand alone, but as there has appeared in former numbers a variety of other different forms, this group of three excellent figures serves a useful purpose.

Phases of pityriasis rubra pilaris and a fairly good representation of lichen planus are shown in the text plate.

Molluscum contagiosum, with large suppurating lesions, is well illustrated on a plate, along with two figures of vascular nævus.

Fig. 3 of Plate LXVI. is given in the contents as "Psoriasis on breast" while it is clearly a psoriasis form variety of lupus erythematosus, as indicated on the plate.

The title of the last plate, as well as the heading of the text, is misleading. "Tinea Cruris et Larva Migrans; Synonym: Eczema Marginatum," would appear to apply to the prominent figure of the plate, whereas the larva disease is illustrated by the smaller figures alone.

DIE LEHRE VON DEN NASENEITERUNGEN. Von DR. LUDWIG GRÜNWALD in München. Zweite gänzlich umgearbeitete Auflage. Mit 8 Abbildungen im Text, 2 Tafeln und einer Tabelle. 1896. München: Verlag von J. F. Lehmann.

THE first edition of this monograph was conceded on all sides to be the best presentation extant of the general subject of disease of the accessory nasal sinuses. The present edition is essentially an amplification of the first, following the latter in its general arrangement. A larger number of clinical cases was at the author's disposal in its preparation, and he has consequently been able to reinforce his conclusions from this additional experience. The praise bestowed upon the first edition is amply deserved by the second.

STATISTICHE E CONSIDERAZIONI CLINICHE DI OTORINO-LARINGOIATRIA. Su 4393 ammalati curati nell'anno 1894. Per Dottori V. NICOLAI e T. DELLA-VEDOVA. Milano: Tipografia del Riformatorio Patronato. 1895.

THIS is merely an annual report of the nose and throat service in an institution with which the editors are connected. They appear to have followed modern methods in their labors, and to have worked up their clinical cases with commendable thoroughness.

INJURIES AND DISEASES OF THE GENITAL AND URINARY ORGANS. By HENRY MORRIS, M.A., M.B. Lond., F.R.C.S.; Surgeon to, and Lecturer on Surgery at, the Middlesex Hospital; Member of the Council and of the Court of Examiners of the Royal College of Surgeons, England; Examiner in Surgery in the University of London. With ninety-seven illustrations. New York: William Wood & Company. 1895.

THE author regards this volume as, in a way, a continuation of his book on the "Surgical Diseases of the Kidneys," and has followed the general plan adopted for that work as more suitable to the wants of the practitioner and student than the arrangement by clinical lectures.

The details of technique will not be found so fully discussed as the principles upon which operative procedure is based. While generally accepted plans of treatment are given and described, the author's own convictions, based upon long experience, are always made prominent. While many of the illustrations have been especially prepared for this work, others may be recognized as having served in the "Manual of Surgery," edited by Mr. Treves, but all, not otherwise credited, were originally made under the author's direction from the Middlesex Museum collection.

There are fourteen chapters on diseases of the genital

organs, twenty-one on the genito-urinary, and twelve on those of the urinary bladder. These make up a very practical manual, from which we can gain an excellent idea of our present knowledge of these subjects.

It is not intended for the expert operator in genito-urinary surgery, but rather as a guide to him who would become such, or to the student who must prepare himself upon this branch of medicine. The specialist must, however, read the author's views upon many of the topics with interest, especially those pertaining to stricture and its cure, diseases of the prostate, etc.

One advantage of this work over some that have recently been produced is that it can be held in the hands, and the reader is not forced by the avoirdupois to absorb his knowledge bent over a table.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES.

By JAMES NEVINS HYDE, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College; Dermatologist to the Presbyterian, Michael Reese, and Augustana Hospitals; and Consulting Physician to the Hospital for Women and Children, Chicago; and FRANK H. MONTGOMERY, M.D., Lecturer on Dermatology and Genito-Urinary Diseases, and Chief Assistant to the Clinic for Skin and Venereal Diseases, Rush Medical College; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. With forty-four illustrations in the text and eight full plates in colors and tints. Philadelphia: W. B. Saunders, 925 Walnut street. 1895.

THE collaboration of these authors has resulted in an attractive manual which covers the ground while not exhausting it. The introduction begins on page 17 (just why it should not be page 1 or page 9 is not clear), syphilis is considered in the following 267 pages, and the remaining 313 pages, exclusive of index, are taken up with the various venereal disorders, including stricture and its treatment. Five of the eight plates are colored, two showing tongue lesions after Hutchinson.

The frontispiece would most likely startle the non-professional seeker after knowledge who might casually open the volume. It shows an "initial sclerosis of the penis"—with less sclerosis than penis.

One always expects a slight shock from some part of a volume on this subject, but it doesn't always come upon one with such premature suddenness.

It is not because of a lack of venereal works that the present was undertaken (the authors acknowledge their indebtedness to many recent ones), but the manual is designed to meet the wants of the student and busy practitioner, and it does it in a worthy manner.

We would suggest that in a future edition (may there be many) something may indicate whether the red or the blue, or both, are the strepto-bacilli of Ducrey in plate 7, or why some are colored blue and others red.

On page 291, it seems to us, a faulty use is made of the term "male prostitute." So far as we remember, this term was first employed, in recent times, to designate the genital pervert who offers himself to infamous practices for hire, and it has since been used by writers in this sense. To make it apply to all men who have occasional intercourse with prostitutes is not consistent with the etymology of the word.

A VOICE IN THE WILDERNESS. By MARIA WEED.

Chicago: Laird & Lee. 18mo, pp. 224.

THIS little book is the story by a woman of a woman who had been taken captive by morphine. It is another "tale of the poppy," and it points a moral that well adorns.

It has the merit of freedom from that hyperbole which so often pertains to authors of this class, and of being exceptionally correct—from the standpoint of a medical writer—as regards the cause and ethics of a disease (not a habit) that has brought more of sorrow than the world will ever know.

Helen Mathews, whose wail is the "Voice in the Wilderness," was the victim of a railway accident, and to relieve the agony from which she suffered the drug was given, and history repeated itself.

The outcome was not at all surprising: it is the almost inevitable sequel of such a situation. The author says, "the bravest have succumbed to its influence;" and she is right. The man or woman does not live, who, under certain conditions, can stand up against the power of morphine.

The added sorrow of the hapless sufferer who realizes her

prostrate will—direct result of the direful drug, her impotent resolve, and that "cruelty of ignorance" which makes those who are otherwise friends look askance on so-called "moral lepers" such as she, is well depicted. So, too, is emphasized the wise counsel that placed her under special care.

PRINCIPLES OF SURGERY. By N. SENN, M.D., PH.D., LL.D., Professor of Practice of Surgery and Clinical Surgery in Rush Medical College, Chicago. Second Edition. Royal octavo, pp. 656. Cloth. The F. A. Davis Company, Philadelphia.

THE second edition of this work appears with a revision of its entire contents and with several important additions, principally in the direction of elaborating the more essential principles of surgery relating to the etiology and pathology of surgical diseases.

Aside from references to the more recent advances in surgical pathology, there is added a description of the technique of the more important operations, together with the application of general principles to special pathological conditions. It is in this latter respect that the work as it was and as, in its improved condition, it now is, gives ample evidence of the painstaking character of the author's efforts in keeping it fully abreast of the advanced thought of the day. The minute and intelligible description of pathological processes, and their direct relations to bacteriological influences, make an especially distinguishing feature of the treatise which cannot fail to impress every advanced student and every progressive practitioner.

MANUAL OF GYNECOLOGY. By HENRY T. BYFORD, M.D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago. Philadelphia: P. Blakiston, Son & Co. 1895.

THE work before us is safe, practical, and concise. It is intended mainly for advanced students, and does not go into great detail, especially in matters of a controversial nature. Within this scope aimed at by the author, modern gynecology has once more received adequate treatment at the hands of an author competent to give it.

NOTES ON SURGERY FOR NURSES. By JOS. BELL, M.D., F.R.C.S., Edinburgh. Fourth Edition, Revised. Oliver & Boyd, Edinburgh. 1895.

THIS brochure of 175 pages is the outcome of conversational lectures to the nursing staff of the Edinburgh Royal Infirmary. It is attractively written, and is abounding in hints to the conscientious nurse. Much of the matter is such as of old was the property of the assistant of the surgeon and appealed directly to the visual sense.

In the work, cleanliness, accurate observation, and truthfulness are insisted upon; diagnosis and pathognomonic symptomatology also receive their share of attention. The concluding chapter on "General Advice to Nurses," ethical in tone, abounds not a little in worldly wisdom. The treatise, on the whole, is a handy *vade mecum* to be consulted off and on in moments of leisure with pleasure and profit.

CATARRHAL DISEASES OF THE RESPIRATORY PASSAGES. By J. M. G. CARTER, M.A., M.D., Sc.D., Ph.D. E. H. Colgrove & Co. 1895.

THE author, who some years ago was reporter at Waukegan for the Illinois Weather Signal Service, began a study of facts brought immediately under his notice, and gradually availed himself of accredited statistics from numerous sources.

The field is a wide one, and is well covered by an intelligent appreciation of the wider aims of etiology.

LABORATORY MANUAL OF INORGANIC PREPARATIONS. By H. T. VULTÉ, Ph.D., and GEORGE M. S. NEUSTADT. New York: Geo. Gottsberger, 11 Murray Street. 1895.

THE book introduces the student into practical work in the field of inorganic chemistry. It gives explicit descriptions of synthetic work, and shows how compounds, often very complex in character, rare in occurrence, or expensive in preparation, may be produced from simple substances, or from those which are comparatively plentiful and cheap. The book is designed to train the student to prepare his own reagents and to test them for the customary impurities.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN GENERAL MEDICINE.

Regular Meeting, Tuesday Evening, January 21, 1896.

DR. W. H. PORTER, CHAIRMAN.

Theory and Treatment of Rheumatism.—DR. LOUIS FAUGÈRES BISHOP read the paper on this subject (see page 150.)

The Clinical Aspects of Rheumatism.—In opening the discussion, DR. WILLIAM H. DRAPER said it was hardly necessary to remark that each one could affirm from his experience that it was hard to find a more difficult subject to present than that of rheumatism. It was well to remember that the name rheumatism was applied to an articular lesion. It had seemed proper to him to classify the lesions under three heads: first, the neuropathic; second, humoral; third, bacteriological. He had seen all the neuropathic forms in rheumatoid arthritis, etc., and he thought there could be no doubt as to the applicability of the term to these lesions. The second, humoral, embraced many cases in all probability due to imperfect metabolism of food. The bacteriological forms could be recognized without difficulty from their similarity to some of the essential fevers. Dr. Draper said one striking fact, which led to the conclusion that acute rheumatism was bacteriological, was its epidemicity. While rheumatism was not often seen as an epidemic, he thought there was no doubt that it sometimes presented some of the symptoms. Articular rheumatism was affected by seasons and was seen more frequently some years than others. These variations of time of year, etc., could only be explained by supposing it a disease of bacteriological origin. There was no reason why a neuropathic rheumatism should appear more in one year than in another, or more at one time of year than at another, nor would those due to blood change be likely to occur more at one time than at another. It was known that typhoid and many other diseases were more frequent after long, dry spells followed by rain, and it had been shown by some that it was the same with rheumatism.

From the clinical side, acute articular rheumatism was much like the infective diseases. The onset was similar, and the course was often irregular, with recurrences which are not so common since the use of the salicylates. He thought the occurrence of hyperpyrexia was more likely to accompany an infectious disease than an ordinary inflammation of a joint. The blood changes were analogous to those of other infective fevers. Then, rheumatism, like other infectious diseases, was not always confined to articular surfaces, but was found in connection with visceral lesions, such as endocarditis, which shows there was a cause that was general and constitutional. He had often been struck with the resulting anæmia and thought there was no disease perhaps in which the resulting destruction of the corpuscular elements was so extensive. This seemed to indicate some general cause, as in the other infectious diseases.

There were deductions to be drawn from the treatment. The lactic acid seemed to be more a result than a cause, and the alkaline treatment based upon it as the cause of the disease had been abandoned long since, yet alkalies were serviceable with the salicylates, but ineffectual in curing the disease. He thought the success of the salicylic-acid treatment confirmed the idea that the disease was due to a specific cause, for it was known from experience that its administration was nearly as effective in relieving the

pain and the fever as quinine in malaria, or the iodide of potassium in syphilis.

The so-called hybrid cases seemed sometimes almost to force us to conclude there were two poisons in the system to produce the conditions. We often met cases which seemed to be cases of generalized gout, and we have seen symptoms that made us think there was a rheumatic element. He suspected these were cases of rheumatism of a mild degree, as both mild and severe forms were seen in many diseases, as in the gripe. It was not unlikely the germinal powers of rheumatism could produce slight effects, and slight attacks might occur as well as severe ones. He did not believe gout was incompatible with rheumatism, and a gouty person might be rheumatic.

In all the infectious diseases we had to consider the resistance in the individual to the disease-producing cause, and this consideration might help to explain many cases of rheumatism, especially in the deformed joints of the old.

DR. ROBERT W. TAYLOR said he had for years looked upon lactic acid as one of the results in rheumatism. Twenty-five years before, he had demonstrated to a class lactic acid in the blood from a rheumatic patient, but then thought it might be the ashes of the disease instead of the cause. Dr. Taylor said that by contrasting rheumatism and gonorrhœal rheumatism some deductions might be drawn. The gonorrhœal rheumatism was known to be an infectious disease. The gonorrhœal form did not jump from one joint to the other, the fever was less but always present, in both there might be heart affection, the general effects were the same on the system, in both there might be purpuric spots, and in both eye affections sometimes occurred. There was a distinct parallelism between the two. He had seen six cases at least in which the symptoms complicated syphilis. In these three diseases there was but one in which there was known to be a micro-organism, yet it was generally agreed that syphilis was due to a micro-organism, and it would be reasonable to conclude that rheumatism was also. It was said the intestines were the seat of many microbes which were saprophytic but not injurious. Some of these had active influence in the process of digestion. Is it not possible that some of these take on a pathogenic form and secrete a poison? Acute rheumatism often looked like a series of poisonings; thus, one day a joint was seriously affected and the next it was well, but another was affected. He offered this only as a suggestion, as he could think of no other seat of the disease than the intestines. The word rheumatism was used for many conditions and some of these he thought were due to a deep-seated urethritis.

DR. BEVERLY ROBINSON said he would ask the gentlemen to listen to his remarks as simply arising from experience. He was most interested in Dr. Draper's remarks on so-called hybrid forms of rheumatism. His clinical experience did not always correspond to what the books said. He often found cases in which the urine was that of rheumatism, but in the condition of the patient there was more of the gouty than rheumatic state. He had patients who never yielded to any form of treatment except colchicum, and yet bore the appearance of rheumatism. These were not affected by the salicylates, change of climate, or diet, but colchicum gave relief. He often found the urine left one in doubt as to whether he should expect gout or rheumatism.

Dr. Robinson said he thought all agreed that the lactic-acid theory was not sufficient, but lactic acid was an attendant upon the condition and not the cause. He did not think it was best to give large amounts of the salicylates, for they had a depressing effect upon the patient, and he did not get as good re-

sults as he did from smaller doses. It was well also to combine a little colchicum with the salicylates. He had used chloride of ammonium and acetate of potash, ten to fifteen grains each every two hours, with good results. In the treatment of the subacute forms of rheumatism he thought it was often best to resort to surgical means and immobilize the joint, even with plaster-of-Paris; especially was this true of the knee and ankle joints. Massage helped at times, but often he had been sadly disappointed in the results. The sending of patients to watering-places often did good, and one of the best places in the United States during the summer time was the hot springs of Virginia.

Dr. W. H. THOMSON said that while Dr. Bishop was reading his paper he thought of the condition of the profession previous to 1880, regarding the cause of tuberculosis; how, if it had not been for the bacteriological advancements since that time, doubtless the profession would now be discussing the etiology from symptomatology and pathological lesions without approaching the real cause. He thought the same might be applied to the discussion of rheumatism. He thought such would be the condition in regard to rheumatism until experimental medicine came to their aid. He was not sure whether it would demonstrate it as due to a micro-organism or to a leucomaine, as gout was. Reasoning by exclusion lent some aid. In the first place rheumatism was not gout. Acute rheumatism was a disease of childhood and early adult life; moreover, in early life the poison was particularly dangerous, more so, as a rule, than in adult life because of the slight joint affection, which might also endanger the heart. It might also act on the nervous system, as well producing chorea. The liability to a first attack of rheumatism decreased after the age of thirty, and after forty it did not occur as a primary attack. Gout was delayed generally until the individual was thirty before it developed as a true attack of gout. Gout was mono-arthritis on its first visit, and might not leave the joint attacked for several years. Not until it had attacked the knees did it become generally distributed through the joints. Rheumatism was generally polyarthritic from the beginning, and more likely to be so in the first attack than in the others. Dr. Thomson said he could differentiate between rheumatism and gout by the pulse. In gout the pulse was incompressible, the artery full, showing some disturbance in the arterioles due to an insoluble poison in the blood. In rheumatism the pulse was distinctly compressible, showing that the poison in the blood was soluble.

There was a difference in their anatomical lesion. Rheumatism attacked the heart and serous membranes, especially the pleura, primarily, but when gout attacked the heart it was secondary to arterial disease when the heart was already worn out.

Gout caused gouty bronchitis, so for a long time it had been the custom to give colchicum for bronchitis. On the other hand rheumatism generally avoided mucous membranes. In gout there were likely to be kidney lesion and deposits in the cartilage of the ears.

The two were certainly not related clinically or pathologically. When gout visited a joint it left its card there, but in rheumatism, if any other condition caused such apparent trouble in a joint, we would think it time for the surgeon to interfere, but the next day there might be no sign, and an autopsy would reveal no lesion. The points of tenderness were not the same in gout as in rheumatism.

Dr. Thomson said he lived at one time in a country where there was no gout except among a few English, or priests who used wine. The people being Mohammedans, they were not allowed to drink wine. In America previous to the introduction of lager beer gout was an aristocratic disease, but lager beer had

done away with this aristocracy, and now it was as much an American disease as an English one. In Scotland more whiskey was drunk than in any other country, but the Scotch were not gouty, while in England, where much beer was drunk, gout prevailed. Gout followed closely the use of fermented liquors.

In considering the etiology of rheumatism, it should be remembered that it prevailed wherever people were likely to be chilled while wet. When the skin was not chilled when the person was wet, rheumatism was not likely to occur. There were two countries where rheumatism prevailed endemically, in Scotland, where there was much dampness and wind, and in Arabia, where the atmosphere was intensely hot and dry. The reason it prevailed in Arabia was that the heat was intense during the day, but the radiation at night made it very cold about two or three o'clock in the morning. Persons going to bed perspiring from heat were thus chilled while wet. He thought Arabia justified the opinion that the skin had as much to do with the cause of the disease as anything else. Might it not be that the skin maintained a necessary balance between the atmosphere without and the blood within, and a disturbance of this relation produced the untoward results? Why was it there was local rheumatism? He had seen cases of local rheumatism brought on by exposure to cold of the part alone.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninetieth Annual Meeting, held at Albany, January 28, 29, and 30, 1896.

ROSWELL PARK, M.D., OF BUFFALO, PRESIDENT.

TUESDAY, JANUARY 28TH.—*Morning Session.*

President's Inaugural Address.—The ninetieth annual meeting opened with unusually bright prospects. Recently there had been organized a world's congress of climatology and the secretaries of State medical societies had been requested to appoint delegates, and this had been done for New York by Dr. Curtis. The first meeting is to be held at San Antonio, Texas.

The profession was to be congratulated on the continuance of the *Index Medicus*.

The growing importance of the medical department of the State Medical Library deserved attention. With some difficulty an appropriation of five thousand dollars was secured from the legislature last year, and this amount ought to be appropriated every year.

Representation from incorporated medical societies was now liable to abuse.

The president urged upon the members the importance of hastening by all judicious means restoration of former relations between this society and the American Medical Association. Opposition to this was now continued by only a few individuals. A change of meeting-place was recommended, there being many reasons for selecting the metropolis in preference to the capital. Dr. Park also thought meetings should be held at times in the western part of the State. There should be a radical change in the new law relating to instruction on alcohol and tobacco in the schools of the State. Another subject for legislation was the coroner system. The profession should have the protection of the law against unjust suits, for nearly all malpractice suits were unjust.

There was a growing tendency on the part of the State Commission in Lunacy to assume all responsibility and secure centralization of all power of management of institutions in the State. The personnel of the commission was liable to be changed at any time, and as no one knew of whom it might be composed it became

evident that great abuses might creep in. If it obtained the power sought it would have the direction of the expenditure of four or five million dollars a year.

On motion of DR. LUCIEN HOWE, the recommendations contained in the address were referred to a committee of five. The president appointed the committee, with Dr. Howe as chairman.

Reports.—The secretary, DR. F. C. CURTIS, in his report read a list of newly-made permanent members. DR. PORTER, treasurer, stated that there was a balance in the treasury of over twenty-two hundred dollars.

By-Laws.—The committee on by-laws recommended only one delegate from incorporated societies, the membership of which should be at least fifteen. Adopted. Some other unimportant recommendations were made.

No complaint had been presented during the year for consideration by the committee on ethics.

Prize Essay.—DR. A. JACOBI read the report of the committee. One essay of value had been received, from which extracts were read. It was on diseases of the stomach. The prize was awarded to this author, whose name proved to be Dr. A. L. Benedict, of Buffalo, N. Y.

Duties of Nurses in Cases of Ophthalmia Neonatorum.—DR. LUCIEN HOWE read the report of the committee on this subject. The committee had called the attention of midwives and others to the existence of the present law for the prevention of blindness. It was recommended that the law of 1891 be made more definite. The matter was referred to the committee on legislation.

To Regulate Midwifery.—DR. M. D. MANN brought up the question of county examinations of midwives, and a special committee was appointed to draft a bill similar to that which had applied to Erie county since 1885.

A Local Remedy for Psoriasis.—DR. L. D. BULKLEY, in a paper of five minutes' duration, called attention to permanganate of potassium, one to two per cent. solution, as a means for relieving local pruritus. A patient had called his attention to its value two years ago. Of course it was not intended to replace dietetic and hygienic measures.

Water and Its Relation to Disease.—DR. W. P. MASON, of Troy, read the paper. Mechanical reduction of turbidity, as by silk, was of some efficiency. The influence of minerals in water was of interest, but by far the most important cause of disease was bacteria. A cholera outbreak at Messina, Italy, witnessed by the author, was suddenly checked when contamination of the water supply by washing clothes in it was stopped. A fellow-student in Pasteur Institute experimenting with cholera germs took the disease from a cigar. The increase of typhoid fever after floods was not due, as stated by Pettenkofer, to rise of water in wells, but rather to its prior lowness. From a pecuniary point of view it was much cheaper to a community to furnish a healthy public water supply than to lose so many able-bodied citizens by a preventable disease.

DR. L. S. PILCHER, of the committee on hygiene, discussed the paper, and opposed a bill before the legislature prohibiting the cutting and sale of ice on all rivers throughout the State. While the ice from certain localities on rivers might be impure, such sweeping legislation would be very unjust and injurious.

DR. A. JACOBI called attention to the tendency of running water to purify itself, particularly when forming ice, by settling of impurities, etc.

DR. G. V. R. MERRILL said that in Chemung County there had been remarkable freedom from typhoid during a dry spell, with an outbreak after rains. Three bacteriological examinations reported typhoid germs in the river water. Now ice was being cut; was this safe?

DRS. BAKER and SHIPP opposed legislation excluding sale of all ice from rivers.

DR. H. S. DRAYTON from examination knew of the impurity of Passaic River water, yet during the past summer, while it was low, typhoid fever had been unusually scarce in Jersey City, which got its water from the Passaic. He mentioned it as a hygienic vagary.

After some further discussion the resolution of the committee on hygiene was declared out of order.

Sepsis of the New-Born.—DR. M. A. CROCKETT, of Buffalo, in this paper mentioned as sources of infection in the new-born the umbilicus, lungs, etc. The umbilicus was the chief source of infection. The symptoms were often obscure, but various. Rise of temperature was an important one.

DR. A. JACOBI mentioned as roads of infection the umbilicus (the chief one), the skin, especially when roughly rubbed with impure soap, the lungs, the mucous membrane of the mouth, which was very tender and often injured by cleansing with the nurse's (dirty) hands; swallowing germs; infection through the anus.

Rise of temperature was often observed in the new-born without other symptoms.

The Question of Puerperal Self-Infection.—DR. CHARLES JEWETT in this paper gave the results of his own observations and of those of others in private practice, and of hospital practice in Brooklyn and New York, regarding vaginal and non-vaginal irrigation before and after labor. The conclusion arrived at from these observations, and more especially from the parallel experiments in the two ways by Leopold and others, was that the vaginal douche in healthy women before labor was contraindicated and added slightly to the mortality. If there were vaginal pus before labor, the canal should be cleansed. Strict external antisepsis and asepsis were highly important.

A Medico-Legal Note.—DR. A. WALTER SUITER in this paper referred to a medico-legal case, in which he had expressed the opinion in court that a bullet exposed to light heat while passing through air, etc., is aseptic. He now admitted this opinion was a mistake, as had been shown by experiment. Bullets were not necessarily aseptic.

FIRST DAY—Afternoon Session.—The report of the committee on hygiene in opposition to the bill condemning sale of all ice cut from rivers was adopted.

Report of the Committee on Legislation.—DR. MORRIS J. LEWIS read the report. One portion of it, he said, was a compromise. It recommended that students entering medical colleges be allowed one year in which to fulfil their academic requirements for admission.

DR. A. JACOBI opposed this part of the report and on motion it was stricken from the report.

Shall the State Attempt to Control Spread of Tuberculous Disease?—DR. J. L. HEFFRON, of Syracuse, read the paper. His conclusions were: 1. Tuberculosis is an infectious, preventable, and curable disease. 2. The State should attempt regulation. 3. A circular of facts relating to these points should be sent to patients. 4. Instruction should be given in schools, etc. 5. Owners of halls and conveyances should be compelled to take measures to prevent infection, and to use disinfection where contamination had occurred. 6. The hopelessly sick, and the vicious who would not obey rules of prevention, should be isolated.

DR. A. JACOBI coincided with the conclusions of the author. The fear of centralization was less strong in this country than formerly. It was but a step from State control of diphtheria and scarlet fever to like control of tuberculosis. It was now applied to barracks and prisons, why not to schools? In Italy and some other European countries insurance companies found it to their advantage to pay expenses in sanitaria

of the insured suffering from tuberculosis. Would it not repay the State to do the same?

DR. E. J. BRUSH, of Mt. Vernon, thought it was confusing to physicians and the laity to connect tuberculosis with diphtheria, scarlet fever, and other acute infectious diseases. The latter had a definite and short period of incubation. One might be infected with tuberculosis and not develop symptoms for years. He had once read a paper showing that the only countries free from tuberculosis were those where the cow was not domesticated. Further, he had shown that the normal temperature of the cow was 102° F.

It was only when the human subject attained a temperature of this grade that the development of tuberculosis was favored, provided infection had taken place. It was a mistake to place too much stress on sputa in halls, etc.

Discussion on Early and Latent Syphilis in Infants and Young Children.—DR. GEORGE T. ELLIOTT, of New York, opened the discussion. Hereditary syphilis might show symptoms at birth, or not until after three or more weeks, or much later. Syphilitic stigmata at birth were general marasmus, look of old age, snuffles, coryza, and lesions of syphilis. Lesions developing in healthy-looking infants a few weeks after birth were apt also soon to be followed by the general signs of marasmus. It was not possible to divide cases, as in the adult, clearly into secondary and tertiary. The individual symptoms in the nature of bullæ, condylomata, mucous patches, etc., were considered, more especially in differentiating from certain skin affections, as psoriasis or urticaria. Syphilis of bones was apt to show rounded enlargement of the ends, perhaps separation of the epiphysis, and ulceration with skin lesions. After the development of the second teeth the Hutchinson teeth, notching of the middle incisors, pointed to syphilis.

Nervous Manifestations.—DR. B. SACHS, of New York, read a paper on the nervous manifestations of syphilis in children. The evidence pointed plainly to the fact that cerebro-spinal syphilis was an extensive disease with light intensity. In two hundred cases of infantile palsy syphilis was the cause in but one. Syphilis was an infrequent cause of idiocy. The lesions were of the pia and vessels, gumma of brain or cord, myelitis following lepto-meningitis.

DR. L. D. BULKLEY read some notes. While syphilis was on the increase in this country, he saw less of hereditary syphilis in infants, and attributed the decrease to early recognition of the disease and treatment by family physicians, and to prevention of conception by those having syphilis. Treatment should be persisted in, as in the adult, after disappearance of symptoms. This consisted of the use of mercurial ointment, diluted one-half, under the bandage, and iodides, especially iodide of iron in syrup.

DR. MAER, of New York, related a case of difficulties in diagnosis, except for physical evidence (nasal), of syphilis in three generations.

DR. E. D. FISHER agreed with Dr. Sachs that it was difficult to say a given case of cerebral hemiplegia was syphilitic or due to hemorrhage. It could be explained by compression or meningeal hemorrhage.

The Equilibrium Function of the Ear.—DR. GAYLORD P. CLARK, of Syracuse, in this paper showed specimens and discussed the equilibrium function of the ear, based on experiments on the dog-fish, etc., and reports of cases of disease in man. The evidence was that the ear was a compound organ, with two circular canals on each side; that they functionated in pairs, and their primary purpose was to maintain the equilibrium of the body in turning, etc. Disease in man went to show a similar function, and that audition originally was only secondary. Otolithic structure of the ear likewise confirmed this view.

Discussion: Diseases of Intra-Uterine Life.—DR. EGBERT H. GRANDIN opened the discussion with a paper on the transmission of disease to the fœtus through the mother. The subject was involved in much obscurity. There was little evidence of a positive nature, yet experiment and observation had shown that the various infectious diseases could be and had been transmitted from mother to fœtus in utero. Among those mentioned were variola, scarlet fever, and erysipelas. He had found but one case recorded of transmission of tuberculosis, and few cases of septicæmia. The facts regarding syphilis were well known. Only one disease of this class had not been transmitted as far as known—anthrax.

The second part of the paper considered theories as to how transmission occurred. The two principal theories were, transmission through blood-vessels, transmission through lymph channels. The theory which seemed to the author the more likely was that of transfusion or migration of leucocytes through the placenta, which stood between the circulation of the mother and that of the child.

Eclampsia and Uræmia.—DR. P. W. VAN PEYMA, of Buffalo, in a paper on this subject arrived at the generally accepted conclusion that the active agent in eclampsia and uræmia was a toxic agent. By uræmia was no longer meant poisoning by urea. Regarding the nature of the toxic agent, the urine in jaundice was especially toxic, in eclampsia less toxic than normal, while the blood serum was more so. The bile was six times more toxic than the urine in jaundice. Methods of treatment had been based on the toxic theory. But the amount of toxic principles removed by increasing urinary secretion, catharsis, and sweating was limited. More was removed by abstracting blood, but venesection had not given results hoped for. There was some recent experience favoring diluting the poisonous blood by saline injections, and these favored removal by diuresis and diaphoresis. The author also discussed the value of medicinal agents—veratrum, morphine, etc. Pilocarpine was condemned, as well as over-medication by chloroform, etc.

Medical Education of the Future.—CHARLES W. ELIOT, president of Harvard University, delivered an address on this subject. The medical education of thirty years ago was contrasted with that of to-day. Passing to the advancements made in medical knowledge, he said they related chiefly to diagnosis, prevention, asepsis, and bacteriology. Medical education of the future would begin with preparation from the sixth year and graduation not before the twenty-fifth. Physicians should interest themselves in the public schools, and see that the course of study be of a nature to prepare children and youth for the practical affairs of life. The example of Johns Hopkins in demanding high educational qualification as preliminary to the study of medicine was commended.

President Eliot was tendered a vote of thanks for his most interesting, instructive, and brilliant address.

FIRST DAY—Evening Session.—Report of State Board of Medical Examiners.—DR. MORRIS J. LEWIS, of New York, read the report. During the year there had been 603 examinations, 8 before the eclectic board, 63 before the homeopathic board, 582 before this board. Licenses granted, 482; rejected, 171. The eclectics rejected 1, or twelve per cent.; homeopaths 8, or twelve per cent.; State board 162, or twenty-seven per cent. Many States had passed laws based on ours. Most State boards accepted a license granted by the New York board. It would be highly desirable if other States would adopt as high a standard as this, in order that licenses granted by them could be accepted here.

Since the last report most of the medical colleges in New York City had extended their course to four years, and soon, doubtless, this would be true of all

colleges in the State. The report was received and adopted.

Tetanioid Hysteria.—DR. GRACE PECKHAM, of New York, read a paper giving the histories of four cases of tetanioid hysteria, or possibly it should be called hysterical tetany, as the pathology of both tetany and hysteria was unknown. The diagnosis rested solely on the symptoms, and these were proteid and more or less similar in both. Pictures illustrating the contractures were shown. When the pathology was discovered the cases could be properly classified.

Treatment of Malignant Diseases in So-Called Cancer Institutions.—DR. NATHAN JACOBSON, of Syracuse, in this paper showed what looked much like charlatanry practised by certain so-called cancer institutions. They sent out circulars claiming that surgeons admitted their inability to cure cancer by the knife, that this treatment hastened the disease, while by escharotics, etc., these cancer specialists cured nearly all. Dr. Jacobson had been given the statistics of cures in one of these institutions by the husband of a patient. The institution claimed to cure cancer of the breast in severe cases in from three to five weeks. Yet ten cases there averaged eight months and all died. During their stay they simply underwent torture. Then the institution admitted many cases which were not cancerous.

The remarks in Dr. Jacobson's paper received the warm endorsement of Dr. Bulkley, Dr. Ely, Dr. J. N. Goff, and Dr. Schaffer. They had known of patients with cancer entering such places only not to return, while many patients admitted had no malignant disease at all.

Alcohol and Public Health.—DR. H. R. HOPKINS, of Buffalo, in some remarks on this subject condemned the recent addition to the law passed ten years ago, whereby it now was compulsory to give instruction in the public schools on alcohol and tobacco.

It was teaching pseudo-science, and tended to increase the long list of cranks.

DR. A. W. SUITER endorsed the remarks of Dr. Hopkins, and gave notice that he would offer a resolution in business session to-morrow, recommending the abolition of the law.

The Evolution of Pathology.—The last hour of the evening session was taken by DR. J. H. HUNT, of Brooklyn, in showing lantern slides of the fathers of medicine.

WEDNESDAY, JANUARY 29TH—*Morning Session.*

Report of Committee on President's Address.—DR. LUCIEN HOWE, chairman of the committee, read the report. It approved of the appropriation by the State of \$5,000 to the Medical Library, and recommended this amount as an annual appropriation. It recommended a "travelling" library; also efforts to establish harmony between this society and the American Medical Association; and that a special committee on expert medical testimony be appointed by the president. These recommendations of the committee were adopted. A long discussion took place on the question of holding meetings in Buffalo, N. Y., and elsewhere, and finally the matter was laid on the table.

Expert Testimony.—The committee on expert medical testimony reported through DR. RANSOM in favor of legislation directing the appointment of experts by courts, their duties to be advisory, and their reports to be made to the court, etc.

The report was adopted and the committee on legislation instructed to make efforts to secure the desired legislation.

Work of Health Boards Endorsed.—DR. VAN CORN, of Brooklyn, recited the benefits to the public of the work of health boards regarding vaccination,

infectious diseases, etc., and yet, he said, there had been suits brought against physicians for doing their duty. He offered resolutions approving of work of the boards. Adopted.

Regulation of Cancer Institutions, etc.—DR. L. D. BULKLEY offered the following, which was adopted:

"Whereas, Serious evils have often resulted to the people and profession from the existence and operation of private medical institutions for the treatment of cancer and other diseases;

"Resolved, That the committee on legislation be directed to secure, if possible, the passage of a bill by the legislature placing all such institutions under the care of the State Board of Health, in the same manner in which all private institutions for the care of the insane are under the care of the State Commission in Lunacy."

Alcohol and Narcotics.—DR. A. W. SUITER offered the following which was adopted:

"Whereas, This society is ever mindful of the evil results to individuals and to the community of the abuses of stimulants and narcotics, and is ever ready to co-operate with and encourage intelligent efforts to prevent such abuses; and

"Whereas, This society is familiar with the recent attempt to force upon our public-school system the task of teaching our children the chemistry, the toxicology, and the pathology of alcoholic stimulants and narcotic habits; and

"Whereas, The society is in entire sympathy with the probable motives of the promoters of this law, but has profound consideration of its inexpediency; therefore, "Resolved, That the committee on legislation is hereby instructed to bring about the repeal or essential modification of the law relating to this subject."

Index Medicus.—DR. MILE, of Brooklyn, offered a resolution, favoring the publication of the *Index Medicus* by the national government. Carried.

Committee on Nominating Member of State Board of Medical Examiners.—THE PRESIDENT appointed Drs. F. C. Curtis, James D. Spencer, Charles Jewett, L. D. Bulkley, N. Jacobson.

This committee later recommended Drs. Fowler, of Brooklyn, and Wey, of Elmira; alternates, A. Walter Suiter and Willy Meyer.

Vaginal Hysterectomy by Clamps.—DR. WILLIS E. FORD, of Utica, in this paper described and advocated vaginal hysterectomy by clamps, these being preferred to ligatures. He did not agree with those who regarded hysterectomy as indicated in suppuration of the appendages. Vaginal hysterectomy was most called for in malignant disease.

Complications in Abdominal Surgery Implying Intestinal Anastomosis; Best Method for Operating.—DR. A. VANDER VEER, of Albany, recited three cases as a basis for his paper: 1, Woman with multilocular ovarian cyst of left side, papillomatous cyst of right side. Removal; intestinal adhesions; intestine tore; anastomosis by Murphy button; good recovery. 2, Strangulated hernia; many old and firm adhesions; loop of intestine gangrenous ten inches. Excision; Murphy button for end-to-end anastomosis; good recovery. 3, Laborer, acute interstitial hernia, gangrene of gut and spermatic cord. Testicle removed, intestine resected, etc; Murphy button; the patient died; some gangrene at button.

After discussing mechanical and non-mechanical means of anastomosis, Dr. Vander Veer concluded that in incised wounds of the small intestine or small gunshot wounds we still adhered to Lembert-Czerny or some other form of suture without mechanical device. The Murphy button had been well tested in anastomosis between gall bladder and intestine, between portions of intestine; with best results in the small intestine. There were some real dangers, how-

ever, connected with the button, among them fecal impaction, non-passage, gangrene. Maunsell's operation deserved consideration.

Sloughing Uterine Fibroids After Abortion and Labor.—DR. M. D. MANN, of Buffalo, in this paper related personal experience with fibroids complicating pregnancy, reviewed statistics, and gave conclusions. Personally he had looked upon sterility as the cause of the new growth, not as the result. Was operation necessary at all when pregnancy was complicated by fibroid?

Dr. Mann had in several cases expected to have to do Cæsarean section, but at labor only forceps were required. The danger of infection after abortion or labor was greater than usual where there was fibroid. Out of 597 cases in which nothing was done until labor, there had been 270 deaths. If sepsis developed it was exceedingly liable to involve the tumor, unless vigorous measures were employed. Expectancy was not justified after sloughing of the tumor had been recognized.

Technique of the Improved Cæsarean Section.—DR. H. G. GARRIGUES read the paper. Strict antiseptics, four assistants; incision six inches, equal distance above and below umbilicus; seize uterus by left upper cornu, lift out, close incision partly above; place rubber tube around cervix, crossed but not tied, to be tightened as necessary. Incise uterus in median line, clamp bleeding vessels, avoid lower segment, incision four to five inches; if placenta is on anterior wall cut through it; if waters have not broken avoid soiling peritoneum. Introduce right hand, extract child by head if possible, if not by extremities; tie cord, divide, give child to assistant. Remove placenta if loose, if not insert sutures, but do not tie until placenta, now having loosened, is removed. Cervix should be open; silk No. 4 for deep suture in uterus, finer sutures for superficial, one suture for each inch; peritoneum united by broad surfaces. All sutures tied, elastic ligature gradually removed; abdomen closed. Do not curette uterus. Woman allowed up in three weeks.

DR. W. GILL WYLIE opened the discussion on the several papers, but limited his remarks to choice between vaginal and abdominal hysterectomy. His results had been good with vaginal operation, but he employed it in a much more limited class of cases than Jacobs and some others. Unless the tumors were small and easily reached through the vagina, he would open the abdomen. Morcellation by vagina on large tumors was not practised by Dr. Wylie. In some instances the operation was best started by vagina and completed by abdomen.

DR. BOLDT preferred ligature to clamp when the parts were within ready reach per vaginam. He believed in removing the uterus where the appendages were destroyed. In fixation in carcinoma of uterus, showing impossibility of removing all disease, hysterectomy was contraindicated.

DR. M. D. MANN thought the element of time did not often interfere with intestinal suture in preference to mechanical anastomosis.

DR. W. G. McDONALD showed Eastman's clamp and explained its use in vaginal hysterectomy.

DR. A. H. GOELET thought vaginal operation had only limited application.

DR. GOFFE gave some favorable experience with the vaginal method.

DR. A. T. BRISTOW said many cases of hernia reached the surgeon at a time when quick operation with little manipulation was necessary, and Murphy's button was here of special value.

DR. F. C. CURTIS preferred suture of intestine, unless haste demanded the button. There were weighty objections to the button, especially danger of its falling

into the stomach in stomach anastomosis. Lower in the bowel he had attached a suture to it, passed out through the anus, to secure exit of the button.

Early Diagnosis of Tubercular Kidney.—DR. WILLY MYER, of New York, in this paper, considered only chronic tubercular infection which primarily affected only one kidney. In his personal experience the left organ had been oftenest involved. Up to the time of degeneration of the tubercle there was likely to be no symptom attracting attention, except, perhaps, polyuria. When the case was first seen it might be necessary to make repeated microscopic examinations of the urine before tubercle bacilli were found. Inoculation experiments even might fail. A third test was to inject the patient with tuberculin, and several trials might fail, notwithstanding the existence of tubercular kidney. In the female, Kelly's was the best method for catheterizing the ureters. Caspar's ureterscope was valuable in females as well as in males. After making diagnosis of primary tuberculosis of one kidney alone, the organ should be removed. If allowed to remain, the other organ was likely to become diseased.

The Symptoms and Diagnosis of Indigestion of Starchy Foods.—DR. R. W. WILCOX read this paper. The diagnosis rested upon flatulence, sensory phenomena, constipation, general systemic disturbance, and urinary examination. In treatment, it was especially important to have thorough mastication of food, and drink at meals and much fluid food should be interdicted.

DR. BULKLEY confirmed the importance of avoiding fluids at meals, in order to allow the saliva to partly digest the starchy food.

SECOND DAY—Afternoon Session.—Congenital Dislocation of the Hip.—DR. HALSTED MEYER read the paper on this subject, and presented a patient showing good result of treatment. Hopper's and Lorenzo's open operations had given good ultimate results, and the mortality had been small, but not so small as with the subcutaneous method. These cases of deformity ought not to be sent away without treatment.

Preliminary Examinations.—DR. M. J. LEWIS stated that Dr. Jacobi had withdrawn his objection, which had yesterday led to the rejection of a part of the report of the committee on legislation, and Dr. Lewis now offered a resolution favoring legislation which would permit students entering colleges in the State before the law of 1895 went into effect, whereby the preliminary examination was made more difficult, to take the examination one year after matriculation. This was in order that the law might not be retroactive and do an injustice to students who had already sought admission under the law as it had previously existed, or injure our colleges. The resolution was adopted, after some opposition.

Discussion: Present State of Surgery of the Brain.—DR. E. D. FISHER read the first paper of a series on this subject. We should not be too hasty to operate where no good was to be accomplished. Early in this epoch the desire to operate had led surgeons to interfere in improper cases. Experience seemed to indicate that we could expose the brain to a great amount of manipulation, and even to extensive ablation, without endangering life. Indications were: Traumatism; localized epileptic seizures; athetosis, especially when associated with epilepsy and localizing cortex lesion; tumors; abscess; cerebral hemorrhage, especially meningeal; microcephalus.

The results of operations, according to statistics, were not favorable. One case of traumatic epilepsy, under Dr. Fisher's care, had been cured by operation three years ago. The operation, if undertaken at all, should always be made complete.

DR. M. A. STARR's paper appears in this issue of the MEDICAL RECORD (see p. 145).

The Value of Craniectomy and Its Indications in Conditions of Idiocy and Imbecility.—DR. C. L. DANA had collected eighty cases of craniectomy for idiocy and imbecility: improved, fifteen per cent.; deaths, five per cent.; unimproved, eighty per cent. Where improvement occurred, he thought it due to pedagogic influence.

Surgical Treatment of Epilepsy.—DR. SACHS being absent, Dr. Collins read the paper. Indiscriminate surgical interference was to be condemned. Recent traumatic cases and cases of local epilepsy furnished the classes for interference.

DR. JAMES W. PUTNAM, of Buffalo, also read on craniectomy, and cited one case of remarkable relief of epilepsy and idiocy by craniectomy, performed by Dr. Park. All cases considered, the percentage of improvement was small.

DR. GEORGE WOOLSEY, of New York, related his experience with craniotomy in eight cases. One of traumatic epilepsy was cured, one improved, the rest little benefited, if at all. More could be done in trauma of the skull by way of prevention of epilepsy by operative interference than by way of cure.

Heteroplasty to Cover Defects of the Skull.—DR. WILLY MEYER gave some of his experiences in this line, and recommended celluloid for covering defects in the skull.

DR. JOSEPH COLLINS said we had listened to papers which gave little encouragement in cerebral surgery, but there was one class of cases in which it offered the only hope, namely, cerebral abscess, limited or unlimited by sac—cases found mostly in purulent otitis.

DR. F. S. CREGO thought New York practitioners had gone to the opposite extreme from the position taken by them on cerebral surgery a few years ago. He believed in the middle ground, held by most German and English surgeons and neurologists. He had had a limited experience, with some favorable results.

DR. E. B. ANGEL held views in line with Dr. Crego, and also said he did not think it necessary to resort to heteroplasty, for a fibrous covering formed sufficient to resist injury, unless by puncture.

Treatment of Sciatica with Nitroglycerin.—DR. W. C. KRAUSS, of Buffalo, had had experience with nitroglycerin in seven cases of sciatica—three in private practice, large doses being used, and a cure had been effected in two weeks to three months. While the remedy might not be a specific, it deserved to be tried before other measures, to be replaced if it failed. Congestive headache and flushing of face, which large doses were apt to cause, could be prevented by bromides.

Deficient Excretion from Kidneys not Organically Diseased, in Some Disorders Peculiar to Women.—DR. JAMES H. ETHERIDGE, of Chicago, read an address on this subject. A great many gynecological patients suffered from urinary insufficiency, and by relieving this we could relieve them of many nervous manifestations usually attributed to the pelvic organs. A woman weighing ninety pounds should pass at least five hundred grains of urinary solids daily; one weighing one hundred and eighty should pass eleven hundred grains. To estimate what should be the urinary solids, multiply the last two figures of the specific gravity of the whole urine for the day by the number of ounces voided, and that product by 1.10. If there were a deficiency of solids, there would be a deficiency of urea also.

The urea with the coloring matter constituted about two-thirds of the toxic principle of urine. Of the salts, chlorate of potash was most poisonous, and constituted one-third of the death-producing agents in so-called uræmia (Bouchard). The nervous manifestations in insufficient urinary secretion were the principal symptom. They varied in severity according to the fall of

solids: If to four hundred grains, the symptoms might be slight; if to three hundred grains, the symptoms became more striking; they were serious with a fall to two hundred grains, and threatened eclampsia at one hundred grains.

The gynecologist would find diuretics most efficient in the relief of many of his patients. There was also reason to believe that there was a close etiological relation between renal insufficiency and pelvic diseases.

DR. L. D. BULKLEY had found that many skin affections, and incidentally pelvic and nervous troubles, were relieved by diuresis. Acetate of potash was especially valuable, ten to twenty-five grains freely diluted in water.

SECOND DAY—Evening Session.—Report of Nominating Committee.—For *President*, Dr. James D. Spencer, of Watertown; *Vice-President*, Dr. L. D. Bulkley, New York; *Secretary*, Dr. F. C. Curtis; *Treasurer*, Dr. C. H. Porter; *Committee of Arrangements*, Dr. W. J. Nellis, Dr. W. Hailes, Dr. R. J. Wilcox; *Committee on By-Laws*, Dr. H. D. Wey, Dr. W. J. Harriman, Dr. F. C. Curtis; *Committee on Hygiene*, Dr. H. R. Hopkins, Dr. L. S. Pilcher, Dr. Daniel Lewis, Dr. W. G. McDonald, Dr. O. W. Peck, Dr. Lucien Howe, Dr. A. M. Campbell; *Committee on Legislation*, Dr. A. W. Suiter, Dr. M. J. Lewi, Dr. J. M. Winfield; *Committee on Ethics*, Dr. Charles Jewett, Dr. Eugene Beach, Dr. J. F. Heffron; *Committee on Prize Essays*, Dr. A. Jacobi, Dr. Henry Hun, Dr. M. F. Cheesman; *Committee on Publication*, Dr. F. C. Curtis, Dr. F. D. Bailey, Dr. M. D. Mann, Dr. C. H. Porter; *Delegates to the State and other Societies*: To British Medical Association, Dr. C. L. Dana, Dr. M. A. Starr, Dr. J. P. Boyd, Dr. J. P. Bigelow; to Canadian Medical Association, Dr. A. B. Miller, Dr. C. L. Parkhill, Dr. T. S. C. Van Allen, Dr. G. M. M. Combes, Dr. W. Phillips, Dr. E. H. Bridges, Dr. E. L. Mooney, Dr. P. Collard; to Ontario Medical Association, Dr. M. D. Mann, Dr. Roswell Park, Dr. F. S. Crego, Dr. N. Jacobson, Dr. J. O. Roe, Dr. T. O. Tait, Dr. M. A. Barney, Dr. G. H. Oliver, and a number to different State societies. It was suggested that the secretary be empowered to add to the list of delegates. The report was signed by the following gentlemen of the nominating committee: Dr. M. D. Mann; 1st district, Dr. C. W. Townsend; 2d, Dr. Philander Collard; 3d, Herman Bendell; 4th, Dr. Charles M. Lefler; 5th, Dr. W. A. Vincent; 6th, Dr. D. G. Burr; 7th, Dr. E. L. Mooney; 8th, Dr. F. S. Crego.

THURSDAY, JANUARY 30TH—Final Session.

The report of the nominating committee was confirmed and all the nominees declared elected.

Reorganization of the Coroners' System.—DR. W. G. MACDONALD read this paper. The annual cost of the coroners' system to the State has been over three hundred thousand dollars. Its administration was incompetent. The German system was commended. It consisted of a physician, a surgeon, and a judge for each of several districts.

DR. RUDOLPH WITTHAUS reported for the special committee on coroner's system, acting with the committee on legislation and that of the State Bar Association. They hoped this winter to have a bill passed, substituting for the present coroners' system one whereby a medical examiner is to be appointed by the Supreme Court for each of the several districts.

HON. TRACY BECKER, ALBERT BACH, and HERMAN BENDER warmly advocated the proposed change, and a motion to continue the special committee and appoint an auxiliary committee of twenty-five or fifty was adopted.

DR. BROWNING, of Brooklyn, read a paper on the

development of muscular atrophy on a basis of old infantile spinal paralysis. Disease, poor innervation, unequal development, and cold, were active factors in production of subsequent atrophy.

DR. VEEDER, of Lyons, read a paper on neuritis, complicating dislocations of shoulder and elbow. For treatment, use care in making reduction; subsequently give electricity, massage, etc., for the neuritis.

DR. WILLIAM HAILES, of Albany, reported two cases of difficult perineal and suprapubic lithotomy. Other papers were read by title.

Therapeutic Hints.

Diphtheria.—

No. 1.

℞ Tinct. aconiti.....gtt. xx.
Tinct. belladonnæ.....3 ss.
Glycerini.....3 iv.
Aquæ gaultheriæ.....ad 3 iv.

No. 2.

℞ Potass. chloratis,
Sodii bromidi.....āā 3 ss.
Glycerini.....3 ss.
Tinct. ferri chlo.....3 ss.
Aquæ.....ad 3 iv.

Dose: Half a teaspoonful for an adult.

These are to be given alternately every half-hour, thus bringing the doses fifteen minutes apart.—DOUGLAS.

A Depilatory.—

℞ Iodine.....1.5 grams.
Essence of turpentine.....40 drops.
Castor oil.....4 grams.
Alcohol.....20 "
Collodion.....Enough to make 60 "

Apply every day for three days.

—LESC.

Lobar Pneumonia, Causes of Death In.—1. Death from insufficiency of the pulmonary function. 2. Death from the severity of the infection. 3. Death from complications—meningitis, pericarditis, gangrene of the lungs, etc. 4. Death dependent on heart failure. Here we must differentiate the insufficiency of the heart, weakened and defective, before the beginning of the pneumonia from the secondary cardiac weakness dependent on the pneumonia.—BOLLINGER.

Parasiticide.—

℞ Spirits of camphor.....4.200 grams.
Glycerin.....1.000 "
Essence of turpentine......180 "
Mercury bichloride.....6.000 "

—HALLOPEAU.

Ether Narcosis.—The proposal of Laborde that respiratory movements could be induced, when they had entirely ceased, by rhythmical traction upon the tongue, has called forth a host of testimonials to the success of the method.

Antitoxin.—Bettman says: 1. That the antitoxin does undoubtedly affect favorably a large number of diphtheria cases. 2. That it is the duty of physicians to use the antitoxin early in every case of severe diphtheria occurring in children. 3. That the mortality from diphtheria is destined to be largely diminished by prompt use of the antitoxin.

Loeffler Bacillus.—(1) The Loeffler bacillus was present in each one of the fifteen cases of diphtheria examined; (2) by means of pure cultures of the bacillus there were reproduced false membranes in animals, just as Loeffler had done; (3) With pure cultures paralyzes in animals were produced similar to the post-diphtheric paralyzes in man; (4) The bacil-

lus gives rise to poisonous products which, when injected into animals, produced either death or paralyzes, according to the dose.—ROUX AND YERSIN.

Hay Fever.—

℞ Liq. pot. arsenitis,
Ext. nucis vomice fl.,
Ext. cinchonæ fl. (detannated).....āā 3 vi.
Alcoholis.....3 iij.
Syr. aurantii.....q. s. ad 3 xvi.
M. Sig. One to two teaspoonfuls, taken three times daily, with or after meals.

—HALL.

Chloasma of Pregnancy.—

℞ Zinci oxidi.....gr. vi.
Hydrarg. ammon.....gr. ij.
Ol. theobrom.....3 v.
Ol. rici.....3 v.
Ess. ros.....gtt. xx.
M. Sig. Apply to the face night and morning.

—HARE.

Blepharitis.

℞ Red oxide of mercury.....grs. x.
Vaseline.....3 ss.
M. Sig. Apply to the edge of lid at bed-time.

Or,

℞ Ammoniated mercury.....grs. xx.
Powdered camphor.....grs. x.
Vaseline.....fl. 3 ss.
M. Sig. Apply at night.

Or,

℞ Solution of subacetate of lead.....gtts. x.
Ointment of rose water.....3 iij.
M. Sig. To be used for more chronic forms of marginal blepharitis.

—MITTENDORF.

Insanity.—"He who inherits a predisposition to insanity does not necessarily get it from a parent who happens to be insane—no; not even though his father was insane when he was begotten, or though in madness his mother conceived him. He gets it from where his parent got it—from the insane strain in the family stock."—MAUDSLEY.

Diet in Senile Heart.—1. There must never be less than five hours between each meal. 2. No solid food is ever to be taken between meals. 3. All those with weak hearts should have their principal meal in the middle of the day. 4. All those with weak hearts should have their meals as dry as possible.—BALFOUR.

For Whooping-Cough.—

℞ Bromoform.....gtt. xl.
Rectified spirit.....fl. 3 iv.
Distilled water.....fl. 3 i.
Syrup of tolu, sufficient to make.....fl. 3 iij.
M. Sig. One fluidounce in water every three hours.

—Monatsh. f. prakt. Derm.

For Acne Vulgaris.

℞ Camphoræ,
Acid. salicylic.....āā grs. ivss.—viiss.
Saponis medicin.....grs. xv.
Zinci oxidi.....3 ss.
Sulphur. præcip.....3 iiss.
Olei physeteris.....3 iij.
M. fiat unguentum. Sig. Apply topically at night.

—BOECK.

Herpes Zoster.—

℞ Starch.....3 iv.
Zinc oxide.....3 i.—3 iv.
Camphor.....gr. iv.—gr. xij.
Opium.....gr. iv.
M.

For the accompanying neuralgic pain a pill of the following composition may be administered three or four times a day:

℞ Extract of stramonium,
Extract of hyoscyamus.....āā gr. 1/6
Extract of belladonna.....gr. 1/3
M.

—ROBIN.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEETING OF THE FELLOWS OF THE ROYAL COLLEGE OF SURGEONS—REPRESENTATION OF MEMBERS—ADMISSION OF WOMEN—OBSTETRICAL SOCIETY—RELATION OF THE OVARIES TO OSTEOMALACIA—LACTATION IN RELATION TO MENSTRUATION AND PREGNANCY—A NURSE POISONED BY CARBOLIC ACID.

LONDON, January 10, 1896.

Two rather important concessions were made at the meeting of the Fellows of the Royal College of Surgeons, on the 2d instant, and have occupied the chief place in the conversation of the week. The first resolution adopted was "that it is desirable to give the members of the college direct representation on the council." There was an attempt to define the extent and nature of this representation, but eventually all details were omitted, and this vague resolution carried. It should be understood that the resolution decides nothing. It is merely the expression of an opinion which the council is at liberty to disregard or to discuss. It has, however, some weight as the expression of the views of a meeting to which the council had referred this and other questions for discussion. Of course, there was a protest on behalf of the Fellows who do not like to abate their privileges, but it is satisfactory to find that the claims of justice were recognized in a meeting of the privileged class. It is true that only a small number of Fellows was present, but the meeting being legally constituted and full notice of the proposal having been given, those who stayed away have no ground for complaint. How far the decision would be endorsed if the Fellows were to vote by proxy does not appear, but the members consider they have gained a step and are encouraged to persevere. There are those, too, within the council who are favorable to the representation of members.

The second question was as to the admission of women to the diplomas of the college. Here, too, the advocates of a change were victorious—forty-five Fellows voting for the admission of women and ten against. After their recent rebuff at the sister college, this seems to the ladies a considerable advance and a proof that the struggle will soon end in their complete triumph. The result has been attained by dogged perseverance, and illustrates the adage about woman, "if she will, she will, you may depend on it."

The council will have to consider this subject rather carefully, in connection with the agreement between the two colleges. It is not a question of admitting women to the profession—that has been settled this long time—but, shall they enter through this college? The council would like to take their fees and the consultants encourage them. Whether the general practitioners are anxious to bring in more competitors for their scanty rewards "is another story."

After this vote was taken, there was a general stampede and the meeting came to an end, as the necessary quorum of thirty did not remain.

The Obstetrical Society resumed work on New Year's Day, when a paper by Professor Curatula, of Rome, was presented, on the influence of the removal of the ovaries on metabolism in its bearing on osteomalacia. Experiments were recorded tending to support the hypothesis that the ovarian secretion had a moderating influence on the development of the skeleton, so that their removal would entail a larger retention of organic phosphorus, and, therefore, a greater accumulation of earthy salts in the form of phosphates, until the skeleton should become normally solid. The

injection of ovarian juice in castrated animals increased the elimination of phosphorus, which the operation diminished. It was further stated that the elimination of carbonic anhydride was also decreased by removal, which may assist in explaining the increase of fat which occurs. Considering the relations which have been shown to exist between thyroid and other glandular hypertrophies to disease, we may admit that some influence is probably exerted by the ovaries, though it remains to be seen whether Professor Curatula has shown what the influence is. Dr. Griffiths remarked that on the continent osteomalacia occurs at a comparatively early period. But there are one or two specimens in museums showing that it may occur early in this country, although it is almost exclusively a disease of old age with us. Moreover, it may occur in the male. Mr. B. Sutton said the cases alluded to were changes of a senile kind, and differed greatly from true osteomalacia, which is an acute disease of the child-bearing period of woman's life, but he did not deny that it might occur in man. Dr. Duncan attributed the cases occurring in the young to the results of rickets in childhood.

Another obscure topic was taken up at this meeting, viz., the effects of lactation on menstruation and impregnation. This was introduced by Dr. Renfry, who had collected the history of some nine hundred lactations. The figures seem to support the common belief that lactation renders pregnancy less probable, but not to the extent of prevention. The recurrence or otherwise of menstruation while suckling has an influence on the probability of impregnation. The statistics submitted showed that in only fifty-seven per cent. were the menses absent, while in forty-three per cent. they were more or less present, including twenty-six per cent. in which there was complete regularity. The probability of impregnation during lactation was six per cent. with absolute amenorrhœa; rising to sixty per cent. with absolute regularity of menstruation. Suggestions were made as to functional association between the mammae and the uterus, as to the renewal of the mucous membrane, and as to involution, but none of these suggestions commanded full acquiescence, and this is but natural, considering how limited is our knowledge on some of the points involved.

A sad case of poisoning by carbolic acid has been added to the long roll of deaths due to that article. A nurse at the Glasgow Royal Infirmary, wanting a dose of castor-oil, took the bottle of carbolic acid instead, and poured out and swallowed the poison. How an experienced nurse should make such a mistake and not detect the smell of the acid seems strange. Keeping the poison close by the oil, and apparently in similar bottles, indicates bad management. The nurse was a lady of education, daughter of a bishop, and a favorite in the infirmary, where she had worked several years.

Dispensary Beats.—There is one feature of the dispensary abuse question, says the *Pittsburg Medical Review*, which seems to have escaped the attention of the complainants, namely, that persons able to pay, but who through misrepresentation obtain medical advice and medicine gratuitously at charitable institutions, are dishonest and would consequently prove unprofitable patients to those physicians who imagine themselves defrauded every time a patient passes through the door of a free dispensary. When it is remembered that dishonest persons are an integral part of every large community, and that we have them with us always, just as certainly as we have the poor, it is not surprising that some obtain free service to which they are not entitled.

Condensed milk should have ten per cent. of fat.

OUR VIENNA LETTER.

(From our Special Correspondent.)

PHOTOGRAPHY OF THE INVISIBLE—ROENTGEN'S DISCOVERY OF THE TRANSMISSION OF CERTAIN RAYS THROUGH SOLIDS—PROF. EXNER GIVES A DEMONSTRATION—PROF. ROENTGEN EXHIBITS HIS METHODS TO THE GERMAN EMPEROR—SERO-THERAPY OF DIPHTHERIA.

VIENNA, January 13, 1896.

ROENTGEN'S discovery of the transmission of certain rays through solids, announced at the recent fiftieth session of the Berlin Association of Physicists, bids fair to mark an epoch in natural science, and promises great utility in medicine. The greatest interest has been aroused, and Vienna physicians in attendance at the session on January 10th of the Imperial Medical Association were favored by Professor Exner with a demonstration of the results already published by the discoverer. The principle involves the utilization by photography of the cathodal rays emitted from a Geissler's tube. Roentgen found that these rays (named by him "X-rays"), invisible to the human eye, possessed also the property of transmission through some solid objects, such as wood, paper, and a few metals, while they were intercepted by others. The interposition of a sheet of paper was without effect; a slightly perceptible interruption was produced by a playing card; a plain diminution of intensity followed the intervention of a pack of playing cards, but a book of one thousand pages did not entirely absorb the cathodal rays. The rays also passed, in part, through a sheet of aluminium one and one-half centimetres in thickness, and this metal was found to possess greater transmissibility than glass, calcspar, or quartz. Exner exhibited a photographic plate, upon which, after exposure to the "X-rays," were shown the outlines of a Siemens element, enclosed during the process of photography in a wooden box. The great possibilities of the discovery were revealed by a photograph of the bony skeleton of the living human hand, with a finger-ring but without the soft tissues. Roentgen advances the theory that the "X-rays" are longitudinal, resembling ether waves, and not transverse, as are light waves.

Upon invitation Professor Roentgen yesterday demonstrated his discovery at Berlin in private audience with the German Emperor, who afterward conferred upon him the Order of the Crown, Second Class.

Serum Treatment of Diphtheria.—At the St. Anna's Children's Hospital, 890 patients have been submitted to the serum treatment during a period of thirteen months. The mortality from diphtheria during the preceding thirty-three years was 42.8 per cent. Under the serum treatment the mortality has been reduced to eighteen per cent. In this percentage have been included all cases—those received in moribund condition and terminating fatally within an hour or two, and also those complicated by other diseases, among which scarlatina and tuberculosis have been prominent. Upon the completion of one thousand cases, a detailed report will be published by Professor Widerhofer in the *Jahrbücher für Kinderheilkunde*. This report will show that, with the elimination of the complicated and previously neglected cases, the mortality will be reduced to about twelve per cent. It will further reveal an insignificance of complications arising from the use of the serum, reduction of the number of operated cases, and general diminution of the severity of the disease, both in limitation of the membrane and in the subjective condition of the patient.

In consequence of the scarcity of physicians in the low lands, the Lower Austria Landesanschluss has had under discussion the need of further provision, and has submitted to the diet a resolution asking for the

immediate consideration of their needs, and proposing Linz as the most available location for an additional medical faculty.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 25, 1896:

	Cases.	Deaths.
Tuberculous	160	125
Typhoid fever	12	5
Scarlet fever	195	23
Cerebro-spinal meningitis	3	3
Measles	430	21
Diphtheria	279	48
Small-pox	0	0

The Trials of Country Medical Practitioners in France.—The English parish medical officer is wont to deem himself—and not unreasonably so—the worst-used individual in existence. A stipend that a laborer would spurn, a mass of work that the same laborer would never consent to perform, unjust criticism on the part of guardians who have no conception of the dignity appertaining to our calling—these and a thousand and one other miseries would suffice to break the heart and sap the courage of a member of any other profession. This state of things is not, however, peculiar to the British Isles, unless the experiences of Dr. Boyron, of Amagne, are exceptional. This gentleman had the misfortune to be a club medical officer, and the mayor treated him accordingly much as he would treat a gamekeeper. Dr. Boyron was the medical officer of a village Société de Secours Mutuels, and he found that, encouraged by the peasant-mayor, his club patients acquired the habit of treating him in a very cavalier fashion. He mentioned the matter to the mayor, who seemed to enjoy the joke immensely. The medical man thereupon resigned. The combative mayor, however, maintained that a club medical officer had no right to resign, and even had the assurance to contest (unsuccessfully) the legality of the resignation at headquarters. One day a station-master sent an urgent messenger for Dr. Boyron, who, on his arrival, found that the railway official had sent for him, not to ask his advice, but to tell him that he was being treated by a neighboring priest, whose prescriptions he was requested to countersign, so that the company could be charged with the furnishing of the drugs. Listen to yet another story. A young medical man settles in a commune whose paupers he attended for \$10 per annum. One night, soon after his arrival at this Eldorado, he received an urgent summons to visit a patient who lived at a distance of six kilometres from the village. On reaching the cottage—it was then 11 P.M.—he found the doors closed and lights extinguished. In reply to his knocks the door was opened by a sturdy peasant, who laughingly informed him that there was no illness in the house, but that his wife had wished to see if, when any one was ill, he would come if sent for! The unfortunate medico—since dead from overwork, and probably under-feeding—remarked, "I could have felled him to the ground." Added to these annoyances, others of political origin are quite common in rural France. Our Gallic brethren meddle a good deal in politics, and as their tendencies are generally toward radicalism they have often *maillé à partir avec le curé*. Altogether, I should say that the British country medical practitioner has the best of it.—*Paris Cor. Lancet*.

Sunshine and Life.—Sunshine has long been credited with possessing therapeutic powers, and, indeed, traditions of cures effected by the ancients by means of insolation have been treasured up and handed down to the present day. Even as late as the beginning of the present century we may read of a French physician seriously recording his claim to have cured a dropsical patient within two weeks by placing him daily for several hours in the sunshine, and many medical journals of recent years contain communications on the beneficial results derived from the use of sunshine in the treatment of various diseases. It seems curious, therefore, that while so much has been done to test the action of light on disease microbes in artificial surroundings, such as are to be found in laboratory experiments, hardly any investigations have been made to try and define more precisely how sunshine may affect their pathogenic action within the animal system. Dr. Masella's researches, undertaken with the express object of, if possible, elucidating this question, are, therefore, of special interest and importance. The first series of experiments was carried out to ascertain whether exposure to sunshine increases or reduces an animal's susceptibility to particular diseases, those selected for investigation being typhoid fever and cholera. For this purpose guinea-pigs were exposed to the full rays of the sun during a period of from nine to fifteen hours for two days, while other guinea-pigs, for the sake of comparison, were not permitted to have more light than that obtainable in a stable where only diffused light was admitted. Both these sets of animals were subsequently infected with virulent cultures of cholera and typhoid germs respectively, and were in neither case exposed to sunshine. The results which Dr. Masella obtained were remarkable, for he found that those animals which, previous to infection, had been placed in the sunshine, died more rapidly than those which had been kept in the stable, and that the exposure of the sun's rays had so increased their susceptibility to these diseases that they succumbed to smaller doses, and doses, moreover, which did not prove fatal to the other guinea-pigs. Still more striking was the part played by isolation in the course of these diseases in animals exposed to sunshine after inoculation, for instead of dying in from fifteen to twenty-four hours, they succumbed in from three to five hours.—*Longman's Magazine*.

A "miraculous" cure has recently occurred in Moscow, where it has caused considerable excitement. It is, perhaps, a more than usually interesting instance, and therefore deserving of the permanent record given to it by Professor Kozhevnikof, who gave the details of the case at the last meeting of the Society of Neuro-Pathologists in Moscow. The professor had not had the patient under his treatment, but had seen him more than once both before and after the "cure." The patient, N. D—, was a lecturer in the Moscow University. He had suffered from a severe form of sycosis menti since June, 1894, for which he underwent treatment at the hands of various specialists—among others, of Professors Kaposi, of Vienna; Schwimmer, of Buda-Pesth; Lassar, of Berlin; Pospíelof, of Moscow; and Stukovenkof, of Kief. In April last he returned to Moscow; his chin was then covered with a freely suppurating eruption. He now sought the advice of a "wise woman," an attendant at the baths, who was in the habit of giving herbs and "simples" to her clients. In this case no such remedy was employed. N. D— was told to meet the woman next morning at five o'clock in the Temple of the Saviour, the colossal church on the Moskva River, which has been building all the century and is yet incomplete, in memory of the famous events of 1812. He came as told, and, while he re-

mained a passive onlooker, the woman prayed for three or four minutes; the same thing was repeated that evening and again the following morning. But in the mean time the eruption on N. D—'s face had begun to improve; the discharge ceased, the swelling subsided, and in twenty-four hours scarcely a sign of disease was left. Such are the facts as given by the patient himself and confirmed by Professor Kozhevnikof. The professor, however, adds some important points bearing on the case: The patient is of neurotic temperament; his sister is highly hysterical; he had frequently had boils on both arms, with a marked tendency to symmetry in position; and the sycosis itself showed some signs of being, if not of nervous origin, at least under nervous influence. The impressive surroundings under which the "cure" was wrought, and the mysterious cabalistic prayer—which the woman refused to divulge, "lest it should begin to act with the person to whom she told it and cease to act with herself"—are also factors to be remembered in connection with the neurotic and impressionable character of the patient.—*British Medical Journal*.

Memory and its Loss.—Two recent cases have directed popular attention to one of the most mysterious results of altered cerebral function—an absolute loss of that which is called "memory." The symptom is so striking, so conspicuous, and so simple that it is natural for it to attract attention, and natural, also, that it should seem to be, in some way, susceptible of explanation. But, in truth, it is one of the derangements which bring into prominence the cerebral function of which we know perhaps less than we do of any other. There are two elements of the process which is included in the term "memory." They are generally confused, although one is often distinguished as "recollection." That which we call "recollection" is the voluntary use of memory; and it is the power of the will over memory, and not memory itself, which is lost in such cases as those which have recently attracted attention and of which instances are familiar enough in medical science. The physical basis of memory rests on the fact that every functional state of the brain leaves behind it a residual condition, in consequence of which that precise condition, in the same degree and the same combination, is more readily reproduced. The tendency for the state to occur again is the greater the more frequently it has previously occurred. It is this law which, of course, underlies all physical education, as well as all memory, commonly so termed. The occurrence of special nerve-processes in association with each other leaves behind a tendency for the recurrence of the association, so that one "idea" causes the revival of another. The physiologist and the physician are mainly concerned only with the physical processes in the brain which correspond to and accompany the mental processes with which they, as physicians or "physical physiologists," have less to do. But with these is combined the influence of revival of past activity, which is itself subject to the determining power which we call the "will." This association has baffled, and must apparently forever baffle, our scrutiny. It is far beyond the range through which science can penetrate. We know of its workings by subjective facts on the one hand, and on the other by its effects. Among these effects is the susceptibility of the renewal of past brain processes to the will. We can voluntarily recall the impressions of the past, we can induce the same combinations of nerve action, but how we know not. True failure of "memory" can only be assumed in the cases in which there is a general depreciation of the cerebral functions. In consequence of impaired nutrition of the brain, the functional states do not leave the due residual effect which facilitates their

revival. The change may be compared to the difference in the depth and in the permanence of the furrow in soils of different cohesion when the ploughshare cuts into them. On sand, for instance, as a much-quoted phrase reminds us, the ploughshare, instead of leaving a permanent furrow along which it can, if necessary, easily glide again, makes only a slight depression, almost at once filled up by the non-coherent particles from the crests. Such failure of memory is seen in old age, in general degenerations of the brain tissue, and also, in a striking way, in some cases of cerebral anæmia. In profound deficiency of the blood, qualitative or quantitative, the state of the brain may be such that no mental impression leaves an enduring trace such as can permit its reproduction. In such conditions there is a true failure of memory. But we cannot assume that this is the case when there is only a simple loss of the power to revive past impressions by the will, such as occurs as the result of sudden local disease or sudden injury. A severe concussion may be followed by a period during which there is unconsciousness, and afterward by a return of an apparently normal mental state. Everything up to the moment of the accident may be recollected, but everything afterward may be an absolute blank. Even if the sufferer soon regains consciousness and appears to be in normal mental vigor, the residual states left by his mental processes are not within the power of will to recall. Such sudden change—probably, in some cases at least, a sudden local lesion—limits the power of the will in a curious way. The will can induce the revival only of those processes which occurred a long time previous to the alteration. It is a well-known fact that the earlier in life cerebral processes occur the more easily are they revived. After middle life the difference in the intensity of the residual states, or perhaps some difference in their relation to the mysterious influence of the will, makes them so much less amenable that such a sudden alteration as may be caused by a local lesion will withdraw them from the influence of volition. This can scarcely be spoken of as true loss of memory: it is loss of voluntary recollection, and that is all we can say. Strange, indeed, is the apparent slightness of the cerebral influence which, like a gearing apparatus, keeps within the power of the will these residual states. Who does not know how a vivid dream may be recalled by some chance incident, revealing that an apparently dreamless night was filled with activity. In the curious brain state which follows a slight epileptic fit, in the state of "automatism," as it is termed, residual states must be produced as definite and as deep as any which occur in normal conditions, but they are beyond the power of the will and of any association to reproduce them. In a case recorded by Dr. Gowers, a carman drove his van across London, steering his way with precision through the crowded streets, and then suddenly found himself six miles distant from his destination. During the hour which had elapsed innumerable incidents must have left impressions deep enough to have enabled them to be reproduced at once by a voluntary effort, were it not for the sudden breaks in the continuity of consciousness which occurred, first, when he, as the saying is, "lost himself," and secondly, when he "came to himself." Rarely, in some like state at a subsequent period, the connection with the past may be re-established. As a rule, in this morbid state, the missing link in the mechanism of voluntary recollection is never re-established. But it is otherwise when there is a sudden loss of the power of the will over the residual states produced under normal conditions, but which have been separated from volition by some sudden change. In such cases as those which have been discussed so much of late in the

daily press, the residual states are there, and, at some link in the chain of association which exists between them, a renewal of the lost influence may occur, and may then quickly spread through the whole series; the memory may suddenly give signs, quickly increasing, of returning susceptibility to the will, which we call the power of recollection—a word which seems so simple, and yet denotes the greatest mystery of brain and mind.—*Lancet*.

To Abolish the Breast.—At a recent meeting of the German Social Democratic party, it was proposed by an enthusiastic reformer that the State should prohibit wet-nurses on the ground that sterilized milk was preferable to Nature's article. Better still, we should substitute for the pregnant woman a sterilized ovum incubator.

"I'm Sick."

I'm sick of gruel and the dietetics,
I'm sick of pills, and sicker of emetics,
I'm sick of pulses' tardiness or quickness,
I'm sick of blood, its thinness or its thickness,
In short, within a word, I'm sick of sickness.

—HOOD.

Hypnotism a Valid Defence.—The Russian Court of Appeals a few days ago commuted the sentence of death imposed upon a girl named Rumyantzeff to five years' imprisonment, on the ground that she was hypnotized. The evidence showed that the girl was completely under the control of a man who compelled her to poison her father.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

AN ATLAS OF THE NORMAL AND PATHOLOGICAL NERVOUS SYSTEMS. By Dr. Christfried Jakob. Translated by Joseph Collins, M.D. 8vo, 232 pages, 220 figures on 78 plates, principally in colors. William Wood and Company, New York (Wood's Medical Hand Atlas Series).

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. XIII., 8vo, 516 pages, illustrated. Printed for the Association.

STUDENTS' AID IN OPHTHALMOLOGY. By Gertrude A. Walker, M.D. 8vo, 183 pages, illustrated. Price, \$1.50. P. Blakiston, Son & Co., Philadelphia, Pa.

THE FUNCTIONAL EXAMINATION OF THE EYE. By J. H. Claibourne, Jr., M.D. 8vo, 100 pages, illustrated. The Edwards and Dooker Co., Philadelphia, Pa.

GOODSELL'S POCKET ANATOMY. By F. W. Goodell, M.D. 12mo, 154 pages. Published by the author at Effingham, Ill.

THE MEDICAL NURSE. By John F. B. Lillard, 12mo, 141 pages. I. E. Booth, New York.

DENTAL MATERIA MEDICA AND THERAPEUTICS. By James Stocken, L.D.S. Fourth edition. 12mo, 155 pages. J. H. Vail & Co., New York. Price, \$1.25.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. Volume VI.—Diseases of the Respiratory Organs. 8vo, 697 pages, illustrated. William Wood and Company, Medical Publishers, New York. Prices: muslin, \$5.00; leather, \$6.00; half morocco, \$7.50.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE, AND TOXICOLOGY. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics, and Hygiene in the University of the City of New York, etc., etc., and Tracy C. Becker, A.B., LL.B., Counsellor-at-Law and Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. Volume III. 8vo, 743 pages, illustrated. William Wood and Company, New York. Prices: muslin, \$5.00; leather, \$6.00.

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Original Articles.

SIGNIFICANCE OF PLEURISY, AND SOME POINTS IN ITS TREATMENT.¹

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MR. PRESIDENT AND MEMBERS OF THE SOCIETY: Whenever we encounter a case of pleurisy, the questions that present themselves are: What is its significance? What are its etiological factors? Can it be considered a primary pleurisy by infection, or does it belong to the secondary form, or pleurisy by propagation or extension? What is the relation of primary pleurisy to pulmonary tuberculosis, and do statistics bear out the statements that are so often made, that an attack of pleurisy almost always predisposes the patient to the dangers of pulmonary tuberculosis?

In order to answer these questions it is necessary to consider briefly the structure of the pleura. The pleura, pericardium, peritoneum, and tunica vaginalis are derived as constrictions from the embryonic single pleuro-peritoneal cavity first formed. These serous cavities are to be regarded as parts of the general lymphatic system, and, indeed, the serous fluid which they contain is in reality "lymph." By stomata the pleural cavity is put into communication with the lymphatics, not only of the diaphragm (on its pleural surface), but also of the lungs and the thoracic walls; and during the movements of breathing, the contents of the pleural cavity are continually being pumped away, partly into the lymphatics of the lungs, partly into those of the diaphragm and chest walls. The quantity of fluid is, at any one time, in normal conditions very small, but that fluid appears to be continually renewed, old fluid passing away to the lymphatic system and new fluid taking its place.²

In considering the etiology of diseases of the pleura, I think the most comprehensive classification for our purpose is:

I. Pleurisies by propagation.

II. Pleurisies by infection.

The first group take their origin from lesions of the thoracic walls, thoracic organs, or neighboring viscera. Among the lesions of the thoracic walls that may induce inflammatory disease of the pleura, it is necessary to mention only osteo-periostitis, costal caries, parietal phlegmon, and even cancer of the mamma. The diagnosis of these primary lesions is not difficult, and their relation to the subsequent pleurisy is readily understood when we consider the close relation that exists between the lymph channels of the chest wall and the pleura.

Diseases that involve the structures and organs of the abdominal cavity, especially the upper portion, are liable to cause a pleurisy. The diaphragm does not form an impassable barrier to the extension of inflammatory processes. The diaphragm may remain

intact, the virus spreading through the lymphatics, or there may be necrosis and perforation. When the diaphragm is intact, the nature of the pleurisy may be simply adhesive, obliterating the lower part of the pleural sac, or it may be plastic, serous, or purulent. When there is perforation of the diaphragm the process in the pleura is generally of the same nature as that below the diaphragm. The subdiaphragmatic diseases that are most likely to cause involvement of the pleura are acute hepatitis and perihepatitis; abscess and hydatid cysts of the liver, especially when they involve the convexity; atrophic and hypertrophic cirrhosis; subphrenic abscesses (of all kinds); inflammation of the spleen. More infrequent are those abscesses and inflammations that extend from organs lower down in the abdominal cavity, as the appendix vermiformis, ovaries, etc.

When we come to consider the relation of pleurisy to diseases of the lungs, many facts must be taken into consideration. Affections of the portions of the lung immediately in contact with the pleura almost always set up an inflammation in that membrane, which may express itself as a simple adhesive type, or may be attended by a fibrinous, serous, or purulent effusion. The dependence of these secondary forms on primary diseases of the lungs, as lobar and lobular pneumonia, pulmonary tuberculosis, infarctions, abscesses and gangrene of the lung, or diseases of the bronchial glands, is so evident as to need no explanation. When, however, the pre-existing disease of the lung does not approach the surface, or the pleurisy is at a widely distant point, or even on the opposite side, the relation is not so evident. We can more easily understand the liability of the pleura to become affected if we study its relation to the lymphatic system of the lung.

This relation is best seen in the infection of the lung that takes place in anthracosis, and, furthermore, shows the route the infectious and irritating matter takes when inhaled into the pulmonary tract, or when a quiescent and perhaps unsuspected focus of tuberculous infiltration breaks down and discharges its contents into the bronchi. When the upper air passages are in a normal condition, most of the dust is caught on the mucous membrane of the trachea and larger bronchi and removed, together with the phagocytes, as expectoration. Those particles that penetrate into the smaller bronchi, infundibula, and air vesicles pass through into the stroma of the air vesicles, peribronchial lymphatics, and especially into the large perivascular branches. Those which enter the peribronchial lymphatics apparently very soon pass into the large lymphatics around the arteries. From the perivascular lymphatics they run into the lobular septa, from these to the deeper layer of the pleura, and ultimately reach the bronchial glands. The superficial layer of the pleura is not injected. The well-marked injection by carbon particles can be seen only in the lungs of coal-miners and those who have worked for a long time in a dusty atmosphere; yet all have seen at autopsies the pigmentation immediately under the pleura, which gives the lungs their mottled appearance, and which also shows the tendency for particles of dust to be arrested in these regions.

¹ Read before the Medical Society of the County of New York, January 27, 1896.

² Foster's "Text-book of Physiology," 5th edition, p. 489.

During the past few years, medical literature has teemed with articles showing the infectiousness of dust, so that it is no exaggeration to say that we are exposed daily to its dangers. It also emphasizes the resistance that the tissue of the pulmonary tract has to infectious agents, and shows the ease with which rapid diffusion of the virus to the subpleural lymph spaces, and the subsequent inflammation of the pleura itself, may occur when this resistance is lost and the barriers are removed.

Dr. C. G. Coakley has kindly placed at my disposal results (as yet unpublished) obtained in a series of experiments conducted at the Loomis Laboratory. A solution of India ink was made, and passed through three thicknesses of filter-paper. The individual particles held in solution were very small (less than the size of the eosinophile granulations in white blood corpuscles). Ten cubic centimetres of this filtered solution were injected into the trachea of rabbits, and the animals killed in from fifteen minutes to two hours. It was found in every case (whether fifteen minutes or two hours had elapsed) that not a trace of the pigment could be found in the trachea, bronchi, and alveoli, but all had been absorbed. Except where a few lymph cells had ruptured, no free pigment was found in the lymph channels, but was contained within the lymph cells or phagocytes which were scattered through the lymph channels of the lung, underneath the pleura, and in bronchial glands (deeply pigmented). Infectious agents, other than dust, may be taken up by the lymph cells, and if not destroyed be retained in the lymph glands without producing any active lesions. An interesting series of observations on the long retention of virulent tubercle bacilli in healthy bronchial glands (glands enlarged only) has been reported by Dr. H. P. Loomis.¹

This brings us to the question, What proportion of acute pleuritis is tuberculous? The nature of the pleuritis secondary to diseases of the thoracic walls, abdominal organs, or to pre-existing pulmonary diseases, is usually easily determined. When, however, those belonging to the infectious group are considered, the difficulty in deciding is very great. It is interesting to note the opinions of various writers on this subject. Landouzy and his pupils, Joanne and Mayor, hold that all cases of acute pleuritis are tuberculous. Strümpell considers a non-tuberculous, simple, fibrinous, or exudative pleuritis a rare disease, and believes that if phthisis comes on several years later it is probably due to the pleuritis, and that it is very uncommon for the symptoms of acute tuberculosis or chronic phthisis to appear as an immediate result.

Germain Sée believes that seventy-five per cent. of all acute cases are tuberculous—in fact, regards pleuritis as patients affected with tuberculosis in the evolutionary stage.

Anstie says: "It is now well established, not only that pleuritis occurs in phthisis, but that pleuritis can set up true tuberculosis, even in perfectly healthy subjects."

Other inferences and theories conveying the same idea could be cited. To such an extent has the tuberculous nature of pleuritis, especially those with serous effusion, been accepted by the medical profession, that it is necessary to review the subject and determine, if we can, if this opinion is founded on facts or is an inference only.

Deductions based on clinical records and observations being always open to varied interpretations, "a trustworthy estimate of the incidence of tuberculous pleuritis can be had only by anatomical investigation." Osler² reports the results of post-mortem examination

of one hundred and one successive cases from the medical wards of the Johns Hopkins Hospital, in which pleuritis, whether fibrinous, sero-fibrinous, hemorrhagic, or purulent, was found. This series is especially valuable as the cases were not selected. Thirty-two only were tuberculous, *i.e.*, those in which tubercles were present on the pleural layers, either as fresh miliary granulations, caseous masses, or diffuse fibro-tuberculous membranes. Of these there were 8 with purulent exudate, all associated with pneumothorax; 2 with hemorrhagic fluid; 7 were cases of acute miliary tuberculosis with fibrinous and sero-fibrinous exudate; 4 were instances of acute miliary tuberculosis with purely fibrinous exudate; 13 were cases of chronic sero-fibrinous exudate with more or less thickening of the pleura. There were 13 cases of pulmonary tuberculosis, in which pleuritis was present without it being possible to say definitely that it was of tuberculous nature. In 10 of these the exudate was fibrinous and in 3 sero-fibrinous.

Going over the reports of the pathological findings at necropsies in different hospitals, one is impressed with the frequency of pleuritic adhesions, either local or general, unattended by tuberculosis of the pulmonary tissue or of any of the contiguous organs.

Loomis reports the result of 763 autopsies held at Bellevue Hospital, which showed 276, or thirty-six per cent., with the lungs bound down to the chest wall by organized adhesion, either general or local, in which cases the lungs were free from disease other than the pleuritic changes.

Figures have been gradually accumulating as to the proportion of cases, especially of pleuritis with effusion, in which, after recovery from the immediate effects of the pleuritis, the patient either became tuberculous or remained free from any trace of the disease. As these statistics are most instructive, I shall refer to them briefly.

Bourdisson reports 150 cases, of which only 3 developed phthisis. Coriveaud reports 27 cases followed from twenty-five to eight years without any secondary tuberculosis. Austin Flint reports 47 cases, 4 of which died of phthisis. In one only could the pulmonary tuberculosis be considered as a sequel of the pleuritis. Blackiston reports 53 cases, and in not a single instance did tuberculosis develop during several years after recovery.

Bowditch,³ in a most valuable paper, reviewed the cases that occurred in his father's practice from 1849 to 1879—90 cases. Inquiry (1889) showed that thirty-eight per cent. only had died of pulmonary tuberculosis.

Barr⁴ cites 114 cases occurring in children during the years 1880-1884. Of these, 74 were of simple pleuritis with effusion, and 40 were of empyema. Inquiry in 1889 showed that of the cases of simple pleuritis with effusion 17 could not be traced, 25 were living, and 32 were dead. Twenty-one, or twenty-eight per cent., had died of tuberculosis in some form. Of the 40 cases of empyema 32 were alive and healthy, 6 were dead, and 2 could not be traced.

The result of post-mortem examinations and the statistics just considered make it appear that either primary tuberculosis of the pleura is not so common as we have been led to believe, or that recovery from tuberculosis of the pleura is very much more frequent than from pulmonary tuberculosis.

Formerly the situation of the pleuritis was supposed to establish the diagnosis, but more recent investigations demonstrate that a tuberculous process may involve primarily any portion of the visceral pleura, and may express itself in an adhesive, fibrinous, serous, or purulent type, or in an acute, subacute, or chronic form.

¹ Trans. of the Loomis Laboratory.

² Shattuck Lecture, Boston Medical and Surgical Journal, July 20, 1893.

³ Medical News, 1889.

⁴ British Medical Journal, May 10, 1890.

The bacteriological examination of exudations in acute pleuritis has not aided materially in clearing up the question of etiology. In cases which from other symptoms were known to be due to pulmonary tuberculosis, the serous exudate was sterile. Prince Ludwig Ferdinand, of Bavaria, states that the tubercle bacillus has been found in the pleural exudate in only thirty-two cases. The explanation of the sterility of the exudate is, I believe, to be found in the relation that the pleural cavity bears to the pulmonary lymphatics. In Dr. Coakley's experiments, and also in coal-miners' lungs, the carbon particles are found in the lymph spaces under the visceral pleura, and none in the pleural sac. We can easily conceive that the lodgment of tubercle bacilli, or of any germ or irritant matter, could set up inflammatory changes in the subpleural tissue, which by extension would be sufficient to induce an acute pleurisy, without the specific germ that had caused the primary process invading the pleural cavity. The statement is made that when a pleuritic effusion is sterile the presumption is that it is tuberculous. I do not see why the absence of micro-organisms in the pleural exudate should be an indication of a tuberculous process any more than in the peritoneum, pericardium, tunica vaginalis, or the synovia. Granting that tuberculosis is a frequent cause of primary pleurisy, the conclusion that must be drawn from the statistics above cited, and the result of anatomical investigation, is that there is a large percentage that is non-tuberculous. Since neither bacteriological examination of the exudate and sputum, nor physical examination of the lungs, has given an adequate explanation of the acute pleuritis that were formerly ascribed to cold (*pleurisie a frigore*), the tendency has been to deny their existence as a separate type, and to include them among tuberculous cases. Many investigators who have studied these cases of acute, non-tuberculous pleurisy from the bacteriological side, claim that the majority are due to the pneumococcus of Fraenkel. Jakowski studied fifty-two cases and found that seventy per cent. were caused by the pneumococcus, while out of Netter's forty-six cases, forty were due to the same organism. Many cases of pleurisy coming on suddenly after exposure, which may or may not be ushered in with a chill and with high temperature and abundant plastic exudation, run their course without medical interference in from five to seven days, when the temperature falls, as in the crisis of pneumonia; but during their entire course there are none of the physical signs of lobar or lobular pneumonia. I think it must be conceded that it is possible to have the pleura invaded by the pneumococcus without any lung involvement. The avenues of infection are still in doubt. Some claim that the tonsils are the port of entry, and that there is general constitutional infection, with localization in the pleura.

It was not my purpose to-night to consider in any way the question of empyema, still I cannot refrain from calling attention to one point in empyema due to the pneumococcus. All admit the tendency to recovery and the rapidity and the completeness of the cure after opening the chest. I do not think that the presence of leucocytes or pus cells in the exudate of pleuritis due to the pneumococcus has the same significance as when dependent on the streptococcus or other pus-producing germs. In pneumococcus infection the most marked effect on the blood is not the increase of the fibrin factors, but the multiplication of the white blood corpuscles, or leucocytes. When the pneumonic process involves the lung, the exudation consists of fibrin and white blood cells which are not stamped with an inherent tendency to organize, for after the crisis and convalescence the lung returns to its normal condition.

Guerin has defined inflammation of serous mem-

branes as an exaggerated invasion of the lymph territory by the elements of the blood which during an attack of general infection by the pneumococcus of Fraenkel is rich in white blood corpuscles, and as the infecting agent easily loses its virulence the secondary inflammatory changes in the pleura are not induced, as in other forms of empyema.

All writers, when giving a list of the etiological factors of pleurisy, include rheumatism, but very few consider it a notable cause. I have been surprised, when investigating the etiology of my cases of acute pleurisy, at the frequency of well-marked rheumatic symptoms that preceded, accompanied, or followed the onset of the pleurisy. The forms of pleurisy were varied. Out of a total of 18 cases that could be considered rheumatic, 10 ran the course of simple fibrinous pleurisy, without any serous effusion; 3 began with fibrinous, but soon had serous effusion; and in the remaining 5 cases serous effusion was found at the time of the first examination. In 4 cases, thickening with adhesions occurred. The exudate was examined bacteriologically in the 8 cases with effusion, and no micro-organisms were found. Repeated examinations of the sputum, during and after the attack (in 9 of them over a period of more than three years) failed to show any tubercle bacilli.

The infectious matter of rheumatism (I think we are all willing to admit that rheumatism is an infectious disease), as soon as it enters the circulation, causes certain general disturbances of the organism and then localizes itself in the serous type of membranes, and while causing most frequently rheumatic polyarthritis, still it may primarily involve the most varied organs. We know that frequently the most intense cases of articular rheumatism run their course without any involvement of the endocardium or pericardium, while, on the contrary, slight attacks of articular rheumatism scarcely worthy of the name, so slight indeed as to be overlooked, or in children to be designated as "growing pains," cause the severest complication of the serous membranes of the heart; and when these cardiac conditions are found we unhesitatingly refer them to the rheumatic infection, even though the history be insufficient. When treating a case of acute rheumatic polyarthritis the physician examines daily the condition of the pericardium and endocardium, and notes any evidence of inflammation, so that the relation between the arthritic manifestation and the cardiac complication is well understood. On account of the inability of the patient in a severe attack of rheumatism to move sufficiently to permit thorough physical examination of the lungs, many cases of involvement of the pleura are not detected. When a joint has once been affected by rheumatic inflammation, it is ever afterward liable to become inflamed by very slight disturbance of the organism by the rheumatic poison. After rheumatic pleurisy the same liability to recurrence exists, usually as a mild or subacute process, attended by fine, crackling râles and dragging pain; although at times there is abundant serous effusion. I am thoroughly convinced that many of the cases that show at autopsy pleuritic adhesions, without any evidence of tubercle in the pleura or lung, are rheumatic in their nature, even though we admit the curability of tuberculosis of the pleura and entire disappearance of the tubercle.

Epidemics of pleurisy have been noted so frequently that the peculiar infectious agents of these outbreaks must be included in the etiology. It is only necessary to mention that infectious diseases—scarlet fever, measles, small-pox, typhoid fever, gonorrhœa, syphilis, surgical and puerperal pyæmia—may be complicated by pleurisy and that it may be a terminal process in cardiac and kidney disease.

Coincident with the general acceptance of the the-

ory that the majority of cases of acute pleurisy were due to tuberculosis came the "do-nothing" plan of treatment during the acute stage, which to a certain degree has lasted to the present. While this may be instructive to the physicians who desire to study the course of disease, undisturbed by therapeutics, still it is neither pleasant nor satisfactory from the patient's standpoint.

I cannot offer you any new treatment to-night, but will merely state the means that have given me the best results and which, in a personal experience with an attack of pleurisy, gave the most relief.

The patient should have absolute rest; this not only includes being placed in bed, but all efforts at conversation should be forbidden. As the irritating and persistent cough is one of the most annoying symptoms, this should be allayed. The ordinary sedative cough mixtures are of no avail; the only adequate means is a full dose of opium, preferably a hypodermic injection of morphine. The action of opium is not restricted to allaying the cough only, but through its action on the calibre of the blood-vessels it controls the inflammatory congestion and the subsequent œdema or exudation into the pleural sac. To control the movements of the chest, various bandages, strappings, and dressings have been devised; a broad strip of rubber adhesive plaster, or even a wide belt of leather or webbing, tightly drawn, is usually sufficient for the purpose.

As the first seat of the exudation is on the costal side of the pleura, showing that the blood-vessels of the thoracic walls take an active part in the acute and exudative stages, counterirritation by directing the blood to the surface is indicated. In the acute stage these measures should be mild, just sufficient to accomplish the purpose without causing secondary effects that would increase the primary congestion. Dry-cups, applied over the side affected, meet the requirements. They should not be left so long, nor should the exhaustion of air be so great, as to rupture the capillaries of the skin and produce ecchymoses. After cupping, if further counterirritation is desired, a turpentine stupe may be applied, or if the cupping has been sufficient poultices or warm applications should be used.

To control the fever, antipyrin, antifebrin, and phenacetin may be used. These have a twofold action—they control the pain and reduce the temperature, while some claim they have another and specific action.

Before the advent of the coal-tar derivatives aconite and veratrum viride were used to control the fever and its accompanying circulatory disturbances. It seems to me we have neglected these remedies in our eagerness to try the latest productions of synthetic chemistry. In many cases, and especially in children, they exert a far greater and persistent controlling influence over the disturbed organism than do antipyrin, antifebrin, or phenacetin. I usually begin with five or ten drops, and continue with one or two drops every half-hour until its effect on the pulse is obtained. In treating children the dose should be correspondingly small.

The giving of small doses, frequently repeated after the initial full one, is, I believe, necessary to obtain good results.

The diet should be simple, preferably milk, and a brisk saline or mercurial purge given.

The scope of the treatment of the acute stage is to control its intensity, limit the pouring out of the elements of the blood into the pleural sac, and prevent the proliferation into the subpleural tissue of cells that may organize and cause crippling of the lung by adhesions.

Although many cases of acute pleurisy stop at the

dry or plastic stage, we must regard more or less effusion as a natural part of acute inflammation of serous membranes. The primary effect of the effusion is not an untoward one, as it separates the inflamed surfaces, diminishes the movements of the pleura, and decreases lung traction. In a word, it acts as a splint to the affected side. "Fluid effusion being both natural and salutary in acute pleurisy, we must be watchful but not meddlesome in our treatment of its earlier stages; up to the end of a week or ten days we need not in ordinary cases seriously consider how to promote its removal" (Powell). During the three or four weeks following the stage of effusion spontaneous absorption can be expected. If, however, during these weeks there is a tendency for the fluid to increase, or if at any time the amount or the rapidity of the effusion causes marked dyspnoea or circulatory disturbance, active measures are to be used.

During the weeks that we may expect spontaneous absorption, what should be our plan of treatment?

With the subsidence of the pain that occurs with the onset of the effusion, opium should be stopped. The patient should be kept in bed until four or five days after the occurrence of any pyrexia, when he should be allowed to get up. His diet should be simple and no active medication used, except that necessary to restore the functions of the organs deranged by the fever.

As we noted when treating of the physiology of serous membranes, the normal exchange of fluid in the pleura is favored by the movements of the chest in breathing. One of the prominent symptoms of effusion is loss of motion of the affected side, and one of the most encouraging signs of absorption is the return of the contractions of the intercostal muscles. To simulate these normal forces we may employ compression of the thorax during expiration for five or ten minutes twice a day, and when tenderness has disappeared massage of the intercostal spaces.

Of the medicinal substances that have been used to hasten absorption, by acting on the elements of the effusion, mercury and the iodides have had the greatest reputation.

Aufrecht first called attention to the use of the salicylate of sodium in causing absorption of inflammatory effusion from serous cavities. Since then Tetz, Wenci, Germain Sée, Devi, and others have advocated its use.

Stritzover gave fifteen grains three times a day, and guarded against any depressant effect by the simultaneous administration of stimulants. He treated eight cases. Seven recovered in eighteen days; one case did not show any improvement on the fourth day, when aspiration showed that the effusion was purulent. He holds it a most valuable remedy in serous effusions, and at the same time a means for differentiating serous from purulent forms.

Koster claims that in his cases absorption began at once and a large effusion began to lessen in five days.

Dr. Zewiecki claimed that: (1) Inflammation of the pleura, on which no other remedies had any influence, subsided quickly under salicylate of sodium; (2) the use of the salicylate of sodium internally produced after twenty-four hours a favorable turn in the course of the disease; (3) the temperature fell; (4) the quantity of urine rose and with it the quantity of the chlorides, accompanied by diminution of the pleuritic effusion. This treatment was continued two weeks, after which time the patients regained their health.

To obtain these results it was necessary to give at least two drachms a day, in the following manner: twelve grains every hour until the toxic physiological effects—buzzing in the ears—appeared, and then the same amount every two hours. To avoid gastric irrita-

tion, he advised its administration in milk. In a later paper he said salol had the same action, without any of the unpleasant effect of the salicylate of sodium.

Various theories have been advanced to explain the action of the salicylates in causing absorption of the effusion. Steller claims it is due to diuretic action, while Eichhorst says it depends on sudorific action. Talamon claims for it a specific action, based on the experiments of Rosenbach and Pohl, who found that when salicylates were introduced into the digestive tract, they were found later in all the healthy serous cavities of the body, as well as in those that are of a morbid condition.

To hasten the absorption into the blood-vessels, diminution of the watery elements of the blood by diuresis and catharsis has been used. Dependent on the same principle is the treatment by "dry diet." This consists in withdrawing all liquids for three or four days, compelling the blood-vessels to slake their thirst from the well of the affected pleura.

Few patients are willing to endure the annoying features of this plan. A modification is to gradually reduce the quantity of liquid exhibited, taking as the guide the amount of urine voided. Each successive day the quantity of liquid given is smaller than the amount of urine passed. All these plans of treatment have succeeded and likewise have failed in diminishing the amount of the effusion. The longer the fluid remains stationary in the pleural cavity, the greater is the tendency for coagulation of the fibrin-factors to take place on the surface of the pleura, and thus seal the opening of the lymphatics; when the pleurisy has been attended with marked inflammatory changes in the subpleural tissue, the lymph channels are closed and absorption is impossible. When these conditions exist it is necessary to remove the fluid by thoracocentesis or incision.

The advisability of removal of the effusion by thoracocentesis when there is advanced tuberculosis of the lungs demands consideration. One of the reasons why pulmonary tuberculosis is so resistant to treatment is the never ceasing activity of the lung. We can immobilize a tuberculous joint, but have devised no apparatus to accomplish this for the lung.

Fluid effusion into the pleura, by allowing the lung to retract and stopping all motion of the affected side, gives the needed rest, and permits those changes to take place which tend to arrest the advance of the tuberculous process. I have frequently seen aspiration of the fluid followed by rapid extension of the disease, and in four cases by general tuberculosis.

What the fluid does for the protection of a whole lung, localized pleuritic adhesion does for the part bound down. All who have seen much of pulmonary tuberculosis have noted how the occurrence of a localized adhesive pleurisy has been followed by a more chronic course and even arrest in the pulmonary process. I am more and more impressed that pleurisy in pulmonary tuberculosis is a conservative process. Nature is frequently prodigal in her attempts to combat morbid processes, and the secondary pleuritic adhesions tax our diagnostic resources and therapeutic judgment to the utmost to decide on a safe plan of treatment. I believe harm frequently follows the forcible distention of the lungs and the breaking up of these adhesions.

Conclusions.—(I.) It is impossible for records or observations from any one source to settle the question of the proportion of tuberculous and non-tuberculous pleurisies. Different observers will arrive at various results, according to the character of the infectious material most prevalent in their localities. Figures will also be influenced by the occurrence of epidemics, and the surroundings and social status of the subjects observed.

(II.) That in pulmonary tuberculosis an intercurrent attack of pleurisy may be non-tuberculous.

(III.) That frequently an attack of acute pleurisy is the first intimation of a pre-existing or latent pulmonary tuberculosis.

(IV.) Since neither the onset of the pleurisy nor the character of the exudation presents any diagnostic etiological features, careful and repeated examinations should be made of the sputum for the tubercle bacilli.

(V.) As it is generally impossible at the onset to say what is the nature of an attack of pleurisy, and even if it is considered non-tuberculous, we should recognize the fact that the barriers which nature has placed against the introduction of infectious matter into the respiratory tract have been broken through or removed, and until these have been replaced and the normal resistance of the organism restored, it is necessary to guard the patient against all sources of infection.

A RATIONAL TREATMENT FOR PHTHISIS PULMONALIS, TOGETHER WITH SOME NOTES ON A NEW REMEDIAL SOLUTION.

By CYRUS EDSON, M.D.,

NEW YORK.

DURING a study of phenol, made in the early part of 1895, I was very much struck by the observations of Stadler, Merck, Brieger, Salkowski, and others. These investigators declared phenol could be found in the urine of man, the horse, and the cow.¹

According to Merck, healthy urine from a mixed diet contains 0.004 gram of phenol per litre, and, according to Salkowski, under pathological conditions the amount may rise as high as 1.5575 grams; in other words, during health phenol is a normal constituent of the urine,² and during disease the per cent. present is enormously increased.³

It has long been my personal belief that many pathological phenomena observed in diseases which are not usually credited to germ infection, are but the manifestations of the absorption of poisonous bacterial products. For example, the high temperature of fever may arise from the poisoning of the nerve-centres by such products. If this be true, then the increased secretion of phenol by the system during disease is, in fact, one of Nature's many devices to cure the underlying condition, to destroy the germ infection. The increase of phenol elaborated by the system during pathological conditions is, in the light of the knowledge we have of bacteriology and of phenol, extremely significant. This reasoning naturally led me to think phenol was selected by Nature for the cure of some, at least, if not all, of the so-called germ diseases. Of course, the conclusion was obvious, but the corollary of that conclusion, which assumed great importance in my mind, was this: If Nature herself provides phenol during disease, then it cannot be possible she will not tolerate the administration of the agent in effective dosage. Yet this fact stared me in the face, that an injection of any known solution of phenol in

¹ Am. Chem. Pharm., lxvii., 360.

² Phenol occurs in the urine as the potassium salt of the unstable phenyl-sulphuric acid, and for this reason can be detected only by distillation with hydrochloric acid (see Ber. Deutsch. Chem. Ges., ix., 1595-1596). According to Brieger, phenol is also found in small quantities in excrement (Jour. Prakt. Chem. (2), xvii., 133).

³ Brieger found increase of phenol in urine during scarlatina, erysipelas, etc. (Hoppe-Seyler's Zeitschr., iv., 204). According to Wohler the præputial glands in the beaver secrete a substance known as castoreum which is found to contain small quantities of phenol (see Am. Chem. Pharm., cxvii., 360). It has also been demonstrated by Baumann that when albuminoid bodies are allowed to putrefy in the presence of some water and pancreas phenol is formed (Ber. Deutsch. Chem. Ges., x., 685).

effective dosage was believed to cause poisonous symptoms. This was equivalent to saying there must be some form in which phenol could be injected in effective dosage, which would aid Nature in her efforts to effect a cure, and which would be tolerated by the human system. Moreover, it was apparent to me that phenol, being the only known antiseptic agent, except its homologue, cresol,¹ of which the amount in the system is increased during disease, it would be the best to select for experimental purposes to the exclusion of any other. When we follow Nature along her efforts to effect cure, we cannot go far wrong. The problem before me, then, was to find the form of solution of phenol which Nature would tolerate.

With this idea in mind, and remembering the fact that creosote has been, and is, extensively used for the treatment of tuberculous disease, more especially for pulmonary tuberculosis, and, furthermore, knowing that creosote, according to the latest chemical researches, is not phenol,² as it was formerly supposed, but merely has the latter as one of its constituents, I formed the opinion that the so-called creosote treatment, which may almost be said to have become a fad among physicians, depended for its success mainly on the presence of the phenol the creosote contained.

Now, there is a fatal objection to the creosote treatment, namely, its derangement of the digestive function when continued for any considerable length of time, and this objection holds equally good in the case of phenol administered by the mouth. Therefore, it was apparent that some other mode of administration should be chosen. I then took into consideration Gilbert's reports³ of the administration of phenol solutions by the rectum in cases of phthisis, and came to the conclusion that the favorable percentage of cures (Gilbert claimed twenty-five per cent.) would probably be very much increased if the phenol could be administered hypodermatically. This I found had been done by Deplat,⁴ Sistini, and others,⁵ who had made steps in advance of the former observer. The preparations of phenol recommended by them did not give me results with which I was satisfied.

I determined, therefore, to experiment with a view of producing a fluid which could be administered hypodermatically, without irritation or toxic effects, and which should at least contain phenol in such effective dosage as would turn the scale of natural resistance in favor of cure. I am well aware that many men have drawn conclusions from experimental research that at least one per cent. of phenol to the entire amount of blood in the system is necessary to effect the result I aimed at, and that such an amount would be overwhelmingly toxic.⁶ But these scientists too often lose sight of the fact that experiments outside of the body are not, and

never can be, identical with results depending in part on factors operating within the body. The blood is an antiseptic fluid when within the body, and one of very considerable power. Its natural resistance to germ infection, though this doubtless varies in different individuals, is great. A comparatively small amount of antiseptic reinforcement, therefore, may be sufficient to increase that resistance to the desired point.

I will not enter into a description of the long line of experimental work in the laboratory which finally led to the production of the fluid I have used in my formulated treatment of phthisis.

In order to enable physicians who have used it to understand what they were administering to their patients, I prepared a confidential circular, which contained an exceedingly rough description of the method of manufacture. It will at once be apparent, from the report printed below, that it would have been impracticable for me to send a detailed description, such as is here given.

Desiring to have the description of its manufacture as complete and scientific as possible, I requested Professor Henry A. Mott, the distinguished chemist, to investigate the process and report to me. Dr. Mott kindly consented, and his report is as follows:

"LABORATORY OF HENRY A. MOTT, PH.D., LL.D.

"Cyrus Edson, M.D.

"DEAR SIR: Pursuant to request, I have examined the preparation known as 'aseptolin,' as also the process employed in its manufacture, and I have the honor to report as follows:

"By means of chemical analysis, there can be separated from the fluid in question a colorless crystalline salt, which is new to the medical profession, being a chemical combination of absolutely pure phenol (C_6H_5OH) and the alkaloid pilocarpine ($C_{11}H_{16}N_2O_2$). This pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$) exists in the fluid, dissolved in an aqueous 2.75 per cent. solution of phenol.

"The Composition of the Fluid.—

	Per Cent.
Water (H_2O).....	97.2411
Phenol (C_6H_5O).....	2.7401
Pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$).....	0.0188
Total	100.

"The composition of pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$), deduced by calculation, is as follows:

	Per Cent.
Pilocarpine ($C_{11}H_{16}N_2O_2$)	53.92
Phenol (C_6H_5O).....	46.08
Total	100

"It is not the function of the chemist to speak of the medicinal properties or applicability of a drug, hence I will proceed to a description of the manufacture of the new compound which you have, after laborious research and experiment, produced, and also set forth the process adopted for the production of aseptolin.

"Your experiments have shown that none but the very purest chemicals can be employed. The phenol obtainable in the market, besides containing traces of para-cresol (C_6H_4OH), contains, as a rule, other impurities which unfit it for the direct preparation of this fluid.

"Starting with phenol distilled directly from its hydrate ($2C_6H_5.OH.O$), which has a much higher melting-point and a much lower boiling-point than the phenol ordinarily obtainable, I find that you subject a solution of such phenol, distilled in water, to an additional distillation, heating the vapor as it passes from the retort to the receiver in an oil-jacketed tube

¹ Cresol hydrate is the homologue of phenyl hydrate and we might expect to find cresol (tauric acid) in the urine, in fact Baumann found it in the urine of graminivora, occurring as the potassium salt of paracresyl-sulphuric acid (Ber. Deutsch. Chem. Ges., ix., 1,389, 1,716). Urine of the horse also contains some orthocresyl-sulphuric acid according to Preusse (Hoppe-Seyler's Zeitschr., ii., 355, also Ber. Deutsch. Chem. Ges., xi., 1911).

² While creosote has under certain favorable circumstances proved of value, still it cannot be relied upon. This fact is readily explainable, as Hugo Miller, Gorup-Besanez, Marasse, and Tiesnau have shown that creosote is not phenol, but that, although it contains some, it is composed principally of paracresol, phlorol, guaiacol, cresol, methyl-guaiacol, methyl-cresol, etc., all of which exercise certain actions on the system peculiar to themselves. Creosote contains: Some phenol, C_6H_5OH ; paracresol, C_7H_7OH ; phlorol, C_8H_9OH ; guaiacol, $C_8H_9OCH_2OH$; cresol, $C_6H_4CH_3.OCH_2OH$; methyl-guaiacol, $C_8H_9OCH_2.OCH_2$; methyl-cresol, $C_7H_7CH_3.(OCH_2)_2$, etc.

³ See Annual of Universal Medical Sciences, Sajous, "Phthisis Pulmonalis," 1892-1893.

⁴ See works.

⁵ See Practitioner, vol. i., p. 4, 1894. Lancet, November 25, 1893.

⁶ "Reference Handbook of Medical Sciences," vol. i., p. 759.

(in which a thermometer can be inserted), and then condensing the same in a double-stoppered receiver, which enables you to reject the first ten per cent. so condensed, utilizing the remainder, with the exception of the last ten per cent., which is likewise rejected.

"In the preparation of pilocarpine-phenyl-hydroxide, it is necessary only to weigh out an equivalent proportion of this purified phenol solution (after determining its strength by chemical analysis), heat the same to about 100° C. (212° F.), and then gradually add to it an equivalent amount of the pure alkaloid pilocarpine, when, on standing for ten or twelve hours, the uncrystallized pilocarpine-phenyl-hydroxide will separate out. From this salt the fluid may be directly prepared, by following the analysis given above. The usual method, however, adopted in its preparation on an extensive scale is as follows:

"The highly purified phenol is diluted with distilled water until the percentage of phenol is reduced to exactly 2.75 per cent., which can be determined by the phenolometer. This is introduced into glass-stoppered receivers, which have been thoroughly cleansed with boiling water. In the receiver the right proportion of the alkaloid pilocarpine is put, so that, as the phenol distills over and condenses, it immediately combines with the pilocarpine in the production of the fluid. The temperature of the receiver is kept reduced by means of a small stream of water, yet sufficiently high to insure the desired union, but is never allowed to approach a temperature which would permit of the alkaloid suffering any other chemical change.

"Experiment has demonstrated that strict adherence to the above methods is required in order to produce aseptolin of a uniform composition and of an absolutely colorless physical appearance. A cloudy, milky, or slightly tinted preparation should be rejected. The proportions of the constituents do not permit of the presence of even traces of foreign bodies, if reliable results are to be expected. I am, sir,

"Yours respectfully,

"HENRY A. MOTT, PH.D."

It will be noticed that Dr. Mott speaks of "aseptolin." Thinking this was a good word, and following the convenient fashion of substituting a name for a formula in writing, I have called this chemically pure solution of phenol and pilocarpine-phenyl-hydroxide, aseptolin, because it is more convenient than is the repetition of the formula; but it is unnecessary for me to say that in order that such a name may not be classed with that of a proprietary remedy, the profession is free to substitute a better term if need be, and either in its present form or in any other, the new agent can be used as freely as any compound or combination of the Pharmacopœia.

Pilocarpine was added to the solution for two reasons: 1, To induce leucocytosis; 2, to stimulate glandular activity. It also accomplishes a third purpose, for it is an expectorant and stimulant of secretion of very considerable power. It causes a certain increase in the amount of water separated from the blood in the lung cells. This is shown by the fact that there is an increase of watery vapor carried off by the breath of a person taking it.

A short study of pilocarpine is interesting. A. Curci¹ states that this drug produces hypersecretion; in large doses it causes convulsions and paralysis. The paralysis is accounted for by regarding pilocarpine as a quaternary ammonium compound; but phenol and the

oximhydroxyl group are more powerful in producing hypersecretion, while at the same time there is less danger of causing convulsions and paralysis. It is not improbable that in the organism change may occur, a pilocarpinate being formed with the bases of the body. In dogs the drug leaves a body in the urine as free pilocarpine, and also as a pilocarpinate. Pilocarpine has been used in croup and diphtheria by Sziklai,² he giving pilocarpine hydrochloride in doses 0.02 to 0.07 gram for children, and 0.08 to 0.10 gram for adults. Leyden has used one-half to two per cent. solution for subcutaneous injection. Ringer and Jamison³ have administered for experimental purposes 0.0325 gram of nitrate of pilocarpine. Weber⁴ experimented on himself, using 5 c.c. of a one-half per cent. solution. No one who has given a large dose of jaborandi or its principal alkaloid, pilocarpine, and has observed the enormous amount of water that almost fills the lung cells, the small and larger bronchi, will forget the danger that impends from œdema of the lung. Of course, the amount of pilocarpine, even in the largest doses of the fluid, is not sufficient to cause a perceptible effect in this direction.

From what has been said, it will be apparent to all chemists that the fluid is a hydrophenol, containing a definite amount of the new pilocarpine compound.

It is not very difficult to make, provided one has the apparatus and is sufficiently careful. It needs extreme care. The experience of my laboratory assistant, as written in a note to me, was as follows:

"For two months I could not produce a satisfactory fluid more than once in three times; in fact, I think we threw away, during the first three months, about one-half or nearly all of what we made. The results of our experiments with guinea-pigs were such as to convince any one that no phenol solution of the strength of the pilocarpine-phenyl-hydroxide solution, except the latter, could be safely injected. If other men make it they should be extremely careful, otherwise their product may give rise to serious consequences. At the same time there is no reason why a competent chemist should not make it successfully."

The solution prepared in my laboratory is a colorless fluid, strongly refracting light, having the characteristic odor and taste of phenol. Injected under the skin, it causes a sharp, burning pain, not so severe as that following an injection of bichloride of mercury in solution. In the great majority of cases the injection is not followed by any local irritation whatever. In a few, a small nodule appears at the point of injection, which, as a rule, disappears after a few days. Dr. Glover C. Arnold, of New York, declares that this nodule results from injecting fluids against the flow of the capillary lymphatics, and advises all hypodermatic injections to be made with needle inserted in the direction of the flow of these lymphatic vessels. This, in the abdomen, which in my opinion affords the best site to give large injections, would be effected by directing the insertion of the needle away from the median line. Though I have given over one thousand injections, and some of them very large ones, viz., single injections of three hundred and fifty minims each, I have not seen a single abscess resulting therefrom, and nodulation in only two cases; one of these was on my own person, following an injection of two hundred and fifty minims for experimental purposes. No reaction, such as follows the administration of tuberculin, is observed after the injection of properly prepared pilocarpine-phenyl-hydroxide solution, nor is there any visible physiological action noted following an injection of two hundred and fifty minims, given to a man weighing one hundred and fifty pounds, except

¹ Actyl. Prakt., 1893, 914.

² Phar. Jour., 3, 596.

³ Med. Centralblatt, Wien, 1876, p. 769.

¹ "Beobachtungen an Leukocyten, sowie über einige therapeutische Versuche mit Pilocarpin bei der (Diphtherie?) Streptokokken-Angina, Lymphdrüsen-Erkrankungen, Tuberculose und Lupus," von Dr. Louis Waldstein aus New-York (Sonderabdruck aus der Berliner klin. Wochenschr., 1895, No. 17).

² Chem. Centralb., 1893, 659. Also, Annali Chem. Farm., 1894, 3-8.

that the urine passed subsequently reacted strongly to tests made to ascertain the presence of phenol, and traces of phenol were noted in the condensed vapor of the breath, and in the contents of the stomach drawn off through the œsophageal tube within three hours of injection.

The effect of the solution when injected into the organism of a patient suffering from disease caused by active germ infection, is to directly inhibit bacterial development, and consequently to diminish the production of poisonous bacterial products. Its beneficial effects are so quick and positive, in the great majority of cases, as to convince any one who uses it of the correctness of this conclusion. Phenol and pilocarpine phenate both stimulate glandular activity, and exert a physiological effect in this direction over the range of which they act synergistically. It follows, therefore, that the remedy stimulates the production of the leucocytes.

Experience certainly has taught us that stomach derangement in cases of phthisis, if not speedily remedied, very quickly results in the death of the sufferer. It is right here that I claim an enormous advantage for the treatment that I am using. It enables us to save the stomach for alimental purposes alone, and by giving easily digested, rapidly assimilated, and highly nourishing food, a very great factor in a favorable result is secured.

The dosage, so far as I have been able to formulate it, in a case of phthisis, should begin with fifty to seventy minims daily, given in the abdominal parietes in a single injection. This dose should be increased about ten minims daily, until one hundred or one hundred and twenty minims is reached. Thus, commencing with a dose say, of seventy minims on the first day of treatment, on the second day eighty minims should be given, on the third ninety, and on the fourth one hundred. This latter dose should be kept up daily until the patient has recovered, or until some symptoms appear which indicate to the attending physician the discontinuance of the fluid. This would probably be the case if, for instance, albumin should appear in the urine, or if unusual nervous symptoms should develop, or if persisting nausea should be present, or if any symptom which was evidence of a personal idiosyncrasy against the remedy should show itself.

With these injections—I inject daily, or in some cases every other day, the treatment depending on the severity of the disease and the response of the patient to the remedy—I give inhalations delivered from a Sass spray tube and a globe inhaler. These inhalations are of very great importance. The most efficient of the sprays I have found in a ten-per-cent. solution of iodoform in ether:

Iodoform	10 parts.
Ether.....	90 "
	100 parts.

This is given once or twice daily through a Sass tube having laryngeal delivery. The spray is best given under a delivery pressure of one atmosphere. This, of course, necessitates the use of an air pump and a receiver, which can be purchased from almost any reputable surgical instrument-maker. The spray tube should be introduced in such a manner that the tip nearly touches the posterior pharyngeal wall, when the spray will be delivered into the larynx. Care should be taken not to deliver the spray too forcibly. The patient should inhale and exhale deeply during the delivery of the spray, in order to draw the spray as far into the affected region as possible.

The object of the spray is to assist in clearing the larynx and bronchi of infective material contained in their secretions.

In some cases it will be found almost impossible to give the spray in a satisfactory manner at first. A spasmodic cough will follow the first inhalation. Experience of this kind led me to use a solution of phenol in water, containing some glycerin to assist nebulization. Expressed in form of a prescription, this would be as follows:

R. Acid. carbolic	3 parts.
Glycerini	10 "
Aque destil	87 "
M. Sig. Use in globe or other inhaler.	

After a few inhalations of this, the air passages, as a rule, lose their irritability, and the iodoform and ether can be readily used.

A few patients will be found, however, to whom the odor of ether is intolerable. To these I give an inhalation of olive oil, containing ten per cent. of iodoform in solution. This solution can be made readily by any pharmacist. Iodoform is not very soluble in albolin, or this would afford, perhaps, a better menstruum for the purpose than does olive oil. The vaporization of the iodoformized oil is best effected by means of the globe inhaler. Lacking this, the McBride inhaler may be used, or it may be given with one of the nebulizers, such as are found in the pharmacies. I consider the oil and iodoform an efficient substitute for the iodoform and ether solution. I have seen no ill effect from the cold vapor produced by the ether solution in any case I have had under treatment, and my experience has led me to consider it the best of all inhalations for phthisis when it can be used.

I have obtained good results in the treatment of atelectasis by means of compressed air which is delivered through a large globe inhaler, at a pressure of about ten pounds to the inch. This should be used with caution, and not in advanced cases, lest it cause hemorrhage. The method of procedure is as follows:

The inhaler being connected with its atomizing attachment, the openings into the afferent end are closed, so as to permit the interior of the globe to hold the pressure when the patient's lips close over the mouth-piece. The air being turned on, the patient is directed to inhale deeply. The deep inhalation, aided by the vis a tergo of the compressed air, forcibly distends the lungs, opening up disused portions, into which the vaporized spray is carried. After practising this procedure the first few times, the amount of expectoration is frequently increased to a very great degree, and breathing becomes much freer and easier. The pneumatic cabinet would doubtless afford a more efficient means of effecting this than the one just described, but few physicians can afford to purchase so expensive an apparatus.

A number of patients present themselves who seem to have forgotten how to breathe properly. They expand the lungs so feebly that the distal parts seem to have consolidated simply from want of use. A little earnest advice on the use of "lung gymnastics" at home, together with the forcible inhalation through the globe inhaler, accomplishes much.

My experience with pilocarpine-phenyl-hydroxide in the treatment of malaria leads me to consider it a specific, and of even greater efficiency than quinine.

I have personally treated thirty-eight cases of this disease. In the great majority of cases the mode of administration was as follows:

On the first day of treatment, two hundred minims were injected as an initial dose. This was delivered into the abdominal parietes in two injections of one hundred minims each, on either side of the median line, the point of the needle being directed away from it. On the second day and each day following, until and including the seventh day of treatment, one hundred minims were given (injected into the ab-

dominal parietes in different places, first on one side of the median line, and then on the other). Then, on three alternate days, one hundred minims were given in a like manner. On the twenty-first day a dose of one hundred minims was administered, and, finally, the treatment was concluded with an injection of one hundred minims on the twenty-eighth day. Latterly I have given two hundred minims on the twenty-eighth day as a final dose.

In not a single case has there been any recurrence of the malarial paroxysm after the first injection of two hundred minims, nor have any of my cases had a recrudescence or a recurrence of the attack. The patients appear well in every way within a few hours of the first injection. The medicine appears to act equally well when given during the paroxysm, or during the intermission or remission, and in remittent types as well as intermittent. Dr. John H. Ripley, of New York City, used the solution in two cases of malaria, which he describes as follows:

"The first was a complicated one, but the malarial factor seemed to yield readily. The second was a very chronic malarial poisoning, in a very young girl. Her case was treated according to your plan, carried out to the letter (described in the foregoing). She came from Brooklyn, and remained in New York so as to get the full benefit of the treatment. The disease yielded by degrees. After one week she appeared well, but a relapse occurred a week after the treatment was discontinued. I then sent her to a non-malarious country place in Connecticut, where she has since resided, and remained well. This was a very obstinate case of recurring malaria, in which I had given large doses of quinine hypodermatically, with only temporary relief."

In reporting results obtained from the application of the treatment described in the foregoing, I find myself confronted by many serious difficulties, not the least of which are lack of time and space. My practice has demanded an amount of attention that has put serious obstacles in the way of my work. I have, however, been very greatly assisted in testing the fluid by able practitioners, to whom I owe a debt of gratitude. Among these are Dr. R. P. Lincoln, Dr. John G. Perry, Dr. E. N. Brandt, Dr. John H. Ripley, of New York City, and Dr. Lewis Balch, of Albany, N. Y. The experience of these gentlemen will probably be given in articles of their own. I have prepared and written reports of a large number of cases treated, but in an article of this kind find space for only a very few typical ones, more to illustrate the method of treatment than its efficiency.

CASE I.—W. M.—, male, aged twenty-four, good family history. Has suffered from cough; normal weight, about 158 pounds; September 3, 1895, 128 pounds; had occasional night sweats and attacks of facial and intercostal neuralgia. Expectored about an ounce and a half of muco-purulent sputa daily, containing large numbers of tubercle bacilli, also streptococci; a slight daily rise of temperature, 99.4° F. to 100.3° F. being the evening temperature. Physical signs showed a small cavity surrounded by an area of consolidation, in middle lobe of right lung. This general condition was first noted in December, 1894, but improved so as to have entirely disappeared during a six months' residence in New Mexico. Upon return to New York, there was recrudescence. Prior to September 3d he received extract of malt with cod-liver oil, creosote carbonate, and a cough mixture containing codeine and ammonia. Under this the patient rapidly lost ground.

September 3d.—Sixty minims of the fluid were injected into the abdominal parietes, and iodoform spray administered. Nutrient treatment, consisting of emulsion of cod-liver oil ~~somewhere~~ in chocolate,

egg phosphate, etc., was prescribed. The dose of the fluid was increased ten minims daily, until one hundred minims daily were given.

September 10th.—Cough much better, expectoration diminished one-half, and containing fewer bacilli; temperature normal; no return of night sweats; physical signs seemed slightly improved.

October 1st.—Had had one hundred minims daily since September 10th, and the spray had also been daily administered. No cough or expectoration; with difficulty a little sputa, consisting purely of mucus, could be obtained, and this contained no tubercle bacilli. The patient seemed in normal health; had gained six pounds; appetite excellent; objected to further treatment, on the ground that he was well. This improvement has been held until the present time, January 4, 1896, except that the patient had a severe coryza and slight bronchitis in November, which necessitated treatment for one week, during which he was given one hundred minims of the fluid daily, and the spray as described in foregoing. Patient has not yet regained his normal weight, however, weighing at date 148 pounds. His sputa have been repeatedly examined, but no bacilli have been found.

CASE II.—L. B.—, female, twenty-two years of age, married, good family history, has had two children, both being well and strong. Disease is of long standing, beginning some time in 1892. Apices of both lungs showed extensive atelectasis; bronchitis with profuse expectoration, about three ounces of muco-purulent sputa daily; no cavities, but some shreds of fibrous lung tissue in sputa, which also contained large numbers of tubercle bacilli; loss of weight, strength, and appetite; diarrhoea; night sweats; cough severe and almost constant, breathing hurried; shortness of breath preventing much outdoor exercise, very little exertion inducing palpitation; patient very anæmic. An ulcer, probably tuberculous, was disclosed by laryngoscopic examination in arytenoid space. Patient spent the summer at Liberty, N. Y., and had greatly improved, but lost this improvement, and something more, on return. A treatment up to October 17th had consisted solely of creosote, cod-liver oil, and quinine. On October 17th, one hundred minims of the fluid and the spray of iodoform and ether were administered, and these were continued daily thereafter until October 20th. No change, except that patient said her appetite had much improved; she also said something was making her nervous; the bowels were still loose. One hundred and ten minims of the fluid and spray were daily administered, until November 1st. Within this period a very great change for the better had taken place; patient coughed less, slept well, had good appetite, had gained three pounds in weight, expectoration was much less, and there were no night sweats. Tubercle bacilli were still present in the sputa, but in less numbers, and no lung tissue appeared under the microscope. The movements from the bowels had been normal since October 22d.

This patient's daily condition continued to improve until November 28th, under the daily treatment I have described. Just prior to this date her sputa were examined, and no tubercle bacilli found. She had gained ten pounds in weight, and the amount of sputa decreased until only about one-half ounce daily was expectorated; her cough grew less and less. On the latter date (November 28th) the patient complained of nausea and loss of appetite. These conditions persisted for a week without return of other symptoms, except that the patient lost about three pounds in weight. Feeling that the treatment was causing the unfavorable symptoms, I discontinued it for one week, during which they ceased. During the discontinuance of the treatment she developed an attack of acute bronchitis,

and while she was still suffering from it I resumed the treatment, giving one hundred and twenty minims the first day and the spray. The following day I gave one hundred minims and spray, and continued that treatment daily for one week, then every other day until the present time (January 4, 1896). She recovered quickly from the bronchitis, regained her weight and about six pounds additional. Microscopic examination shows a recrudescence of the tuberculous infection. She still has a slight cough; the laryngeal conditions disappeared during the fourth week of treatment. She expectorates at present but very little, and the sputum still contains a few tubercle bacilli. There are no night sweats. Patient is strong and able to take an abundance of outdoor exercise.

This case is a very good example of a number in my own practice and in that of other observers, where the treatment has accomplished a great deal, and where it promises still more. At the same time it is a constant struggle in these cases to keep the upper hand of the disease.

The reports which follow I have received from Dr. John G. Perry, of New York City. Dr. Perry's practice makes such demands on his time that he found it impossible to write more fully. As he says in the note which came with the reports:

"If the enclosed cases are of any value to you, pray use them. I have had to write them as they appear, for I had no more time to give. Really, one needs more time than I have been able to find, to properly study the results of your solution of pilocarpine-phenylhydroxide.

"CASE I.—Miss C—, family history good. Had suffered for several years from insufficient sleep, hemiplegia, cold extremities, dysmenorrhœa, and menorrhagia. Very anæmic. Not finding uterine disease or displacement, and learning that she had formerly resided at Elizabeth, N. J., concluded that the condition was one of miasmatic origin, and began the use of hypodermatic injections of pilocarpine-phenol (Edson), without adjuncts. As she was not able to visit me daily, there was no regularity in the treatment, but improvement began at once. Menstruation began after the fifth injection, lasted but four days, and was not attended with pain. After the tenth injection, being free of the symptoms complained of, was discharged.

"CASE II.—Miss G—, aged twenty-two years. A resident of Long Island. Had long known of her as a victim of insomnia, mental depression, and dyspepsia. In 1894 she appealed to me for relief from the above symptoms, and also from acute indigestion, which indicated gastric catarrh. For this I employed lavage, which gave her immediate relief, but exacerbations occurring whenever the atmosphere became humid, as she found it difficult to come to the city regularly for treatment, she was taught to use it herself. Recognizing the cause to be malarial and one she had never suspected, as she could not remove herself from its influence, I thought it more charitable not to mention it to her; but after receiving the pilocarpine-phenol (Edson), I sent for her and kept her in town, and gave daily injections of it in fifty-drop doses, hypodermatically. At the end of three weeks she had recovered her health entirely, could sleep through the night, was without headache and without indigestion, and had gained nine pounds in weight. She returned home, December 30th, and has remained well since.

"CASE III.—Miss T—, aged twenty-six years. Father died of cancer of the stomach. Mother a neurotic. Always delicate, of feeble constitution, and subject to bronchial cough as well as gastric catarrh. At the time of receiving the solution from Dr. Edson, she was preparing to go South, having developed a lesion at the apex of the right lung, with cough, sputa, a constant temperature of $99\frac{2}{3}^{\circ}$ F., and the beginning of a

catarrhal form of phthisis. As the patient lived far away, and could come to me only when the weather permitted, I could not carry on the treatment according to Dr. Edson's formula, but on January 9th I gave the twelfth injection of fifty minims. The cough has ceased, temperature fallen to $98\frac{3}{4}^{\circ}$ F., appetite has improved with general strength, and the patient is so much improved that she begs permission to remain at home to continue treatment."

I have used injections of the solution in a number of cases of catarrhal and febricular gripe, occurring from the first week of December, 1895, to January of this year. No bacterial examination was made in these cases, however, and I can only say that they presented symptoms which were referable, in my opinion, only to contagious influenza. Two cases will serve to illustrate its effect in this disease.

CASE I.—S. C—, aged thirty-two years, residence Elizabeth, N. J. January 15th, this gentleman called at my office, after having had a severe chill. Temperature, 103° F.; severe muscular pains, also pains in knee-joints. This gentleman has had severe attacks of gripe, and declares his disease identical with other attacks which occurred during the prevalence of gripe. I administered one hundred and eighty-seven minims of the fluid in a single dose, sent him home, where he remained in the care of Dr. McLane, of Elizabeth, who gave him one injection of one hundred and twenty minims. He was completely well after about six hours. His previous attacks, he says, were not so severe at the outset, but lasted from ten to fourteen days.

CASE II.—Mrs. T. F. G—, aged twenty-two, had slight chill, followed by extremely severe cough and fever, December 12, 1895. Subcrepitant râles were heard over posterior of both lungs; temperature, $103\frac{1}{2}^{\circ}$ F.; respiration, rapid; pulse, 120, full and bounding. Severe pains, over chest from coughing; face flushed; profuse sweats; extreme depression. This patient for three days remained in about the condition I have described. On the fourth day, owing to having slept exposed to a draught, her symptoms appeared suddenly worse. Patient had a slight chill; temperature, taken after its immediate subsidence, was found to be 104° F. I gave a single dose of two hundred minims of the fluid, and this was followed by a subsidence of all symptoms; within twenty-four hours she was convalescing nicely. I did not repeat the dose of the remedy. She made an uninterrupted recovery, and was able to go out and resume her ordinary habits of life, within four days after the injection.

It is necessary to say a few words in reference to the permanence of any cure or apparent cure in a case of tuberculous disease. In the first place, patients once having had such a disease, must be considered susceptible to its infection and liable to a reinfection and a new attack. Their susceptibility, however, is likely to diminish. Each year, as they grow older, will doubtless effect changes that will render their systems less favorable soils for the growth and development of the bacilli. Second, areas of infected structures may become encysted and remain so for long periods, during which an apparent cure will seem to have taken place, the condition being one which, in fact, will delude the patient only while the encystment endures. Should something occur to break the latter down and free the bacilli, a recrudescence of the disease will at once follow. These two conditions, it seems to me, must always obtain, and must be considered not only in the case of the treatment I have just described, but as affecting the permanence of results that may be obtained through the means of any treatment that does not involve the use of a preventive virus.

Time and space have permitted only the description of the treatment with sufficient detail to enable any

physician to apply it. Beyond this—and a few references to the theory I believe underlies it—I have not gone. We pride ourselves, and justly, on this side of the Atlantic, on our practicality. As physicians, we ask for results only, and no theory has a living chance among us, if results do not follow its application.

It is for this reason that I submit this treatment to the profession. From what I have personally seen in my own practice, and from what has been told or written to me by scientific men for whom I have respect, I confidently believe this method of treatment will afford the best result yet obtained, not only in the cure of phthisis and other forms of tuberculosis, but of other diseases of germ origin. The possible curative range of the fluid is obviously very wide.

It is now in the hands of about fifty physicians, in different parts of the country. I will leave for a subsequent report the descriptive histories of a number of cases included in the following summary.

The total number of cases that have been and are being treated with this fluid which have been reported to me to date, is 216. Of these, improvement is reported in 212 cases, and no improvement in 4 cases. Of the improved cases, 23 have been discharged cured; 66 will, in the opinion of the attending physician, be discharged cured; and in 91 cases, while improvement is noted, no definite prognosis can be made yet. In 32 cases the improvement was only temporary. Of those in which no improvement has been noted, 1 has died.

PUERPERAL ECLAMPSIA.¹

By T. J. BELL, M.D.,

TYLER, TEXAS.

MR. PRESIDENT, AND GENTLEMEN OF THE NORTH TEXAS MEDICAL ASSOCIATION: In response to an invitation extended to me through your worthy chairman of this Section, Dr. J. T. Wilson, to read a paper before your honorable body, I propose to discuss an old and recognized disease of the puerperal state, viz., eclampsia. Not that I expect to convince your minds that what has been held and written upon the etiology, pathology, or treatment of this most formidable malady has been done in ignorance, or has been the result of altogether erroneous investigation. Nevertheless, it is very apparent to any one searching for light upon the subject that there is no disease or condition upon the pathology of which there is greater disagreement or diversity of opinion than puerperal eclampsia.

Until 1843, when Lever discovered albumin in the urine of patients with eclampsia, there was perhaps no well-defined opinion as to the cause of convulsions in puerperal women.

It was then thought that the key to the etiology of the disease had been discovered, but later researches have proved that the relation between albuminuria and eclampsia is not so universal as was once supposed, or at least some other factor was necessary to explain many cases.

Numerous cases were observed in which albumin was detected in large quantities, without any convulsions attending or following, and Braxton Hicks was of opinion that albumin and convulsions appear almost simultaneously, and could only be explained in one of three ways, viz.: 1. That convulsions are the cause of the nephritis. 2. That convulsions and nephritis are produced by the same cause, *e.g.*, some detrimental ingredient circulating in the blood, irritating both cerebro-spinal system and other organs at the same time.

3. That the highly congested state of the venous system, induced by the spasm of the glottis in eclampsia, is able to produce the kidney complication. More recently, Traube and Rosenstein have advanced a theory of eclampsia, purporting to explain these anomalies. They refer the occurrence of eclampsia to acute cerebral anæmia, resulting from changes in the blood incident to pregnancy; the primary factor is the hydroemic condition of the blood, which is an ordinary concomitant of the pregnant state, and, of course, when there is albuminuria the watery condition of the blood is greatly intensified, hence the frequent association of the two states. Accompanying this condition of the blood there is increased tension of the arterial system, which is favored by the hypertrophy of the heart, which is known to be a normal occurrence in pregnancy. The result of these combined states is a temporary hyperæmia of the brain, which is rapidly succeeded by serous effusion into the cellular tissue, resulting in pressure on its minute vessels, and consequent anæmia. There is much in this theory that accords with the most recent views as to the etiology of convulsive disease, as, for example, the researches of Kussmaul and Tenner, who had experimentally proved the dependence of convulsions on cerebral anæmia, and of Brown-Séquard, who showed that an anæmic condition of the nerve centres preceded an epileptic attack.

But, referring to Verrier's fourth edition, as revised by Partridge, of New York, we find that he gives, as predisposing causes: 1. Primiparæ, stating that eight out of ten cases are primiparæ. 2. Persistent albuminuria, uræmia, and uranæmia, and that many women have considerable albumin in their urine but no uræmia in their blood, and these are not attacked with eclampsia. As exciting causes he places rickets first; then the pressure of the womb upon the viscera and nerve plexuses; and, third, plethora, followed by cerebral congestion, perhaps resulting from either painful distention of the womb during pregnancy, vigorous contractions rendered inefficient by some obstacle, as abnormal rigidity of the cervix, certain obstetrical operations, etc. But, notwithstanding these very sanguine statements by men in the front rank of the profession, we have these words from William L. Richardson, of Boston, in 1889: "The profession is not yet in accord, either as to the etiology or the treatment of puerperal eclampsia." Santos, he says, believes, from a very careful study of fifty-three cases which have occurred in the clinic at Buda-Pesth, that albuminuria occurring in pregnancy is the result of a reflex irritation of the sympathetic and renal nerves; this irritation is due to the irritation of the uterine nerve, incident to its enlargement, and, later, to its contraction and retraction; that eclampsia is, as it were, an acute peripheral epilepsy, having its origin in the uterus.

Albuminuria, according to this idea, is a physiological condition in pregnancy, and, in fact, is of diagnostic value.

Lusk and others believe that it is renal insufficiency and not albuminuria which causes uræmia and subsequently convulsions. Pajot believes the cause is reflex, culminating in a cerebro-spinal centre in close proximity to the disorganized centre, which presides over the existence of albuminuria; in other words, he believes that albuminuria simply predisposes to attacks, but does not act as the exciting cause.

After reviewing the opinions as given by the foregoing authorities, it is evident that the time has not yet come in our profession when any one can say, without doubt, "Eureka," in regard to the etiology of puerperal eclampsia.

Papers have been read and discussed in our State Medical Association—one by Dr. J. D. Bass, at the session of 1886, in which he quotes from Professor

¹ Read in the Section on Obstetrics at the meeting of the North Texas Medical Association in Greenville, Texas, Dec. 10-12, 1895.

Meigs, that it was the result of engorgement, or a hyperæmic condition of the kidneys, and an increased impetus sanguinis of the circulation, and a result, says Dr. Bass, rather of the quantitative than of the qualitative condition of the blood. This I believe to be nearer the truth than anything that has been heretofore written upon the subject. Whether the primary cause is the engorgement of the kidneys in all cases—of this I have some doubt—there is no doubt in my mind as to the increased flow of blood to the brain being the exciting cause in all cases of puerperal eclampsia.

There are few women, perhaps, in the gravid state who do not have œdema gravidarum to a greater or less degree, and yet I cannot think that it necessarily follows that every pregnant woman must have albumin in her urine in order to account for this œdema. Whether there be pressure upon the kidneys or upon the blood-vessels supplying the kidneys or returning the blood from them, there is always more or less pressure by the heavily loaded womb upon the veins passing out of the pelvis and distributed to the lower extremities, thereby obstructing the return of blood from these parts, and that blood stasis maintained for several months will necessarily produce an œdema of the feet and lower legs. Neither do I believe the generally accepted theory that the blood of pregnant women is necessarily hydræmic; this I regard as the opposite extreme of the antiquated theory of plethora in all women in the gravid state. A happy medium between the two theories will perhaps accord more nearly with facts.

There are, I think, unquestionably two classes or conditions in the puerperal state that predispose to eclampsia—one is anæmic, and the other plethoric. Of the plethoric, I believe the larger number are primiparæ; how frequently we have seen young women, who were in vigorous health, blood rich so far as we can discover in all its physiological elements, either with the first pains of labor, or it may be later on, to our utter astonishment and horror, have a convulsion or eclamptic fit. Certainly we could not reasonably conclude that such a robust and healthy-looking woman had been suffering with kidney trouble, or albuminuria, or hydræmia. No, indeed; her kidneys are all right and her blood is all right, but at the inception of labor, when the nervous system has been taxed to its utmost for eight or nine months, the reflex irritation brought about by the irritation of the uterine nerves is conveyed to the brain, producing cerebral excitement, the heart receives the impression, and with increased energy it propels the rich blood to that great nerve-centre, until we have an active congestion or hyperæmia; and the woman, as a result, has convulsions. In the other class, generally, I believe, multiparæ, we find an anæmic or bloodless condition; really whether there is an abnormal diminution of the quantity of the blood in the body or not, there is certainly hydræmia, or a condition of the blood in which the watery constituents predominate.

This hydræmia, whether brought about by renal insufficiency, nephritis resulting in non-elimination of urea by the kidneys, or the depletion of the blood of its most important element, albumin, I am not prepared to discuss; however this may be, we always, I believe, find in these cases more or less albumin in the urine, and I think we may reasonably conclude that in this class of cases there is always more or less kidney complication. This deteriorated blood being deficient in its nutritive elements, an increase in the quantity is demanded to compensate for the lack in quality; and, at the same time, urea perhaps being in excess in the blood, irritating the already over-sensitive brain, the demand is made upon the heart, and we have a greater quantity of the poor watery fluid propelled by the heart through the arterial system than

the over-filled and weakened veins are able to return; and the consequence is blood stasis or passive congestion, and the poor bloodless creature has convulsions in consequence of the pressure upon the brain.

As to the symptomatology and treatment of these two types of eclampsia, I am of opinion that as we will almost invariably find a different train of symptoms in these two types, so should our treatment be almost entirely different; for instance, in the plethoric type we have a full-blooded, robust, healthy woman, with a heart equal in force almost to a small engine propelling the rich red blood throughout the system, and up to the very moment almost that her whole frame is thrown into a convulsive state, she is perfectly well, no symptom of disease; then her face and eyes become a diffused red, almost purple, hue; her heart beats violently, with a full, bounding pulse at the wrist; while in the anæmic type we find our patient has been feeble for some time previous, with a very poor appetite, headache a great deal of the time, face pale and swollen—in fact, has a dropsical appearance generally. The heart-beat is too fast, but not full and strong, and frequently complaint is made of dizziness or spots before the eyes for several days before the convulsions come on; then when the convulsions do appear, the face, instead of being of that diffused redness described in the plethoric type, is pale and looks almost like chalk or marble, while the heart is beating still more rapidly, and the pulse at the wrist is small and frequently so rapid that we can hardly count it. We find also in this class of cases a scanty flow of urine which is always, I believe, loaded with albumin to a greater or less degree.

In the management of these cases of eclampsia there is, as above stated, great diversity of opinion. Some men very prominent in the profession will bleed indiscriminately, while others equally prominent do not bleed at all.

At the meeting of the Texas State Medical Association, at San Antonio, in 1889, a paper on eclampsia was discussed, and these two extremes were very apparent. In plethoric, full-blooded, healthy women attacked with convulsions, when there are no symptoms of labor present, the most speedy relief perhaps would be to draw blood from the general circulation until the arterial tension has been reduced. After this has been done, I would give chloral hydrate and potassium bromide in large doses to quiet the nervous system, tincture of veratrum viride in large doses—say eight to twelve drops repeated at intervals of six to twelve hours, as is necessary to control the heart's action and keep the pulse from 60 to 80 beats in the minute. I also give a full mercurial course to unload the bowels and at the same time relieve any congestion that may exist in the renal circulation.

Generally it is not the safest to induce labor in these cases; however, if labor has set in and the convulsions continue, the womb should be emptied of its contents as speedily as is consistent with the welfare of the mother and child. There should be no iron rule governing us in the obstetric management of these cases; each individual case should be managed consistent with indications.

In a paper published in one of our Texas medical journals recently, an eminent professor in a St. Louis medical college asserts that "puerperal eclampsia can be cured, if taken in time, by the following methods;" and then goes on to say that chloroform should be given and the uterus emptied at once, even if it requires Cæsarean section to accomplish this end.

He makes no compromise and allows no latitude, whether the woman is at full term or only a few months pregnant; whether she is in labor or whether there is no symptom of labor, his rule, like the law of the Medes and Persians, cannot be changed.

I do not believe we are warranted in resorting to such radical measures in every case of puerperal eclampsia, and I do not believe there is a member of this Association who has seen many cases of puerperal eclampsia who would be guilty of such practice. In the first place, it is not sure that emptying the uterus will stop the convulsions; and in the second place, we know that speedy delivery of an immature fœtus means taking the life of a human being, whereas we may save the life of both mother and child by more conservative procedure.

In the anæmic type, as described in the foregoing page, general blood-letting should never be practised, for the reason that depletion of the vascular system would tend to increase the hydræmia, and could only be a temporary relief, if any at all, and more than likely would lessen chances of recovery.

Instead of bleeding a woman in this condition, give hypodermically from ten to fifteen drops of tincture of veratrum viride, to reduce the frequency of the heart-beat to 60 or 80, and repeat in quantity sufficient and at such intervals as will be necessary to maintain this impression, until other remedies can have time to act. Instead of large doses of calomel, as is necessary in the plethoric type, smaller doses repeated at intervals sufficient to act gently upon the bowels, and more particularly to act as a diuretic; moderate doses of potassium bromide and chloral hydrate to quiet the nervous system; digitalis, potassium bitartrate, or other diuretics and laxatives, tincture of chloride of iron, and other tonics, and the indications will have been met.

I have used hypodermics of morphine sulphate to control nervous symptoms with good effect.

As this class of cases is generally, or frequently at least, seen in multiparæ who have not advanced to the full term of gestation, the question will naturally arise as to their obstetric management. More often than otherwise, perhaps, there are no symptoms of labor when the convulsions make their appearance. On examination, we may find our patient at the fifth or sixth month of pregnancy, with a soft, dilatable, but undilated os, and no uterine contractions whatever. In such cases it is wise to let the fœtus alone, unless, in spite of all efforts to relieve the woman with other remedies, the convulsions continue to recur, and the mother's life is in great peril; then, and only then, are we justified in producing abortion, for it is only a question of a few days, perhaps, when labor will come on, and the fœtus will be expelled naturally. On the other hand, if the convulsions are controlled and labor does not succeed the eclamptic attack for several months, we may save two lives instead of one, as we surely would have destroyed the child if we had delivered at the fifth or sixth month of gestation, and would have stood a good chance of losing the mother also. After labor has been completed in this class of cases, there is usually not much danger from convulsions, but sometimes we shall find it necessary to watch our patient for weeks and perhaps months, occasionally finding it necessary to reduce the frequency of the heart-beat, and always to use means to correct the kidney trouble and tone up the general system.

Since this paper was written I have seen a paper, as read before the Alumni Society of Bellevue Hospital, by Dr. C. C. Barrows, in which he relates two cases—one in which he incised the cervix laterally and antero-posteriorly, while in the other case the canal was dilated manually. In either case, however, the delivery of the child failed to stop the spasms, and it was only when he resorted to large doses of tincture of veratrum viride that he was able to control or put a stop to the convulsions. In discussing this paper, Dr. J. Clifton Edgar stated that only about two years after Dührssen had published his article advocating the use of deep incisions into the cervix, his further experience

had had the effect of dampening his enthusiasm, and after that time he had advocated their use only in extreme cases. Dr. Edgar believes it is only in very exceptional cases that the obstetrician is justifiable in dividing the lower uterine segment from the external os to the utero-vaginal junction. The operation, he believes, is extremely limited in its usefulness, as it is applicable only to cases in which the internal os has already been dilated. There must be this preliminary dilatation. He does not believe that any drug, except possibly chloroform, is of as much value as veratrum viride in eclampsia.

It would seem from the discussion of this paper that the value of veratrum in puerperal eclampsia had not been generally known; doubtless the usefulness of the drug had been overlooked merely in the North and East, notwithstanding many Southern physicians had been using it for years.

REPORT OF CASE OF SUPPOSED ABSCESS OF LIVER, LAPAROTOMY, EXCISION OF PIECE OF LIVER, WITH RELIEF OF SYMPTOMS AND COMPLETE RECOVERY.¹

By GEORGE L. PEABODY, M.D.,

NEW YORK.

THE patient who forms the subject of these remarks is a policeman in the service of the park department, a native of Ireland, unmarried, who was twenty-nine years of age when he came under observation in the New York Hospital, in October, 1892.

Prior to the illness that I shall briefly describe to you, his general health had been excellent; he had had occasional attacks of diarrhœa, but otherwise had been always well.

The illness for which he sought relief in the hospital had commenced without known cause on August 6, 1892, about two and a half months before he was observed by me. At that time he began to suffer from abdominal cramps. These were followed in twenty-four hours by a severe chill, fever, and sweat. In a few days there developed a very marked tenderness to pressure in the right hypochondrium, which continued to grow steadily worse during the weeks of illness that preceded his admission to the hospital. During the first five or six weeks of his illness he had frequent sharp chills, which were always followed by fever and sweating. These paroxysms were of irregular occurrence, sometimes coming twice in twenty-four hours and sometimes allowing a day or more to intervene between them. They were thought by his physician to be malarial, and on that supposition he received full doses of quinine, *i.e.*, thirty-six grains a day for three weeks. The frequency and severity of the paroxysms were not modified by this treatment.

In addition to the tenderness in the right hypochondrium to which I have alluded, he complained of having suffered for two months from a steady, continuous pain just below the ensiform cartilage, which seemed to associate itself with the tender area to the right of this spot. For two weeks prior to admission he had complained of pain in the right shoulder.

During his entire illness he had suffered from complete anorexia and had lost sixty-five pounds in weight.

On admission to the hospital on October 21, 1892, his whole liver region was painful and very tender to pressure. Liver dulness began at the fifth intercostal space in the mammillary line and extended one and one-half inches below the free border of the ribs. The spleen was not palpable. The patient was greatly emaciated. No other abdominal and no thoracic lesion could be made out.

¹ Read at a meeting of the Practitioners' Society, Friday, January 3, 1896.

His bowels were regular; his appetite poor; his temperature was 99.2° F., and his pulse 96 and compressible.

His urine was normal. He had no chills after he came under observation, but his temperature frequently rose several degrees above the normal and his pain and tenderness in the hepatic region did not vary; the pain in the right shoulder continued.

He was observed for ten days, during which time there was no material change in his condition. At the end of this time, with the concurrence of Dr. Bull, he was transferred to one of his wards for operation. It seemed to us that the character and duration of his symptoms pointed strongly in the direction of hepatic abscess; and with that diagnosis Dr. Bull performed laparotomy on October 31st, eleven days after he came under observation.

The liver was exposed and found to occupy the space indicated by the physical examination.

The surface of the left lobe was studded with minute white dots, not elevated above the surface and suggesting the appearance of miliary abscesses or very young tubercles. The surface of the liver was smooth and presented no point of bulging. A medium-sized aspirator needle was thrust deeply into the left lobe and subsequently into the right. The aspirator withdrew a small amount of blood in each case, and nothing else.

A small elliptical piece of liver tissue was removed containing several of the minute white spots and was sent to the pathologist of the hospital, Dr. Ferguson, for examination. He hardened it and examined sections, and reported that it contained many microscopic aggregations of small round cells which looked like minute abscesses.

The wound healed slowly, the fever and pain and all of the other symptoms disappeared, and the patient was discharged from the hospital on November 23d, apparently well. He had had no recurrence of any of his symptoms while he remained in the hospital after the operation.

He re-entered the hospital on the medical division on December 2d. After leaving the hospital he continued to feel well for four days, when pains, more or less colicky in character, developed in the abdomen, chiefly on the left side and in the back. His appetite was good and his bowels constipated.

His liver appeared to be normal in size. There was tenderness in the left iliac fossa.

He was purged and treated subsequently only with placeboes, and a carefully restricted diet. During the next three weeks he had much fever of an irregular type, his temperature often rising above 104° F., and there being no fever often for days together. Toward the end of December all symptoms again disappeared, and he again left the hospital.

During the last three years I have seen him frequently; the last time only two days ago. He has been in perfect health all of the time, and is now absolutely strong and well and has regained his normal weight. He tells me that he has not lost a single day during these three years, and that he never felt better in his life. I did not ask him to come here this evening because several other patients were expected, and, moreover, a careful examination of him conducted within ten days revealed no abnormality, except the scar of the abdominal incision.

It seems to me that most of his prominent symptoms suggested naturally the diagnosis of hepatic abscess or pylephlebitis, especially the pain and tenderness and swelling of the liver, the septic fever, the pain in the right shoulder, and the emaciation. The nature of his malady is still a mystery, and also the relation, if there be any, between the treatment to which he was subjected and his recovery.

ANTIPHTHISIN IN TUBERCULOSIS.

By C. P. AMBLER, M.D.,

CANTON, OHIO.

FOR some six months past I have made use of antiphthisin in the treatment of several cases of pulmonary and local tuberculosis, with results so gratifying that I believe it my duty to call the attention of the profession to this remedy, by the following report of cases treated, which includes all as they came under my notice. It is not my intention to enter into theoretical considerations as to the action of the remedy, and refer the reader to several publications by Dr. Karl von Ruck,¹ of Asheville, N. C., and also by Professor Klebs,² for such additional details.

In my clinical use of antiphthisin, I have noticed no unfavorable influences whatever.

CASE I.—Male, aged twenty-three; gave the following history: Family history fairly good; patient had enjoyed good health until March, 1894, when he had typhoid fever, from which he dates the beginning of the present affection. A year ago he sought a change of climate, going to Asheville, N. C., but he gradually became worse, when, after two months, he had become confined to bed, and at that time entered the Winyah Sanitarium, under the charge of Dr. Karl von Ruck. He remained there two months, during which time he was treated with antiphthisin, and his improvement there was rapid and satisfactory. Returning to Canton, Ohio, his home, he was referred to me for further treatment with antiphthisin. I examined this patient in June last, for the first time, and found a good-sized cavity in the left upper lobe, with dulness on percussion, both anterior and posterior; there was dulness also in the lower portion of the left lower lobe. Throughout this lung I found bronchial and broncho-vesicular respiration, with râles and crepitations. The right lung, too, showed unmistakably infiltration of the upper lobe; the middle and lower lobes were comparatively free. Temperature ranged from 97° to 101° F. Pulse, 106 to 120. Weight, 114 pounds (former weight in health, 148 pounds). Cough frequent and expectoration profuse, showing tubercle bacilli in considerable numbers. Digestion fair. Expansion of chest, one inch.

From the statement of the patient that he was much improved over his condition when he was first treated with antiphthisin, it may be inferred that the case was a very unfavorable one, and I so considered it at this time. No other medication was employed.

Antiphthisin in doses from 0.5 c.c. to 2 c.c. daily per rectum was administered, with few short intermissions to the present time.

A gradual improvement of all symptoms was observed, and has been uninterrupted to the present time.

Examination now shows entire absence of all râles and crepitations, the evidence of infiltration on the right side has entirely disappeared, percussion and auscultation giving normal conditions. The lower lobe of the left lung has also gradually been clearing up, so that at this time there is a fair respiratory murmur throughout. The cavity in the left upper lobe, of course, remains, but there has been no further breaking down of tissue, and the greatly diminished secretion justifies the belief that cicatrization is taking place. The surrounding area has become clearer from month to month. The temperature now does not exceed 99° F.; pulse, 80 to 96. Cough is confined to early morning and expectoration is so little that it is difficult to obtain a specimen for examination. Chest

¹ Therapeutic Gazette, March 15, 1885; Cincinnati Lancet and Clinic, June 15, 1895.

² Journal of the American Medical Association, October 12, 1895.

expansion has increased to two and one-fourth inches, and weight from 114 to 124 pounds.

The case to me appeared to be a hopeless one, in the beginning of my connection with it, but there is now every prospect of continuous improvement.

CASE II.—Female, aged twenty-seven. Examined first, July 14, 1895. States that she has had enlarged glands in supra- and infra-clavicular spaces and axilla on both sides, for about six years, the condition gradually growing worse. Father died of tuberculosis. At the first examination I counted thirty-seven enlarged glands, the largest of the size of a walnut, and a number of them quite tender and painful. One in the left axilla was so large and tender that the patient had to hold her arm out and away from her body.

In addition, there was evidence of pulmonary tuberculosis; a short percussion note and harsh respiration were observed in both apices. Temperature ranged from 97.8° to 99.5° F. Pulse, 92 to 108. Respiration, 18. General nutrition fair, but patient complained of being weak.

Dr. von Ruck, of Asheville, who happened to visit me at that time, saw the patient with me, and gave it as his opinion that the case was one of glandular tuberculosis, with beginning involvement of both lungs, and advised the administration of antiphthisin, which was done, to the exclusion of all other medication, beginning with 0.5 c.c. hypodermically and increasing to 1 c.c. Twelve of the glands also were injected directly with doses varying from 0.2 to 0.8 c.c.; one gland softened and broke down, and contained cheesy débris, which was evacuated by curettage. Tubercle bacilli in large numbers were found in the liquid discharge. The cavity was repeatedly curetted and packed with cotton soaked with antiphthisin, and it soon healed.

At the end of the first month of treatment, the circumference of the neck had diminished from fifteen and one-half to fourteen inches; many of the glands had entirely disappeared. The patient was now given an intermission of three weeks in the treatment, when, upon resuming the treatment, several of the glands again became enlarged during the first week of the injections, but disappeared thereafter. The treatment after the intermission continued three weeks; her pulse and temperature were then normal, the neck measured only twelve and three-fourths inches, and a gain in weight of twenty-three pounds had been made. Patient feels strong and well. There are still three quite prominent glands on the right side of the neck, two behind the left ear, two each in the right and left axilla. These glands have not changed at all from the first, and I hesitated to inject them directly, fearing their breaking down, as did the one previously mentioned. A letter from her husband, dated November 28th, states that she still continues to improve.

CASE III.—Male, aged forty. Patient presented himself August 3, 1895, with an ulceration extending over about half of the conjunctival surface of the lower lid of the left eye, involving the cartilage and also the integument to the extent of half a finger breadth; the ulcerations had existed for more than a year, and treatment at the hands of several physicians had proved without avail. The ulcer appeared scooped out, presenting but little inflammatory action, was bathed in pus and was not particularly painful. Ordinary dressings and remedies were applied, including curettage and cautery, without improvement. At the end of a month, on September 3, 1895, no improvement having taken place and tuberculosis being suspected, the pus was examined and quite a number of tubercle bacilli were found. Under local application of antiphthisin daily, the ulcer rapidly improved and was completely cicatrized on September 25th, when the patient was discharged. No relapse has occurred to the present time.

CASE IV.—Lady, aged twenty-six, presenting chronic ulcer upon the chin. In perfect health otherwise. Consulted me, September 9, 1895. The ulcer, which had existed since December, 1893, was said to have started from a pimple. At times almost healing over, it always opened again; it had previously been cauterized with caustics and galvano-cautery, powdered, washed and dressed, and anointed, but all without benefit. I made several microscopical examinations of the discharge, but could not find any tubercle bacilli. Nevertheless, the patient having a tubercular family history, and in view of my experience in Case III., I determined upon local treatment with antiphthisin. At the end of a week there was already unmistakable evidence of improvement, and on October 20th the ulcer had entirely healed, leaving only a slight depression as the evidence of the former obstinate trouble. At this time, December 3d, there is no evidence of relapse.

CASE V.—Male, aged forty-two, a gentleman of high intelligence, consulted me, November 8, 1894, for a discharge from the middle ear. Had been in poor health for about five years, having to spend part of his time in travel in order to recuperate. Weight, 110 pounds.

Had been treated for his ear affection by several prominent aurists, both at home and abroad, with only slight and temporary relief. I found perforation involving about one-fourth of the tympanum; the incus and stapes were both destroyed. The discharge was not profuse, but sufficient to be a constant annoyance. I treated him irregularly until September 1, 1895, with only temporary relief. At this time I examined the discharge for tubercle bacilli, but found none, and resolved to try antiphthisin. Local applications were made upon a pledget of cotton, the same being left in position. At the end of three weeks, all discharge had ceased, but the applications were continued until October 16th, and since that time to the present there has been neither discharge nor pain.

CASE VI.—Female, aged fifty-four, consulted me last July for troublesome cough and labored breathing. She had been treated for the year past for asthma and bronchitis, and during this time had lost twenty pounds in weight. Temperature at time of examination, 100.5° F.; pulse, 124; respiration, 32. She was unable to sleep except by short naps, on account of constant cough. Expectoration was variable in amount, at times but little, and at other times very profuse. Both upper lobes presented evidence of consolidation, the left side being apparently solid. No cavity could be demonstrated; the microscope showed large numbers of tubercle bacilli in the sputum.

Antiphthisin was given hypodermically in doses beginning with from 0.2 to 1 c.c. In the course of the treatment the temperature varied greatly between 100° and 104° F. as maxima, both with and without the injections. The treatment was continued until November 1st last, when she joined her husband in Washington, D. C., where she is to spend the winter. During the last month the temperature became better, and whereas in the beginning she found it difficult and fatiguing to come to my office in a carriage, she now walked the distance of a mile from her residence to my office without discomfort. The character of breathing had greatly improved, the frequency of the respirations having been reduced to 22 per minute; her expansion had increased from practically nothing to one and one-half inches.

The local area of involvement in the right upper lobe has entirely cleared, the respiratory murmur being normal. The left side shows slight improvement, the respiratory murmur being distinguishable in the lower lobe. The secretion from the upper left lobe is profuse, but no cavity has been demonstrable.

This patient was additionally treated with the pneumatic cabinet, which quite likely had a contributory influence in her improvement, especially of chest expansion.

CASE VII.—Female, in apparently good health, presented herself August 24, 1895, with a large ulceration on the right side of the nasal septum, involving part of the bony and part of the cartilaginous portions. The ulcer was about three-fourths inch long and one-half inch wide, with scooped-out appearance. A year ago she had some catarrhal trouble following an attack of influenza, and had picked her nose frequently at this spot, which was often followed by bleeding, and it had remained sore ever since. Washes, douches, and sprays had been used without benefit. She has a brother suffering from phthisis. Microscopical examination of the dirty gray mass which covered the ulcer revealed a few tubercle bacilli. After thorough cleansing antiphthisin was applied locally every day for three weeks, under which the ulceration healed from the edges, so that it was greatly reduced in size and of a healthy appearance. At this time she left the city, and I saw her last on November 16th. The ulceration had now entirely healed, and but for a slight depression I could not have told where it had been situated.

In addition to these finished cases, I have others under treatment, with corresponding prospects of success, which I propose to report in the future in their order of discharge, and, while the number of reported cases is small, they nevertheless appear to me of interest, especially those of local tuberculosis, in several of which a microscopical diagnosis was possible. Such cases heretofore, as a rule, have not been suspected as of a tubercular character, and I trust that others may be induced to apply this remedy in such obscure cases, thereby, perhaps, aiding in the directions of both diagnosis and of treatment, the latter being in my hands exceedingly simple and rapidly satisfactory.

Progress of Medical Science.

Cœliotomy with and without Drainage.—Dr. Czempin refers to the great fluctuations of opinion of authoritative operators, and notes that drainage is being less and less employed each year. He refers to the method advised by Sängér (the glass drain) and Mikulicz (the iodoform-gauze drain), and also to the indications for drainage as pointed out by Veit, Ols-hausen, and Martin. He notes that Sängér employs this form of drainage no more; that he has practically discarded drainage; that Veit believes the indications are very few; and that opinions are so varied that there are no fast rules to follow in any particular case. Czempin, through a period of nine years of operative work, has at times followed the advice of each of the above investigators, and has carefully studied the subject. He has found that each year fewer cases require the drainage-tube. From his observations the cases in which drainage may be indicated are divided into two great groups. First, operations upon non-infectious tumors, with unfavorable complications caused by the condition of the relations of the operation wound. Second, operations upon infectious tumors or those thought to be infectious, and operations complicated through injury to the intestine, the escape of pus or decomposed fluid. First, complicated non-infectious operations. To this group belong (a) intra-ligamentary-developed new growths resulting in the necessary extensive separation of the pelvic connective tissue; (b) where the new growth has extensive adhesions with neighboring organs and the parietal peritoneum, therefore necessitating extensive injury to the peritoneum. Under these headings the

writer reports a series of cases with results which vary too much to be of practical use. In the first group, the separation of the pelvic connective tissue and the extensive wound results in the formation of the best culture medium for infectious organisms, and that infection takes place either through faulty technique, infection from without, or through intestinal bacteria, the result of injury to the intestine. He says that it is doubtful whether drainage does good in these cases; that the resulting exudate is quite as readily absorbed and eliminated by nature. As regards the second group of cases, he refers to the statistics of Zweifel of one hundred and three adnexa operations, with one death, where the rubber drainage-tube was employed, but says it proves nothing. The method of Schauta, Wertheim, and Fritsch (the microscopical examination of pus during operation) he believes has the correct object, but is not positive; that the organisms may not be virulent, they may be few in number and not found, and a certain number of cases are thus unnecessarily drained. The use of drainage complicates the operation, often causing suppuration in the abdominal wound, fistula, and hernia. Finally, he concludes that the result in complicated cœliotomy is only rarely improved by the use of drainage, and that in the greater number of cases where it is used it is not essential. If virulent organisms are present, it can scarcely save life; if the virulence is extinct, it is not necessary. Where in the removal of a non-infectious new growth the pelvic connective tissue is separated, drainage is not only unnecessary, but often does harm. Where there is a closed-off acute inflammatory process in a tumor in the peritoneal cavity and in its removal pus escapes into the peritoneal cavity, infection is to be feared. Particular caution should be taken that the least amount of the peritoneum is infected, and the material should be carefully removed with the sponge. The use of the iodoform-gauze tampon does not physically or chemically influence the result. The opening of acute inflammatory connective tissue in adnexa operations is very dangerous. Whether drainage can save the patient's life is questionable. In such cases he believes complete hysterectomy gives the best results. In adnexa operations he advises that the operation be performed six months after the last exacerbation. In cases in which the pelvic connective tissue is widely separated in the removal of a tumor (hæmatoma of the broad ligament) drainage is not necessary. In very difficult operations, where the pelvic connective tissue is widely separated and the case is septic, the best results are gained by complete hysterectomy and drainage with iodoform gauze through the vagina.—*University Medical Magazine*.

Asbestos as a Surgical Dressing.—Dr. E. O'N. Kane, of Kane, Pa., recommends asbestos as a practical and useful substance for surgical dressings. These dressings, he says, may be carried in any parcel, paper bag, or hand-satchel, may be handled by dirty hands, spattered by blood or any sort of filth, and yet can be rendered absolutely aseptic in less than two minutes by tossing them upon the coals or into the blaze of an ordinary kitchen stove. After having completed an operation, and just before he is ready to apply the dressings, they are thrust into the coals or flame of the nearest stove. The same dressings can be used, if necessary, though here it is advisable to wash off some of the discharges before the dressings are burned. Repeated burnings seem to injure the quality of the material somewhat. The form of asbestos most used is the asbestos fibre, which is as soft as silk floss, and its absorbent qualities are greater than those of absorbent cotton. Asbestos wicking, packing, and cording are adapted for drainage tubes.

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EXPIRED AIR AND ITS EFFECT UPON ANIMAL LIFE.¹

It was a wise grant from the Hodgkins Fund to provide means for "an investigation into the nature of the peculiar substances of organic origin in the air expired by human beings, with special reference to the practical application of the results obtained to problems of ventilation for inhabited rooms." The results in the paper before us prove that this important investigation was entrusted to the proper persons. We need not emphasize the evil effect of what is usually called bad ventilation; it is, perhaps, true that acute diseases are not to be traced to the same, but it may be safely stated that there is a distinct deterioration of vital forces in those who are constantly subjected to the impure atmosphere of badly ventilated rooms. The cause of the sickening sensation which comes over us upon entering an atmosphere contaminated with many breaths, or of the gradual deterioration of the vital forces which follows confinement in such an atmosphere, is not known. For a number of years prior to 1888, the view prevailed that the discomfort and danger to health and life in badly ventilated rooms were largely due to organic matters contained in the air expired, and that the increase in carbonic acid due to respiration has but little effect in producing the bad results. Recently, however, several experimenters have concluded that the organic matters in the exhaled breath are not harmful, at least to animals. According to the authors of this paper, the effects produced on animals and men by an atmosphere contaminated with their exhalations, and with particulate matters derived from their bodies or their immediate surroundings, may be divided into acute and chronic. The acute effect may be death in a few minutes or hours, as in the Black Hole of Calcutta, in the steamer Londonderry, and as in many of the experiments referred to in this report; or it may be simply great discomfort, especially in those unaccustomed to such conditions. In this connection the authors show the curiously interesting fact that in mice which had been subjected to a foul atmosphere a certain degree of immunity is obtained, a fact which clinical experience would seem to confirm. The workers in sweatshops, for instance, tolerate month after month a vitiated atmosphere which makes any person en-

tering the room for the first time extremely ill. As for the chronic effects of inhaling a contaminated atmosphere, the authors say that they include the favoring of the action of certain specific causes of disease known as contagious, if these are present, and, perhaps, also, a general lowering of vitality. The general results of this particular series of experiments indicate that in air expired by healthy mice, sparrows, rabbits, guinea-pigs, or men, there is no peculiar organic matter which is poisonous to the animals mentioned, excluding man, or which tends to produce in these animals any special form of disease. This contradicts the historical experiments of Brown-Séguard and d'Arsonval, who believed that their work proved the source of poison in the exhaled breath to be a volatile organic poison, of the nature of an organic alkaloid or a ptomaine. On the other hand, in these experiments, the injurious effects appear to be due entirely to the diminution of oxygen or the increase of carbonic acid, or to a combination of these two factors. It would also seem improbable that the small quantity of organic matter in the air expired from human lungs has any deleterious influence upon men who inhale it in ordinary rooms. And hence it is not necessary to take this into account in providing improved ventilation for such rooms. It seems that the air in an inhabited room, such as a hospital ward, receives its chief source of contamination from the particles of dust which naturally include some of the bacteria which produce inflammation and suppuration, and the authors think that these are the only really dangerous elements in this air. The experiments in which animals were compelled to breathe air vitiated by the products of their own respiration or by those of other animals again go to prove that there is no peculiar volatile poisonous matter in the air expired by healthy men and animals, other than carbonic acid. And the authors conclude that the evidence which has heretofore been supposed to demonstrate the evil effects of bad ventilation upon health should be carefully scrutinized. The bad effects of increase of carbonic acid and reduction of oxygen are greatly increased by excessively high or low temperature, and the relation between the carbonic acid increase and the diminution of oxygen which has been found to exist in badly ventilated churches, schools, or barracks, does not satisfactorily account for the great discomfort which such conditions produce in many persons. Nor has the amount of change in the normal proportion of these gases any influence upon the increase of disease and death rate which is known to exist among persons living in crowded rooms. It would seem, indeed, that the diseases of the lungs which are so prevalent among such people is due to the special liability of such rooms to become infected with the germs of these diseases, *i.e.*, of consumption and pneumonia, which are caused by specific bacteria. It is interesting to note in this connection that tuberculous disease of the lungs and pneumonia attack those living and working in unventilated rooms, provided they are not members of the Jewish race.

The results in the paper before us seem to justify the conclusion that the discomfort felt in crowded, ill-

¹ "Smithsonian Contributions to Knowledge, 989," by J. S. Billings, M.D.; S. Weir Mitchell, M.D., and D. H. Bergey, M.D.

ventilated rooms is not due to excessive carbonic acid, nor to bacteria, nor, in most cases, to dusts of any kind, but is, in reality, due to excessive temperature and unpleasant odors. Nothing in these experiments shows the cause of the unpleasant, musty odor of an unventilated room, and attention is called to the curious fact that cases of fainting in crowded rooms usually occur in women, and are connected, the authors think, with defective respiratory action, due to tight lacing.

Finally, these investigations, the authors declare, go to prove that some of the theories upon which modern systems of ventilation are based are either without foundation or doubtful, and that the problem of securing comfort and health in inhabited rooms requires the consideration of the best methods of preventing or disposing of dust of various kinds, of regulating temperature and moisture, and of carrying off poisonous gases derived from heating and lighting apparatus, rather than of simply diluting the air to a certain standard of proportion of carbonic acid present.

We trust that these experiments will receive the consideration they so richly deserve from sanitarians and those who are connected with philanthropic and other institutions in which there are large assemblies of people.

A PHYSICIAN AND BUCCANEER.

IN an address delivered before the Historical Club of Johns Hopkins University Dr. William Osler gives an account of Dr. Thomas Dover, whose name has passed down to posterity in connection with *pulvis ipecacuanhae compositus*. There are few physicians who have not prescribed Dover's powders, but there are, we think, still fewer who know much about Dr. Dover, and, especially, who know that he was at one time a successful buccaneer and discovered Alexander Selkirk, of "Robinson Crusoe" fame. Dr. Dover was born in Warwickshire, about 1660, and was probably a student of Sydenham's. After taking his degree, he settled in Bristol and, having made some money, joined with some other merchants in a privateering expedition. Two ships were fitted out, and Dover went as third in command, being styled "Captain Dover." He sailed to the Spanish Main, and in 1709 arrived at the Island of Juan Fernandez. There Captain Dover went ashore, and discovered the sole occupant of the island to be a Scottish sailor named Alexander Selkirk, who had been left there alone four years and four months before. Selkirk was taken off and made an officer on one of the ships. The expedition afterward sacked the two cities of Guayaquil, Dover leading in the assault. They took a number of prizes, and cruised about the coast from Peru to California. They then sailed across the Pacific and reached England in 1711. The expedition was very successful, realizing the enormous sum of \$850,000, of which Dr. Dover received a considerable part. After his return home Dover travelled again somewhat, but finally went to London. His most famous book is one known as "The Ancient Physician's Legacy," published in 1733. This was a popular treatise on medicine, and was intended, appar-

ently, to get practice for the author. The full title of the book is "The Ancient Physician's Legacy to his Country, being what he has Collected himself in Forty-nine Years of Practice." The author says: "The diseases incident to mankind are described in so plain a manner that any person may know the nature of his own disease, together with the several remedies for each distemper, faithfully set down." It is expressly designed for the use of all private families. The "Legacy" is said to have made a great noise in London, and to have been the subject of debate in every coffee house. It contained a description of about forty-two diseases, illustrated with cases which attested the author's skill. The later editions abound with letters from grateful patients, extolling Dr. Dover's virtues. On page 18, in the section on "Gout," is given the formula of his famous powder:

"Take Opium one ounce, Salt-Petre and tartar vitriolated each four ounces, Ipecacuana one ounce. Put the Salt-Petre and Tartar into a red-hot mortar, stirring them with a spoon until they have done flaming. Then powder them very fine; after that slice in your opium, grind them to a powder, and then mix the other powders with these. Dose, from forty to sixty or seventy grains in a glass of white-wine Posset going to bed, covering up warm and drinking a quart or three pints of the Posset—Drink while sweating." The same formula is repeated in the subsequent editions. He says that some apothecaries have desired their patients to make their wills and settle their affairs before they venture upon so large a dose as from forty to seventy grains. "As monstrous as they may represent this, I can produce undeniable proofs where a patient of mine has taken no less a quantity than a hundred grains, and yet has appeared abroad the next day."

Besides the above powder, Dr. Dover's chief legacy to his country was quicksilver, which, in his opinion, was specific in almost every disease. He was accustomed to order an ounce or an ounce and a quarter of crude mercury daily. A case is reported of a man who took for his cough and shortness of breath, altogether, one hundred and twenty pounds weight. Dover was very naturally called the "quicksilver doctor," and received a great deal of, no doubt, well-deserved criticism. Dr. Dover, in his later days, appears to have carried the fighting, if not the buccaneering, spirit into his professional life, and, judged by modern standards, he would be considered very much of a quack. In estimating his moral and professional character, however, we must make due allowances for the times in which he lived.

Encouraging Words.—The MEDICAL RECORD comes to us in its new garb. From cover to cover it shows the touch of a master hand. The type is neat, distinct, and inviting. It is a model of typographic beauty. As to the literary merits of the RECORD, we need say naught. Its past and its present speak for themselves. Time, which is the only true critic, has rendered a verdict for the RECORD of which all concerned with it may feel a just pride, the editor in particular.—*N. Y. State Medical Reporter.*

DOCTOR, CAN I SMOKE?

UNDER the title of "The Indications and Contraindications for the Use of Tobacco by the Sick and Convalescent," Dr. L. Jankau has published an article in which he tries to answer the question so often asked by patients and convalescents—"Doctor, can I smoke?" Dr. Jankau does not attempt to discuss the problem whether healthy people can smoke, but confines himself to the relations of tobacco to the invalid.

The employment of tobacco, he says, is to be forbidden in all surgical operations and long convalescence after operations, except those practised upon the eyes, the abdomen, and the bladder. He would prescribe tobacco also in affections of the throat and pharynx, and, with certain restrictions, in nasopharyngeal catarrh. As regards internal maladies, he says one should never forget the toxic action of tobacco, so that in acute and serious diseases it should never be allowed—a precaution which is hardly needed, since in most cases where patients are very ill, they quickly lose their taste for tobacco. To particularize the indications and contraindications, Dr. Jankau says, first, that tobacco should be absolutely forbidden in peritonitis, typhlitis, and perityphlitis. Affections of the stomach do not form an absolute contraindication. This opinion, as a critic in the *Bulletin Générale de Thérapeutique* truly says, is quite open to dispute. It is certain that tobacco smoking in excess will produce "heartburn" and various forms of dyspepsia; indeed, Dr. Jankau himself later states that he does not believe in the beneficent action of cigars after a meal. Subjects affected with organic disease of the heart do not ordinarily support tobacco well; at the same time, habitual smokers can use two or three light cigars a day. As to pulmonary affections, the author allows his antiseptic views to have a good deal of weight in guiding his judgment. On the score of the proven fact that tobacco smoke has an undoubted influence in suppressing the development of bacilli, he rather advises smoking for those persons who are in the initial stage of tuberculosis. His reasons are: the disinfecting action of tobacco upon the mouth, the depression exerted by tobacco upon the genital functions; furthermore, the favorable sedative influence of this drug upon the central nervous system. Besides that, he thinks that it tends to take away the attention of patients from themselves and make life seem more agreeable to them. Even slight hæmoptyses are not absolute contraindications for the use of tobacco. While on this subject, the author fails to note the pretty well-tested fact, that smoking sometimes keeps down the seizures of nervous asthma. In syphilitics, he thinks that one should try to avoid only the abuse of tobacco, both as to quantity and quality. In nervous affections, the author again would simply recommend that the amount of smoking be very carefully controlled, the number of cigars and their strength being rigorously prescribed. In cardiac neuroses particularly, the greatest circumspection is to be employed. In gastric neuroses, tobacco should be cut off entirely. Persons who are subject to organic affections of the nervous system can smoke with caution. As for smok-

ing during convalescence, no set of rules are or can be laid down. The author does not take into account, we think, sufficiently the question of age in the matter of smoking. It seems to be pretty well agreed that if a person has reached a fairly good old age as a smoker, he can continue the habit without much injury, even though he be crippled with various chronic disorders, or even if he have a stroke of apoplexy and make from it a reasonably good recovery. On the other hand, permissive advice as to smoking during the first twenty-five years of life is to be given with great caution. Dr. Jankau is a rather lenient sanitarian, and we fancy he is something of a smoker himself.

THE TREATMENT OF ACCIDENTS FROM ELECTRIC SHOCK.

ONE of the contingencies of modern civilization which is almost entirely new, and is wholly dependent upon the development of modern industry, is the treatment of accidents from electric shock. We have had many treatises in the past upon the proper methods of dealing with accidents in drowning, accidents from broken heads, from ruptured blood-vessels, from poisons, and so on, but the art of dealing with electrical accidents is entirely novel. The matter has been discussed quite thoroughly by physicians in this country, but it has been worked out perhaps more systematically by Dr. D'Arsonval, of Paris, who has recently made a report to the Académie de Médecine, of Paris, upon the methods of treating persons injured by electrical shocks. D'Arsonval states that electricity causes death sometimes directly, by the disruptive and electrolytic effects of the charge on the tissues. This death is final. It sometimes, however, causes death indirectly, by arrest of respiration and syncope, caused by stimulation of the nerve-centres. Under these circumstances, a person may be revived, if proper measures are applied. The formula for reviving the victims of electric shock is this: The person so disabled should be treated like one drowned; in other words, he should be laid upon the back, and artificial respiration performed in the way that is ordinarily described. Some further practical advice, however, is given to those who are called at once to the scene of the accident, and at the time when the person is perhaps still in contact with the wires. Of course, the first thing to be done is to stop the current or break the contact. In doing the latter, one should not touch the victim on the face or hands or any naked part of the body. It is better to lift him by the coat-tails, or to throw a blanket over him and pull him by this. Nothing that is wet should be thrown upon him, and if his clothes are wet the hands should not be put in contact with them. A piece of dry wood can be placed under the body, and he can then be lifted. The further treatment of the case is the familiar one applied in attempting to restore the drowned. The arms are worked, and the tongue is kept drawn out; the body may sometimes be rubbed thoroughly with a cloth or brush, in order to increase the circulation of the blood. Oxygen and perhaps a stimulant may be employed.

THE VALUE OF BLOOD EXAMINATIONS AS A TEST FOR MALARIA.

DR. WILLIAM OSLER has recently stated that the diagnosis of malarial fevers can be made with certainty by the blood examination. One further infers that Dr. Osler believes all fevers in which this organism is not found are not malarial. We believe that the weight of evidence supports this view, but it cannot yet be dogmatically taught that the plasmodium of Laveran is surely the cause of the disease.

Of the three forms of evidence necessary to prove that a given disease is caused by a certain specific micro-organism, the history of the plasmodium furnishes at the most only one, viz., it is present in the organism in all cases of the disease, and not in other diseases. The organism has not yet been isolated in pure culture, and its inoculation has not yet reproduced the disease.

There is still scepticism among some competent authorities as to its significance. Recently an East Indian surgeon, Lieutenant-Colonel E. Lawrie, M.B., has written a monograph in which he asserts, as the result of his studies, that this micro-organism is not present regularly in patients suffering from the malarial fevers of India. Naturally, the only argument here is to say that Dr. Lawrie is prejudiced, ignorant, and incompetent; and such answer has been made.

THE PASSING OF THE GARGLE.

THE gargle has been often criticised as ineffective and inefficient, and, theoretically, has been long excluded from rational pharyngeal therapeutics. The *Medical Press*, however, calls attention to the fact that, despite the criticisms upon it, the gargle is still frequently employed, not only in domestic practice, but on the prescription of physicians. The gargle is one of those things which it has been very hard to do away with, because it appeals to the patient, and particularly to the anxious friends and parents, as being something tangible—something that the patient can do. The ability to gargle, also, has been considered one of the milestones in the intellectual and physiological development of childhood, and has, in the parental mind, often been classed with the achievement of walking or the appearance of non-deciduous teeth. There are about the gargle a great many tender reminiscences of juvenile days and tonsillar swelling, and it is somewhat sad to think that all the earnestness and conscientiousness which the rising and risen generations have thrown into the gentle art have been entirely wasted. The musical gurgle of the astringent solutions bubbling in the throat are no longer to be heard, if the general practitioner rises to the high plane to which modern science calls him. The gentle splash of the medicated fluid, after it has performed its supposed healing function, into the cuspidor or basin, will no longer be heard in the land. *Gargarisma fuit*. All this is because physiologists show that the gargle never really goes beyond the posterior pillars, and is, in fact, only a very nasty mouth-wash, which disorders the taste, discolors the teeth, injures the healthy

tissue, and nauseates the palate without ameliorating the pharynx. Mr. Lennox Brown, who writes an epitaph upon the "gargle" as it used to be given, tries to take the pathos from its mortality by saying that there is a form of gargle which may be substituted with some beneficial results. But this particular method, which is that described by Von Troeltsch, is too complicated for any but the trained understanding of the mature and most intelligent classes. It consists in taking a tablespoonful of the medicated solution in the mouth, holding it in the back of the throat, with the head thrown back, closing the nose with the thumb and finger, and making movements of swallowing without letting the liquid go down the throat. Those who have tried this interesting experiment will agree that it is a good deal harder than learning to ride a bicycle, and associated not less often with the disaster that goes with untrained muscles. We do not believe that the Von Troeltsch method will ever be popular. It might as well, therefore, be admitted that the gargle must go, and should, in fact be already long gone.

News of the Week.

The New Photography was commented upon in the editorial columns of our last issue.

Since then Professor Wright, of the Sloane Laboratory at Yale College, has carried out a series of confirmatory experiments which tend to increase the hope we have already expressed that science, and especially medical science, will greatly benefit by this discovery of a way to photograph what cannot be seen.

The very idea of catching and fixing upon a sensitized plate that which the eye cannot perceive, while not a thing beyond the powers of the mind to comprehend, is still so fascinating in its possibilities of utility in medical science that physicians are perhaps more interested than others in the new discovery.

It seems certainly to be established that the shape and location of concealed objects can be reproduced photographically by means of cathode rays, and such foreign bodies as bullets and pieces of glass embedded in the hand have been located, as well as the site of a fracture and pathological change in the deeper tissues. Aluminium seems from Professor Wright's experiments to be a metal which intercepts a smaller proportion of the cathode rays than either brass or platinum. An aluminium medal left so clear an impress upon the plate that it is said the design and lettering upon both sides of it were plainly visible. Professor Trowbridge, of Harvard University, by means of Roentgen's cathode rays, has succeeded in obtaining a photographic effect through wood and pasteboard, and Professor Neusser, of Vienna, has by the same means demonstrated calcareous deposits in the bladder, liver, and kidneys of a live subject.

Moving to New York.—The *Medical Century*, a semi-monthly journal, heretofore published in Chicago, is now published in New York and Chicago. This seems a little like a "straddle," threatening a split, but we wish our contemporary success.

Therapeutics of a Country Doctor.—A country doctor, writing on the above subject in the *Journal of Medicine and Science*, extols the fluid extract of passion flowers as a sedative remedy. It is a drug which is antispasmodic, and it is valuable in tetanus, spasmodic disorders, and sometimes in insomnia. He gives from five to ten drops, repeated frequently.

Epidemic Diphtheria.—Diphtheria is reported to be epidemic in Port Carbon, St. Clair, and Palo Alto, towns suburban to the city of Pottsville, Pa.; and also in Fountain Hill and other towns in Lehigh County.

Suspensio Uteri or Ventro-Fixation of the Uterus—Its Influence upon Pregnancy and Labor.—Dr. Charles P. Noble, of Philadelphia, having recently had some unfortunate experience concerning the influence of suspensio uteri upon parturition, asks for actual results as seen in the practice of different operators who have had cases of pregnancy following suspension of the uterus.

The American Association of Physicians and Surgeons.—The next meeting of the association will be held at Niagara Falls, on June 20, 1896. Dr. C. E. Covey, of Detroit, has been elected *President*; Dr. N. G. Smith, of Indianapolis, *Vice-President*, and Dr. P. M. Kelsey, of Indianapolis, *Secretary*.

Convalescent Hospital for Children.—In addition to the sum of \$20,000 left by the will of Mrs. Anna R. Aspinwall for the founding of a convalescent hospital for children, it appears that the munificent sum of \$3,000,000 has been left in trust to the Hospital of the Protestant Episcopal Church of Philadelphia.

Spurious Dairy Products.—The report of the Pennsylvania Department of Agriculture shows that during the year past an aggressive campaign has been conducted against all dealers in imitation dairy products. Analyses of many samples of food products in accordance with the Pure Food Act of 1895 go to show that adulterations are largely confined to the substitution of lower grades of articles for higher. Rarely has it been found that articles injurious to health are used, and, except in the use of copper for the purpose of coloring pickles, such use might be attributed to accident rather than to design. It was found that salicylic acid was largely employed to prevent fermentation in fruit jams, catsup, etc. Of many samples of buckwheat flour examined, but two proved to be pure, the remainder being adulterated with wheat flour. Three-fifths of the cheese examined proved to be "filled"—that is, the milk had been skimmed, the cream being used for other purposes, and foreign fats (not butter) being added to make up the deficiency. Of the samples of mustard examined, two-thirds proved to be adulterated with common wheat flour colored with turmeric.

Dr. O. W. Braymer has been appointed attending physician to Cooper Hospital, Camden, N. J.

The Berks County (Pa.) Medical Society held its annual meeting and banquet at Reading on January 14th. Dr. Charles W. Bachman was elected president for the ensuing year.

The West Branch Medical Association held its semi-annual meeting at Lock Haven, Pa., on January 14th. The following papers were read: "The Diagnosis of Blood Conditions by Instruments of Precision," by Dr. Judson Daland, of Philadelphia; "The Treatment of Diphtheria," by Dr. Thomas Tobin; "A Review of Some Practical Points in Surgery," by Dr. John A. Klump; "Dysentery," by Dr. A. Hibler; "Hereditary Bleeders," by Dr. Louis Schneider.

The Mescal Button.—Some time ago we referred to a publication regarding the therapeutical use of the Mescal button, by Drs. D. W. Prentiss and F. P. Morgan. These same authors return to the subject in an article in the *Therapeutic Gazette*, of January 15th, and again recommend it as a useful article in nervousness, colic, hysterical manifestations, and as a stimulant in depressed mental conditions. They recommend the use of the tincture, *tinctura Anhalonii*, a ten-per-cent. preparation, dose one to two teaspoonfuls; seven to fifteen grains of the powder may be given.

The Burlington (N. J.) Medical Society held its annual meeting at Mount Holly on January 23d. Dr. J. Howard Pugh, of Burlington, was elected *President*; Dr. Burr McFarland, of Bordentown, *Vice-President*; Dr. Enoch Hollingshead, of Pemberton, *Treasurer*; Dr. A. W. Taylor, of Beverly, *Secretary*.

The Montgomery County (Pa.) Medical Society at its annual session, held on January 22d, elected the following officers for the ensuing year: *President*, Dr. H. F. Slifer, North Wales; *Vice-Presidents*, Dr. J. K. Weaver, Dr. J. C. Spear, Norristown; *Recording Secretary*, Dr. H. H. Whitcomb, Norristown; *Corresponding Secretary*, Dr. J. K. Weaver, Norristown; *Treasurer*, Dr. S. N. Wiley, Norristown.

Hospital for Scarlet Fever and Diphtheria Patients.—Mr. Lexow has introduced a bill in the Senate (New York) authorizing the commissioners of the sinking fund to lease land at the foot of East Sixteenth Street to the hospital for scarlet fever and diphtheria patients.

A New Occupation Disease.—A correspondent of the *British Medical Journal* describes a case of a woman whose profession was that of a straw plaiter. As the result of her work she gradually began to suffer from cramps in the fingers coming on whenever she attempted to do her work.

Mr. T. W. Thorndike has given \$5,000 to the Harvard Medical School to establish a prize fund in memory of his father. A prize of \$200 is to be given annually to the author of the best essay on some subject in any branch of surgery. The students of the Harvard Medical School and graduates of five years' standing of any recognized medical school are eligible for competition.

A Slander Refuted.—A paragraph has lately been given wide circulation in the daily papers charging with unprofessional conduct a prominent physician of Staten Island. It is but common justice to state that

the matter was subsequently brought before the Board of Censors of the Richmond County Medical Society, who reported that, after a searching investigation of all the evidence in the case, the testimony of the accusing side absolutely failed to support the charges, and that the doctor was therefore completely exonerated.

The Massachusetts General Hospital has recently received the bequest of \$20,000 from the estate of the late Martin Brimmer.

A Western Laryngological Society.—A meeting will be held in Kansas City on April 7th, for the purpose of forming an association of physicians in the West who are specially interested in diseases of the nose, throat, and ear.

Contagious Eye Diseases.—A bill before the Senate of South Carolina makes it obligatory on all midwives to report every case of sore eyes in infants, either to the health authorities or to some licensed practitioner.

Manhattan Eye and Ear Hospital of New York.—Dr. William Norris Hubbard has been appointed assistant surgeon to the throat department of the Manhattan Eye and Ear Hospital, New York.

A Legal Lien for Medical Services.—A bill has been introduced by Dr. W. G. Kiger in the Senate of Mississippi proposing that every licensed practitioner of medicine in that State shall have a lien and privilege for medical services on the crop or wages of the person served. While ever ready to uphold the physician in the collection of his just dues, it strikes us that this measure is in the line of class legislation, with the usual one-sided discrimination. How would it work in a retaliatory way on the poor doctor unable to pay his own debts?

Against Drugged Cigarettes.—Mr. Shulum has presented to the New York State Senate a bill making it a misdemeanor to sell adulterated or drugged cigarettes, to sell or give cigarettes to a minor under sixteen years of age, and to provide for the granting of licenses to all venders of cigarettes. A similar bill has been presented in the Assembly by Mr. Mittenacht.

The Late Professor Huxley is said by the spiritualistic journal, *Light*, to have given a communication to Gen. Francis J. Lippitt, of Annapolis. The spirit message was delivered on a slate. Professor Huxley writes: "It is with pleasure I greet you and identify my picture. Let the spirit be ever with you to advance this great work. Yours for the truth, Professor Huxley." While living, Professor Huxley once said that the only good of spiritualism was that it furnished an excellent argument against suicide, for it was far better to live under the most wretched conditions than to die and be made to utter the dismal imbecilities of the spirit message.

Professor Lusk's work on midwifery is to be translated into Arabic for use in the school of medicine at Cairo, Egypt.

In French Surgery hypodermic injections of artificial serum are used to combat the weakness following operations. The serum used is known as "Hayem's," and consists of sodium chloride 5 grammes, sulphate of soda 12 grammes, distilled water 1 litre. This fluid is sterilized by being brought to a boiling point.

A New Operating-Theatre for the Springfield City Hospital.—An addition to the Springfield (Mass.) City Hospital is to be built, at a cost of \$12,000, which is to contain a new and thoroughly equipped operating-theatre.

The New Hospital for Consumptives in Massachusetts.—The commissioners to locate and build the new hospital for consumptives in Massachusetts have decided to locate it in the town of Rutland, Worcester County. Rutland is the highest town in the centre of the State, and is 1,200 feet above the sea level. It is on the line of the Central Massachusetts Railroad, twelve miles from Worcester.

Personal Estates Left by London Medical Men.—The *Medical Press* publishes a list of the sums left by a number of prominent medical men, mostly knights or baronets, who died last year. The estates range in value from nearly half a million to about \$40,000. Sir William Savory, who died at the age of sixty-eight, left an estate worth over £93,000. Dr. John S. Bristowe left an estate worth £15,734, and the late Dr. Tuke an estate of about £30,000. It is estimated that the average of the personal estates of sixty-seven physicians and surgeons whose wills were noticed during six or seven years was £50,614. This is a vastly greater sum than could be credited to a similar number of eminent American physicians, and it is not unlikely that most of these gentlemen inherited, or obtained through some other source than medical practice, the fortunes which they left.

Keats and the Study of Medicine.—In 1818 the poet Keats wrote to his friend Reynolds: "Were I to study physic, or rather medicine, again, I feel that it would not make the least difference in my poetry. When the mind is in its infancy a bias is unavoidably a bias, but when we acquire more strength, the bias becomes no bias." Keats was tempted several times to take up the practice of medicine, but he never did so. He wrote to his brother once: "I have at different times been turning it in my head, whether I should go to Edinburgh and study for a physician. I am afraid I should not take kindly to it. I am sure I could not take fees, and yet I should like to do so. It is not worse than writing poems and hanging them up to be flyblown on the review chambers."

Medical College Statistics.—According to a report of the Bureau of Education for 1893, the number of medical students enrolled in that year was 12,238, and the percentage of the enrolment graduating was 24.9. The percentage of college graduates who study medicine has been declining. There were 132 medical colleges in the United States in 1893. Of these 94 were regular, 16 homeopathic, 10 eclectic.

tic, 2 physio-medical, 8 post-graduate, and 2 preparatory. The total enrolment of these was 28,900, and of this number 16,130 were in the regular and 1,445 in the homeopathic schools. There are 36 regular schools that admit women, and there were 1,302 female medical students. The theological schools had 7,856 matriculates and the law schools 6,776 matriculates. The school with the largest number of matriculates was the University of Pennsylvania, the number there being 800. Several other schools have over 600 students. One-fifth of all the medical students, namely, 5,182, are credited to the North Atlantic States, and another fifth to the Central States.

Medical Education in Vienna.—Changes are to be introduced into the methods of medical education at Vienna. The result will be that, from beginning to end, it will take a regular student, of average abilities, seven years or more before he is able to practise.

A New Method of Abdominal Massage.—Kümmerling, of Vienna, describes this method of massage, which he claims to be new: The patient is placed in the right lateral position in order that the descending colon may be manipulated conveniently. The thumb and forefinger of each hand carefully press through the skin and fat till the gut is reached; the finger tips of both hands are then laid over corresponding points of the intestine and powerful "sawing" movements, often causing pain to the patient, are made from above down for about five minutes. He is then placed on the left side, and the procedure repeated from below up upon the cæcum and ascending colon. The massage is finally directed to the transverse colon and small intestine. The patient assumes the knee-elbow position, and the parts are rhythmically kneaded by the finger tips, or, if there is much fat, the closed fists. The whole sitting lasts fifteen minutes, and Kümmerling describes its effect as being extraordinarily superior to that of any other method. The great disadvantages of the abdominal massage in the recumbent posture are the difficulty of gripping the gut in the fingers, and the fact that only its superficial portions are stimulated, peristalsis in the remainder being only obtained reflexly, if at all.

Ladies as Hospital Managers.—A good deal of excitement is said to have been aroused in Edinburgh, by the proposal to nominate a lady for a vacancy on the Board of the Edinburgh Royal Infirmary. There have been some lady members of hospital boards in this city, particularly on the boards of the smaller hospitals. This element does not seem to work very well when it is in the majority, but when it is in the minority it is a useful factor.

Medico-Military Titles.—We have now neither medical directors nor post surgeons in the medical department of our army. The revision of the Army Regulations, issued a few weeks ago, abolished the one, and the first circular of the present year, published from headquarters of the army, January 2d, has done away with the other. The medical officer on the staff of a general commanding a department, an

army, or an army corps, known during the greater part of the past century as a medical director, has now become the chief surgeon of the command, to give uniformity to the titles of the staff functionaries, who are the chief quartermaster, chief commissary, chief paymaster, etc. The recent circular brings the staff of a post commander into uniformity with this system of nomenclature, by directing that hereafter the senior medical officer of a military post will be known officially as the surgeon, and the other officers as the adjutant, the quartermaster, the signal officer, etc.—*Journal of the American Medical Association.*

Preliminary Programme of the Eleventh Annual Meeting of the Association of American Physicians to be held in Washington, D. C., on April 29, 30, and May 1, 1896: "The President's Address," by Dr. A. Jacobi, New York. "The Effect of Acute Alcoholic Intoxication in Diminishing Resistance to Infection—An Experimental Study," by Dr. A. C. Abbott, Philadelphia. "Diphtheria Antitoxin Sometimes Found in the Blood of Horses that have not been Injected with Toxin," by Dr. B. M. Bolton, Philadelphia. "Diphtheria Antitoxin Obtained by Electrolysis," by Dr. B. M. Bolton, Philadelphia, and Dr. H. D. Pease, Philadelphia. "Relation between Endocarditis and Acute Glomerulo-Nephritis," by Dr. W. B. Councilman, Boston. "A Case of Subdiaphragmatic Abscess, Diagnosis, Operation, Subsequent Death from Pleurisy of the other Side," by Dr. E. G. Cutler, Boston. "Clinical and Anatomical Study of So-called Alcoholic Meningitis," by Dr. Charles L. Dana, New York. "On the Treatment of Pernicious Anæmia," by Dr. I. N. Danforth, Chicago. "Study on Streptococci," by Dr. H. C. Ernst, Boston. "Prevalence and Fatality of Pneumonia," by Dr. C. F. Folsom, Boston. "A Case of Œsophageal Hemorrhage with Cirrhosis of the Liver," by Dr. G. M. Garland, Boston. "Syphilitic Nephritis," by Dr. H. A. Lafleur, Montreal. "Wandering Phlebitis (Periphlebitis?); a Case in a Patient Seventy-two Years Old," by Dr. William Northrup, New York. "The Relation of Migraine to Neuralgias of the Fifth Nerve," by Dr. J. J. Putnam, Boston. "Some Points in the Pathology of Gout," by Dr. B. K. Rachford, Cincinnati. "Conditions Influencing the Appearance of Toxin in Cultures of the Bacillus of Diphtheria," "Two Varieties of the Tubercle Bacillus from Mammals," by Dr. Theobald Smith, Boston. "Atrophy of the Spinal Cord," by Dr. M. A. Starr, New York. "A Toxiconic Bacillus found in Ice Cream and its Products," by Dr. V. C. Vaughan and Dr. George D. Perkins, Ann Arbor.

An International Congress of Railway Surgeons is to be held in Brussels in 1897. One of the questions to be debated is this: "Should the Medical Service be a Department of the Management?"

The Extension and Rebuilding of the Charité Hospital, of Berlin, have been begun. It will take ten years to complete the proposed work, and then it is prophesied that the new Charité will be the first of European hospitals.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 3, 1896.

HENRY F. WALKER, M.D., PRESIDENT PRO TEM.

Non-Recurrence of Cancer of Tonsil Three Years After Operation.—DR. CHARLES MCBURNEY presented a patient with the following history: E.W.L.—, physician, aged sixty-three years, first noticed an inflammation of the left tonsil in July, 1892. A constant feeling of discomfort, referred to the tonsil, increased month after month, although careful local treatment was applied by a skilful throat specialist, from the latter part of November on. Iodide of potassium was administered during a period of two weeks. The patient was first seen by me at the end of January, 1893. A portion of tissue removed from the edge of the tonsil had just been examined by Dr. T. M. Prudden, and was pronounced by him to be unmistakably carcinoma. The tonsil at this time was much enlarged in all its diameters. Superficial ulceration of the surface existed, and the mucous membrane of the adjacent portion of the pharynx was œdematous and reddened. Posterior to and below the angle of the jaw, a considerable tumor, the size of a small hen's egg, existed, which evidently consisted of several much enlarged lymphatic glands.

Operation was done on February 1, 1893, with the assistance of Drs. Z. A. Hinson and C. T. Parker.

Preliminary tracheotomy was first made, to facilitate etherization and the subsequent treatment of the wound. A long straight incision, from the lobe of the ear downward and corresponding to the anterior edge of the sterno-cleido-mastoid muscle, was made. Through this a thorough removal of all lymphatic glands and connective tissue was easily accomplished. The external carotid artery was ligated close by its origin. Then a straight incision, about at right angles to the first, was made, passing upward and forward, and crossing the jaw at about the situation of the last molar tooth. The submaxillary gland and all connective tissue and lymphatic glands below the jaw were removed. The jaw was then divided with the saw in the line of the second superficial incision. It was now easy to draw outward the ramus of the jaw, and so completely expose the whole external surface of the tonsil, the large vessels and pneumogastric nerve being drawn backward. The pharynx was then entered with the knife at a point about one-half inch anterior to the edge of the tonsil. The knife was then carried upward well into the soft palate, backward and then downward, always at a considerable distance from the tonsil, until the tonsil, a portion of the posterior edge of the tongue and of the soft palate, and the whole lateral wall of the pharynx were removed.

The divided jaw was sutured with silver wire, and the superficial wound partly closed by suture. The deep wound was packed down to the pharynx with iodoform gauze.

- The patient bore the operation well. He was fed for four days by rectal enemata, and then for a week with the stomach tube. On the fifth day, although the use of iodoform had been discontinued, mild symptoms of iodoform poisoning occurred and lasted about a week. After that no incident of moment was noted, and complete healing was reached at the end of a month. When the silver wire was removed, a small piece of necrosed bone came away with it. With the aid of a temporary dental appliance, complete union of the divided jaw took place, and the articulation of the upper and lower teeth was made perfect.

The patient has remained perfectly well ever since then, a period of two years and four months. The specimen which I now show you has been most carefully examined by Dr. T. M. Prudden, and both the tonsil and the large lymphatic glands pronounced to be pure carcinoma.

Non-Recurrence of Sarcoma of Naso-Pharynx Three Years after Operation.—DR. CHARLES MCBURNEY also presented a patient with the following history: T. C.—, sixteen years of age, came under my care on April 27, 1888. In November, 1886, imperfect breathing through the nose was noted, and the left nostril gradually became obstructed. In April profuse hemorrhage from the left nares occurred, and both nostrils became occluded. For seven months there has been some constant bloody discharge, and pain has been severe in the nose, left eye, and ear.

A smooth gray mass fills the left nares anteriorly, and can also be seen with the rhinoscope in the posterior nares.

On April 28, 1888, the left superior maxilla was resected, and a considerable tumor was found to arise from the left side of the body of the sphenoid. This was cut away and the base of attachment cauterized.

The case came under observation again, and recurrence of the disease at the original site was noted. During October a number of cauterizations were made, and on October 22d the original operation was repeated, and a large, soft, polypoid mass was cut away from the body of the sphenoid and the occipital bone. Externally the growth passed outward beneath the malar bone, and was removed from this situation also.

During December, January, and February cauterizations were made, and on February 4, 1889, no evidence of disease remained.

Again, on February 3, 1890, a solid tumor, the size of a walnut, was found in the left cheek. The tumor was movable, and involved neither skin nor mucous membrane.

On February 8, 1890, the original incisions, as for removal of the upper jaw, were again made and the cheek reflected. The tumor in the cheek was removed through incision in the mucous membrane, and was found to extend beneath the malar bone to the zygomatic fossa and to be connected with a considerable polypoid growth in the naso-pharynx. All diseased tissue was cut away and the face incisions sutured. Complete healing occurred before February 25th.

No sign of disease was now noted for six months, when a large soft tumor was found springing from the body of the sphenoid and involving the edge of the left tonsil.

On July 17, 1890, the original incisions were again made, as for removal of upper jaw, preliminary tracheotomy having been performed. The whole growth was removed with scissors and forceps.

Again, on February 24, 1892, a small recurrence at the edge of the palatal opening was removed.

On July 12, 1893, a small point of suspicious tissue was curetted.

On August 16, 1893, the original incisions were again made after preliminary tracheotomy, and recurrent masses were removed with spoon and scissors.

Since the last operation, in August, 1893, no evidence of disease has made its appearance, and the patient has been in robust health. He has a palatal fissure produced by operation, which gives rise to no inconvenience, excepting interference with intonation. During the whole of this period he has been actively employed. The tissue removed at the various operations was examined by Dr. T. M. Prudden, whose reports read: "Gross appearances characteristic of sarcoma. Microscopical examination, spindle-celled fibro-myxo-sarcoma."

Symptoms Apparently Due to Hepatic Abscess; Piece of Liver Removed, Containing Syphilitic Gummata; Anti-Syphilitic Treatment Followed by Recovery.

—DR. ROBERT ABBE presented a woman, forty years of age, who had first been operated upon in the Woman's Hospital for disease of the Fallopian tubes. Later a rather small ovarian tumor was removed at the same hospital. Following that, she had prolonged hectic condition, with great enlargement of the liver and spleen, emaciation, continuous temperature reaching 103° F. or higher. They suspected abscess of the liver at the Woman's Hospital and made aspiration, but found nothing. A doctor sent her to St. Luke's, with a diagnosis of malignant disease of the liver. Diagrams were shown, representing marked increase in the size of the liver, with subsequent decrease under treatment. When Dr. Abbe saw the patient at St. Luke's, she had the appearance of one suffering from abscess of the liver. There was bulging laterally in the region of the liver, and in the median line nearly to the umbilicus, which was supposed to be due to enlargement of the liver alone; but at operation the spleen also was found enlarged, so that the two organs met and formed a continuous tumor. The temperature was above 102° F., there was hectic and emaciation. Dr. Abbe aspirated, expecting to find pus in the liver, but found none. He then concluded there was a deep abscess which could not be reached easily by the needle, and proposed laparotomy which the patient accepted. After opening the abdomen, he punctured the liver in various directions, but obtained no pus. Besides revealing enlargement of the spleen as well as of the liver, the operation brought to view multiple gummata of the liver, varying in size from a bean to a walnut. One or two were at the free edge; some were elevated one-third their thickness above the surface of the liver. They were of grayish, almost malignant appearance, but there were two excavated scars, which showed immediately that they could not be malignant, and subsequent microscopic examination and treatment confirmed his supposition that they were gummata. After taking out a wedge-shaped piece of the liver, about one inch by one inch and a half, including one of the gummata, he closed the wound. There was no hemorrhage. After the operation the patient was treated freely by mercurial inunctions for about two weeks, until the gums were touched; then iodide was given. She made a perfect convalescence, the temperature soon returning to normal, the liver and spleen decreasing in size, flesh and strength returning, and to-day she is in perfect health. The case was one of typical hyperplasia with gummata of the liver, in a patient from whom no history whatever of syphilis could be obtained.

Perforating Ulcer of Stomach; Operation; Recovery.—DR. R. F. WEIR said that, having had two cases of failure from operation for perforation of the stomach, he now took pleasure in presenting a successful case. In this instance the operation was done eleven hours after the occurrence of perforation; in one of the others, four days subsequently; and in the other, forty-eight hours afterward.

The patient presented was a girl, sixteen years of age, who had had a history of gastric disturbance for some months. On December 18, 1895, she was seized with violent pain in the left hypochondrium, and being attended by one of the most intelligent ex-house surgeons, the nature of her trouble was recognized, and he transferred her at once to Dr. Weir's hospital service. As stated, he opened the abdomen eleven hours after the first symptom of perforation became manifest, found slight adhesions between the anterior wall of the stomach and liver, and on separating these a perforation of the anterior wall of the

stomach, one-fourth of an inch in diameter, came into view. This was promptly closed by two or three stitches. Some difficulty was experienced in keeping back the contents of the stomach, but by careful use of sponge and pad, leakage was prevented from extending any distance. These stitches were supplemented by two layers of Lembert sutures. Surrounding about one-half the ulcer was a thickened mass in the wall of the stomach, about two inches in diameter. There was some doubt whether this was purely inflammatory or whether it was tuberculous, for the girl had given some signs of tuberculosis in the lungs. One case had been reported where a second ulcer had perforated during the course of treatment of the first and had produced a fatal result. This fact had caused him some anxiety in the present instance, but the patient had an easy convalescence and was now quite well. She was fed a few days by rectum, then was allowed food without residuum, and a few days later was given solid food.

At the time Dr. Weir had reported his first case, 1891, only about four others were on record, of which only one had recovered. Since then he had collected about forty cases, most of them in England, some in this country. There had been fourteen recoveries. They showed great necessity for early operation. Among successful cases it was done latest in his own case, after eleven hours. Later investigation had corroborated the facts set forth in his paper of 1891, that ulceration causing perforation of the stomach occurred most frequently on the anterior wall. Ulcers themselves formed more frequently on the posterior wall, but for anatomical reasons—adhesions to the liver, etc.—they were less likely to result in open perforation. Sometimes a large quantity of fluid accumulated behind the stomach in these cases, and might be mistaken for empyema of the chest by medical men. There was less likelihood of its travelling and simulating appendicitis than in abscess of the gall bladder, although, in one of Dr. Weir's cases, the patient had severe pain in the region of the appendix, appendicitis was suspected, and an incision was made, but the appendix itself was found healthy; the abscess extended upward and was traced to a minute perforation of the stomach. Regarding the subsequent history of patients recovering from perforation of the stomach, Bolling had found in those observed from six weeks to three years no further trouble referred to the stomach. In reply to a question, Dr. Weir said the patient presented was not in collapse.

Acute Cholæmia in Obstructive Jaundice Produced by Impacted Gall Stones.

—DR. KINNICUTT reported this case. The patient was admitted to his ward with the history of a characteristic attack of biliary colic six days before, of several hours' duration, and relieved only by morphine. There had been no return of pain, but the patient had become deeply jaundiced, and there had been continuous fever. On admission, the jaundice was intense, the temperature was 105.6° F. (mouth), and there was slight mental disturbance. There was a copious erythematous eruption, with urticarial wheals of the neck, chest, and upper extremities. The liver was markedly enlarged (edge two inches below costal arch in mammillary line), the gall bladder was not palpable. The patient became acutely delirious on the second day after admission. On the fourth day, there was a single attack of unilateral spasm of a few moments' duration, with loss of consciousness. The temperature range was from 101° F. morning, to 105° F. evening, the delirium alternated with more or less marked stupor, the signs of obstructive jaundice increased, if possible; the white stools indicated that no bile was passing into the intestines. On the fifth day surgical interference was advised, and on opening the abdomen the common duct

was found dilated to the size of the thumb; two calculi, 1.56 cm. and 1.57 cm. respectively in diameter, were removed, and a third was felt, but pushed into the intestine. The liver was enlarged, the gall bladder not distended. The patient's mental condition did not improve perceptibly after operation; the stupor and delirium persisted, and she died in coma on the third day following operation. The symptoms were apparently those of acute cholæmia as the result of obstructive jaundice. Albumin and casts were present in the urine, but not to a greater degree than is common in obstructive jaundice, and there was no history of antecedent renal disease.

The case is of interest in several respects, and especially in view of the presence of acute cholæmia, which is of rare occurrence in obstructive jaundice.

Discussion on the Several Cases.—DR. WEIR thought Dr. McBurney's first case, naso-pharyngeal sarcoma, illustrated two important points. First, that the spindle-cell tumors were much more amenable to treatment, a fact corroborated by other observers. He recalled that Dr. Sands had had a case which was cured after repeated operations, and the speaker himself had had one which was controlled after three or four recurrences. The second point had already been alluded to by Dr. McBurney, namely, the great advantage of taking away a portion of the upper jaw, thus allowing ready access to the tumor in case of recurrence.

The result in the second case, that of sarcoma of the tonsil, with enlargement of the glands of the neck, was most satisfactory, for such cases were among the most serious of all those encountered by the surgeon, and when a case was cured he deserved the highest praise for the thoroughness with which he had done the operation. The method which had been employed was similar to that of Mikulicz, which afforded best access to the parts immediately involved and to the glands under the sterno-mastoid muscle.

The Galvano-Cautery Wire in Sarcoma of the Nares.—DR. BEVERLY ROBINSON raised the question of the advisability of using the galvano-cautery wire in cases of sarcoma of the nasal passages. Some gentlemen in the city, with a certain amount of throat experience, had gained considerable notoriety from the use of the galvano-cautery snare in the treatment of naso-pharyngeal sarcoma when first seen. Was it desirable that patients should be operated upon in that manner? Naturally one would feel at first that it was more agreeable than to have the jaw removed and everything exposed, but would it be to the ultimate advantage of the patient? Inasmuch as it was likely the patient would in any case finally reach the surgeon, would it not be better to teach the profession to have the cases operated upon in a radical way in the first instance?

DR. ABBE said that about four years ago his attention had been called especially to these tumors, although he had operated on one or two cases prior to that date. He remembered that at a meeting of a medical society in Boston, Dr. Cheevy had presented a patient operated upon by him for sarcoma of the naso-pharynx ten years before, and three or four times later for recurrences, the patient being finally cured. These growths seemed to appear about the time of puberty, and to grow actively for three or four years, and if they were attacked boldly they tended to die out. At least, Dr. Cheevy called attention to that fact and quoted some German authority. An illustrative case was one of fibro-sarcomatous type, with excess of angiomatous structure, in which Dr. Abbe had removed the tumor about three years ago, and in which he and Dr. Delavan employed the galvano-cautery needle to keep the growth under control subsequently. The patient was at present in perfect health, except for a slight recurrence of the growth, which was being held

in check. Lately Dr. Coley had subjected him to toxin treatment, with the result that after each injection the face became so swollen and he suffered so great distress that he refused to have it continued. Dr. Abbe was under the impression that the condition of the tumor had remained the same. The fact should never be lost sight of, that early in life such sarcomatous growths could, by repeated attacks, be ultimately cured.

DR. MCBURNEY said he had operated in another case of naso-pharyngeal sarcoma in a young man, about twenty years of age, over five years ago. The first operation was begun by removing a part of the upper jaw. Second and third operations were performed at intervals, and it was now over five years since there had been recurrence.

He was a very strong believer in thorough and persistent operating on cases of malignant disease. He believed with Dr. Weir that the cases related belonged to a favorable class, but it was desirable, in view of the little confidence which could be placed in other modes of treatment, to call attention to what could be accomplished by actual work. The great objection to certain seemingly plausible methods, but whose value had not been proven, was that they led the profession away from methods which had stood the test of time and had given satisfactory results. In saying this, he did not mean to express the opinion that there had been no improvements upon old methods, but simply that we ought to resist the application of untried methods to the exclusion of old ones which had given good results. So far as concerned the use of snares, he could wish all snares destroyed before being applied to malignant tumors. They were wrong in mechanism and wrong in practice, and to use them was to ignore the whole pathology of the disease. It was utterly impossible to apply a snare to a malignant tumor, except in some extraordinary case, in such a manner as to remove the disease. It was about as impossible as it was to destroy malignant disease by caustic paste.

DR. WEIR.—The use of the snare is a snare?

DR. MCBURNEY.—I think so—and a delusion.

DR. WEIR did not wish his former remarks to be applied to that other class of sarcoma of the naso-pharynx, which were among the most dangerous to operate upon and in which recurrence was very likely to take place.

DR. BRYANT said he began to cultivate his acquaintance with sarcoma of the naso-pharynx by treating a case with the snare in 1887 or 1889. He snared it vigorously, but it bled more vigorously and grew rapidly. He then tried the hot needle. Finally he made up his mind to remove it, and as a preparatory step tied both external carotids. Then, on cutting into the tumor, he was struck by its anæmic condition, induced by ligation of the vessels, and it occurred to him to let it alone and observe what would be the result of cutting off the circulation. He watched the case three years, and two years ago, when he last saw the patient, the tumor had become reduced to about one-third its original size, was tough, fibrous, entirely inactive, and caused the patient no trouble. Within two or three weeks he had received a reprint of a case so treated by Dr. Dawbarn, with a similar result. It was a question whether these growths did not tend to disappear after a certain time, and cutting off the circulation simply held them in check until that period arrived. He was certain that operations on naso-pharyngeal growths was very much facilitated by ligation of the vessels and by removal of the jaw.

Gummatous Tumors and Fever.—DR. BEVERLY ROBINSON, referring to Dr. Abbe's case, in which there were continuous fever and gummatous tumors not broken down, said he had asked Dr. R. W. Taylor to examine one of his patients supposed to be suffering

from either gumma or malignant tumor of the left lung, and Dr. Taylor had expressed the opinion that it was malignant disease, for the reason that there were continuous fever and absence apparently of breaking down of the tumor.

DR. PEABODY thought the case was extremely interesting from certain points of view. First, it illustrated very well the existence of unconscious syphilization, for the woman had no motive for denying it, while she had every reason for revealing it had she known of its existence. Again, it illustrated very well the impossibility, in this instance, of correct diagnosis and treatment without surgery. The surgery did not cure the patient, but it made diagnosis possible, which led to right treatment and cure.

DR. ABBE added that this case was another which went to show that to-day it was possible to remove tumors of the liver with no harm to the patient. Indeed, it was safer to attack this organ than almost any other. Out of twenty cases collected by Keen two years ago, there was but one death. In animals as much as three-fourths of the liver could be removed and recovery follow, with subsequent compensatory hypertrophy of the remaining portion.

DR. MCBURNEY thought Dr. Weir's case of perforation of the stomach emphasized the grave responsibility which rested upon the person who first saw such cases. This was true, not alone of the stomach, but also of the intestine and any viscus. Of course, we could not form an opinion of the rapidity with which pathological changes took place after perforation, but all were familiar with the fact that for a period, say a few hours, there were almost no changes even in cases of one or several perforations of the intestine. The peritoneum during this period looked perfectly normal, and one could scoop out escaped feces and yet see the case go on to good recovery under proper and timely treatment. After this period, however, the pathological changes developed with frightful rapidity. In perforating appendicitis, for example, it was incredible how soon, following a certain period, the belly became filled with nasty, fetid material. What the surgeon desired was to operate within that limited time, and the case of Dr. Weir's was an example of the happy results which followed. In ninety-nine cases out of a hundred, fatalities were due to delay in operation.

DR. KINNICUTT reported a case of recent occurrence in his wards, in which a successful operation was performed, probably as late as three weeks after perforation. The patient was admitted suffering from obscure gastric symptoms. There was no history of acute epigastric pain at any period, of hæmatemesis, or, in fact of any gastric symptoms, other than a moderate degree of discomfort. There was, however, evidence of a very localized peritonitis in the upper umbilical region; there was also a slight, irregular, but continuous rise of temperature. The right lobe of the liver was not enlarged; it was impossible to determine the lower limit of the left lobe, on account of the sensitiveness to palpation and the rigidity of the recti muscles. As the signs of a localized peritonitis continued, the diagnosis was believed to lie between a perforating gastric ulcer and an abscess of the left lobe of the liver. An exploratory incision was performed by his surgical colleague, Dr. McCosh, and a small abscess was found, communicating with a perforating ulcer of the anterior wall of the stomach, near the lesser curvature, about three-fourths of an inch in diameter. The abscess was entirely shut off from the general peritoneal cavity by adhesions between the anterior wall and the under surface of the liver, and by a large amount of inflammatory exudation. Secure limitations in cases of perforating ulcer of the anterior wall were extremely rare, though comparatively common in

perforating ulcers of the posterior wall. The patient had made a perfect recovery.

DR. KINNICUTT, in reply to Dr. Weir, said that the case related by him differed from those just referred to by Dr. Weir, in that the perforation was of the anterior wall, where adhesions were of very rare occurrence.

DR. W. M. POLK supposed Dr. Weir's case belonged to the class of acute perforating ulcer of the stomach, while Dr. Kinnicutt's belonged to that class in which the process of perforation was very slow, giving ample time for adhesions to take place. The one class was always preceded by a very distinct set of symptoms, so that the condition could be fairly diagnosticated, while the other was not always so readily recognized by the antecedent history. He therefore presumed Dr. Kinnicutt would not have the inference drawn that late operation would prove as successful in Dr. Weir's case as in his own. Certainly, in acute perforating ulcer of the stomach, delay, according to his personal experience, was most disastrous. He had had two cases; both patients were in extremis and died. In one he was much struck by the fact that the perforation, which was upon the anterior wall of the stomach, was not accompanied by general peritonitis, and the patient died of shock from the initial extravasation. The peritoneum was quite free from exudate. The other case presented a condition not unlike that of Dr. Weir's, except that the perforation was larger. Cases like Dr. Kinnicutt's gave abundant warning; one could select his time for operating and follow the course usually adopted in cases of chronic abscess of the peritoneum.

DR. KINNICUTT said that the inference suggested by Dr. Polk was the last that was intended by him. The delay in operating was necessitated by the great obscurity of the symptoms. If a diagnosis of perforation could have been made with any certainty, surgical interference would have been advised at the earliest possible moment.

DR. POLK.—I beg pardon, and take back all I said.
Peritonitis Caused by Non-Perforating Ulcer of the Stomach.—DR. ROBINSON mentioned a patient who died in his wards eight hours after admission. The case was seen by his house physician and surgeon, not by himself, and their diagnosis was that of miliary tuberculosis. Dr. Thacher made the autopsy, and found two ulcers of the stomach beneath the liver (without distinct perforation into the abdomen), and peritonitis which he attributed to the ulcers. Dr. Thacher stated that ulcer of the stomach was quite capable of giving rise to peritonitis when one could find no opening into the abdominal cavity.

DR. ABBE thought these cases should not be regarded as necessarily hopeless, even though there were extensive extravasation, provided there were also a limiting peritonitis. He recalled one with large extravasation over the liver and under the diaphragm, in which the patient recovered from the abdominal condition, but died on the eighteenth day from pneumo-thorax and secondary abscess which had worked its way up from behind. It was an example of that class of cases in which liver dulness was replaced by tympanitic resonance due to gas escaping from a perforative ulcer of the stomach.

DR. WEIR said Dr. Kinnicutt's case belonged to another class than those of the acute form, being grouped under the slowly progressive or chronic form. In acute perforation the point made by Dr. McBurney was an important one, namely, early operation. In one case which had been reported the belly was opened at the seventh hour, yet that early it was full of turbid serum from commencing peritonitis. The question of peritonitis depended upon the quantity and virulence of the matters extravasated. In a case which had come

under his observation, but not under his care, the abdomen was opened the sixth hour after perforation of the sigmoid flexure, and was then found to contain nearly a pint of turbid pus.

The majority of cases collected by Dr. Weir had given a history of some gastric trouble, and fully one-third of them had recently partaken of a hearty meal which had caused agonizing pain. These facts taken together should give some clue to diagnosis and early operation.

DR. KINNICUTT remarked that the interesting feature of his case was that the perforation was not of the posterior, but of the anterior wall of the stomach, and yet adhesions had formed which prevented escape of fluids into the general cavity.

DR. WEIR remarked that this was very unusual, yet such cases had been reported.

Report of Case of Supposed Abscess of Liver; Laparotomy; Excision of Piece of Liver, with Relief of Symptoms and Complete Recovery.—DR. GEORGE L. PEABODY read the paper (see p. 193).

DR. POLK could recall two or more cases of multiple abscess of the liver, varying in size from the end of one's thumb down, clearly traceable to inflammation extending from stones in the gall bladder, there having been, however, no history of biliary colic or of the passage of stones, and no jaundice prior to the suppurative process, say a month before operation. The history was rather of that form of malaria which exists in the suburbs of New York.

Regarding the favorable result of operation in Dr. Peabody's case, it would be recalled that some years ago a gentleman gained some reputation in this city for cure of liver trouble by repeated tapping of the liver, a method employed in some parts of India and elsewhere. The needle was introduced into the liver without laparotomy.

DR. PEABODY believed fevers connected with various hepatic troubles, including abscess, were often mistaken for malaria. If in his case gall stones and supuration of the gall bladder had been the cause of the multiple abscesses, the patient would not have been cured, but the condition would have progressed.

DR. ARBE inquired whether there was any history of syphilis in Dr. Peabody's case, for the cells described were very much like those seen in gummata.

DR. PEABODY replied that there was no history of syphilis, and the patient had recovered and remained well without any specific treatment.

The Cyclo-Ambulance.—A German surgeon, Dr. Hoenig, has designed an apparatus which he calls a cyclo-ambulance (*The British Medical Journal*). It consists of a car covered in with canvas, which contains a folding litter and rests on four side-wheels, and a fifth wheel in front pedaled by a cyclist. A seat and pedals are also provided at the back for another cyclist. The top part of the car can be lifted off, a patient can then be placed on the litter, and the top replaced on the axles. The patient can be watched by the cyclist at the back through a glazed window; but the patient is also provided with the means of attracting the attention of the cyclist by using the rubber ball of a cycle horn. An aperture in the side of the car affords access to the patient when he is in need of help. The ambulance is reported to be in experimental use in Berlin, and is easily steered and manipulated.

A Pleasant Treatment.—A physician in Illinois treats his cases of erysipelas with external applications of honey. In erysipelas of the face, it is said to quickly relieve the pain and greatly shorten the attack.—*National Medical Review*.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 27, 1896.

DR. EDWARD D. FISHER, PRESIDENT, IN THE CHAIR.

Report of Committee on Hygiene.—DR. JOHN WINTERS BRANNAN, the chairman of the committee on hygiene, reported that since the appointment of the committee last November, several measures of importance to the public health have received their attention. The first of these was the pernicious custom of harboring vagrants and homeless men in the city police stations at night. This practice will probably shortly be abandoned, and the system now successfully employed in Boston substituted. Lodging-houses have been established there, where deserving men who apply for shelter are assisted in finding employment, while common vagrants are sent to the work-house. Dr. Brannan next referred to the filthy habit many people have of expectorating in public places. This practice is not only filthy, but a menace to the public health, and with the aid of the Health Department steps have already been taken to abate it. Notices are to be posted in public conveyances, buildings, etc., calling attention to the danger of free expectoration, and proper receptacles are to be provided by the officers of transportation lines. Later on it is hoped that these measures will be followed by a prohibitory law on this subject, similar to that existing in Paris. The third point touched upon by Dr. Brannan was the establishment of separate hospitals for consumptives. One of the buildings on Blackwell's Island will be set aside for this purpose, and it is expected that the transfer of the city insane to the State asylums will furnish further accommodation for tuberculous patients.

Significance of Pleurisy, and Some Points in Its Treatment.—By DR. EGBERT LE FEVRE (see page 181).

DR. R. C. M. PAGE said the idea that a pleurisy, whether acute, subacute, or chronic in character, is generally, if not always, of tuberculous origin, was first brought to his notice early in 1888. The following August, while in Paris, he visited Landouzy, the original advocate of this theory, who forcibly reaffirmed its correctness, and whose investigations on the subject certainly seemed very conclusive. In London, however, it was just as conclusively shown that this theory does not hold good there, nor does it in this city. Cases of acute pleurisy have come under his observation which ended in complete recovery, and now, after from five to seven years have elapsed, the patients have no symptoms of tuberculosis. It is no doubt possible that the damage done by an attack of pleurisy may render the subject a more favorable one for tuberculous infection. The late Dr Flint held that a double pleurisy with effusion was always of tuberculous origin; Dr. Page said he did not think this was always the case, although he believed that most chronic pleurisies are tuberculous.

As regards treatment, sodium salicylate is undoubtedly the proper remedy to employ in rheumatic cases. In other types of the disease it may do harm by depressing the heart. To counteract this, he usually gives tincture of digitalis at the same time. Aspiration of the chest should always be regarded as a very serious operation. Especially in acute pleurisy with effusion, there is danger of producing adhesions in the withdrawal of the fluid by bringing the inflamed layers of pleura together. To counteract this, he usually advises hill climbing, the pneumatic cabinet, or pulmonary gymnastics.

DR. BEVERLY ROBINSON said he did not think that

thoracocentesis in pleurisy should be regarded in any sense as a dangerous operation. On the contrary, he considers it a very innocent one. He has advocated and practised it for many years, and he has yet to see a case in which any subsequent evil results could properly be attributed to it. He expressed the view that, whenever a notable quantity of fluid is present in the chest, it is proper, it is judicious, it is in fact almost imperative to remove it by aspiration. He does not think it good treatment to wait for the production of a large amount of fluid.

Regarding the proportion of tuberculous and non-tuberculous pleurisies, the speaker thought this varied according to the class of patients we have to deal with. In the City Hospital, for instance, we are apt to see many more cases of tuberculous pleurisy than we do in private practice or in hospitals which have a good class of patients.

DR. CHARLES E. QUIMBY said he did not agree with the statement made by Dr. LeFevre that the withdrawal of the fluid in tuberculous cases is frequently followed by a rapid extension of the tuberculous process. If the fluid is removed and the nutrition of the lung neglected, the patient will very likely do badly, but if the nutrition of the lung is properly looked after by stimulating the circulation, by expanding the lungs, etc., the diseased area is put in better condition and in a large majority of cases the result will be beneficial to the patient.

DR. LE FEVRE then closed the discussion.

The Position of the Patient During Parturition, with Special Reference to the Merits of the Walcher Position.—DR. ANDREW F. CURRIER read a paper on this subject. He stated that in the practice of obstetrics in this country we have become so accustomed to the dorsal position of the patient during the second and third stages of labor that the question is seldom asked, by the average obstetrician at least, whether there is any position which is more advantageous for either parturient or accoucheur. In those cases in which operative interference becomes necessary, we are accustomed to make use of the lithotomy position, which, while it fixes the pelvis and gives us a basis of support, also diminishes the antero-posterior diameter of the pelvic brim, and hence must theoretically increase the difficulties of delivery. Practically, it seldom does.

The position with which the dorsal comes most into competition is the left lateral, sometimes called the English position, which is spoken of with great favor by many of our most experienced obstetricians. It is chiefly applicable for normal, that is, non-instrumental deliveries. The only advantages which are claimed for the English position are that the sensibilities of the patient are spared by the non-exposure or supposed non-exposure of her person during delivery, she is spared the annoyance of being moved about before and after delivery, and it is said the perineum can be better protected against rupture. In regard to the first of these so-called advantages, it is possible to deliver in the dorsal position without exposure, and as to the second, a change to the dorsal position becomes almost imperative if any reparative operations upon the vagina or uterus are indicated after labor is completed. The perineum can be protected in the dorsal as well as in the lateral position. The speaker said that personally he preferred to deliver always in the dorsal position unless some objection to it is offered by the patient.

Dr. Currier then called attention to the mobility of the pelvic joints during parturition, and the value of extension in lengthening the antero-posterior diameter and rendering the pelvis as roomy as possible. The value of this principle of extension was recently brought to the attention of the profession by Walcher,

more especially as an expedient which would obviate the necessity of symphyseotomy in cases in which that operation would otherwise be called into use. Walcher's thesis in regard to the position of extension was made in 1889,¹ and was that the conjugate of a narrow pelvis was not a constant quantity, but might vary according to the position of the woman. If a woman were placed in the dorsal position, the legs flexed on the thighs and the latter on the body, the body being somewhat elevated, the promontory of the sacrum may be readily reached by the finger in the vagina. In that position the *conjugata diagonalis*, according to different observers, measures from 9.7 to 10.4 centimetres; if now a pillow be laid under the sacrum and the legs allowed to hang downward over the edge of the bed or table, as far as possible, the promontory may be felt receding as the knees drop, and the conjugate will then measure from 10.5 to 11.6 centimetres. A gain of one centimetre may therefore be obtained in the antero-posterior diameter between extreme flexion and extreme extension; it is sometimes less and it is sometimes much more.

Aside from Walcher himself, many observers have obtained excellent results by employing this method. The following are the indications for the use of the Walcher position, and the objections to it. It is indicated in—

1. Cases of protracted labor in which the dimensions of the pelvis are normal or the antero-posterior diameter is somewhat shortened, the head being above the brim. The patient being placed in the position of extreme extension for an hour or more, the pelvic joints may become so relaxed or the antero-posterior diameter lengthened by the necessary half-inch, that the head will engage and labor be terminated normally or with forceps. The high forceps operation, version, or symphyseotomy are thus avoided.

2. Cases in which version, either cephalic or podalic, has been performed, or footling or breech cases. The flat pelvis, the generally contracted pelvis, transverse positions, and occipito-posterior positions are in this category.

3. Cases in which some form of operative procedure has already been adopted without success. It has thus far been used after high forceps operations, version, symphyseotomy, craniotomy, and low forceps, and it will probably be shown to have a still more extensive field.

The length of time during which the position may be used to advantage depends upon the effect which it produces upon the patient. It has been shown by those who have used it that it may be discontinued and re-employed without disadvantage and sometimes with positive advantage. After the legs have been suspended half an hour or an hour, it would usually be desirable to discontinue the position for a time, since it is tedious and may cause interference in the venous circulation of the legs and thighs. After a rest of an hour it can be resumed, if necessary.

In conclusion, the speaker said that the contribution of Walcher to practical obstetrics is certainly a valuable one, and will often prove as useful as it is simple and harmless.

DR. S. MARX said that those who have been in the habit of delivering women from the side will not give it up for the dorsal position. Our modern beds are so constructed that when we attempt to deliver on the back the underlying perineum is usually deeply embedded in the mattress. The speaker said that if the statistics we get from Europe are true, the Walcher position in difficult cases of labor is of immense value, and he expressed the hope that it would relegate that barbarous operation, symphyseotomy, to the obscurity it deserves. In the Walcher position, the

¹ Centr. f. Gyn., 1889, li., p. 892.

gain in the pelvic measurements is obtained by the action of the ileo-femoral and anterior accessory ligaments; these prevent the sacrum from moving forward, but do not prevent it from moving backward. In one case coming under his observation, where he had been unable to deliver with the Tarnier forceps, delivery was accomplished without difficulty by putting the woman in the exaggerated Walcher position. This method is not applicable to cases of flat pelvis, nor where there is ankylosis of one or the other sacro-iliac synchondrosis, and it should be at once discontinued after the head has passed the obstruction. Another objection to it is that in private practice the beds are usually so low that it is almost impossible to put a woman into the exaggerated Walcher position.

DR. JULIUS ROSENBERG expressed the opinion that if the Walcher method is practised with the same enthusiasm as symphyseotomy has been, the cases in which the latter operation is called for will probably largely decrease, as the gain in the pelvic measurements is almost as great in the former as in the latter.

DR. CHARLES A. KINCH continued the discussion, which was then closed by Dr. Currier.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, January 23, 1896.

W. R. PRYOR, M.D., CHAIRMAN.

Election of Officers.—In the absence of the chairman, Dr. Coe, Dr. H. L. Collyer called the meeting to order, and the section proceeded to the election of a chairman and secretary for the ensuing year. Dr. W. R. Pryor was elected chairman, Dr. S. Marx secretary. Dr. Pryor then took the chair.

Embryonic Specimen of Twins.—DR. MARX presented an embryonic specimen, representing twins aborted at the twenty-eighth day. He knew of no other similar specimen at so early a period.

Ectopic Gestation; Two Specimens.—Dr. Marx also presented specimens of ectopic gestation from two cases, one removed through the vagina, the other by the combined method. The cases illustrated the difficulty of diagnosis and the advisability of vaginal operation, which certainly gave an ideal convalescence. The first patient had recently contracted gonorrhoea from her husband, had irregular bleeding for three weeks, and he and Dr. Grandin were uncertain as to the nature of a tumor which developed at the side of the uterus, but were disposed to think it was a gonorrhoeal abscess. The abscess was cut into easily from the direction of the vagina, but the tumor slipped up and was reached by the suprapubic opening. It was found that the abscess occupied the uterine end of the tube, while the chorionic villi were in the extreme outer or fimbriated end. The woman went home in ten days. In the second case the diagnosis was based on irregular hemorrhage of four weeks, while no distinct tumor nor other pretended characteristic signs of extra-uterine pregnancy was present. On opening from below, an enormous quantity of clotted blood gushed out, showing that internal hemorrhage must have been going on a week or longer, yet the pulse was only 68, and the patient's condition good. A large vessel was injured, and not being able to tie it from below, Dr. Grandin, who was assisting him, rapidly made a suprapubic opening and controlled it. The patient recovered.

Double Dermoid Cyst.—DR. H. J. GARRIGUES presented two dermoids, one from each ovary. The smaller ovary was composed of two parts, one containing the dermoid cyst, the other a corpus luteum in

which there was a central cyst. The case was interesting from a diagnostic standpoint, for the physician had sent the patient to him with the diagnosis of extra-uterine pregnancy, and on careful examination Dr. Garrigues did not doubt its correctness. On operating he found uterine gestation and the two dermoids. The uterus had given him the impression of being small, but that was explained later by the fact that he felt only a small part of it, the remainder being covered by the larger cyst. The smaller cyst was behind the uterus and was not felt. He did not doubt the diagnosis, because he could feel what seemed to be the pelvic end of the foetus, but this was found to be two bones in the dermoid pointing that way. The case also illustrated the best treatment for abortion, namely, to empty the uterus entirely.

DR. H. N. VINEBERG, referring to Dr. Marx's case, wished again to warn against placing too much stress on any one sign of extra-uterine pregnancy, whether irregular hemorrhage, colicky pain, or other sign. Patients should not be allowed to get up after vaginal work before three weeks.

Symphyseotomy, its After-Effects, with a Description of a New Method.—DR. EDWARD A. AYERS read the paper. He first related four cases in which he had operated. 1. Mrs. B—, first child delivered stillborn by forceps. Seen by him in December 1894; twenty-four hours in labor, right shoulder presenting, dorsum anterior. After careful efforts with forceps, symphyseotomy was performed, separation of one inch, but the pulse ceasing in the cord, delivery was completed by craniotomy. *Conjugata vera*, three and one-third inches. Recovery most satisfactory. 2. Mrs. R—, March, 1895; conjugate, three and one-eighth inches, separation obtained of two and one-fourth inches; foetal heart heard two minutes before delivery with forceps. Male child, over nine pounds, born dead. Recovery of mother most satisfactory. In these two cases podalic version would in his opinion have been better than forceps. 3. Operation, December 12, 1895; pendulous abdomen, funnel-shaped, generally contracted pelvis, chief contraction in transverse diameter; separation of two and one-half inches ensued; delivery of twins, one male, the other female; biparietal diameter of each, four and one-half inches. This case was unique, being the only instance in which twins had lived. Mother and babes were presented. 4. Recent case, woman three days in labor, *conjugata vera* three inches; separation obtained of two inches and one-eighth during forceps delivery. Child weighed seven pounds, and is in fine condition to-day. Mother's recovery uneventful.

Method of Operating.—The method employed in all four of the cases was as follows: Patient at edge of the table, thighs flexed, small male urethral sound introduced to hold the urethra and turn the bladder to the left. Labia minora and clitoris drawn well up to the patient's left, operator's left index-finger introduced into the vagina, pressed against the posterior curve of the symphysis up to the top of the joint; small incision made about half an inch below the clitoris, curved probe-pointed bistoury passed through the wound close against the joint, and up until it could be felt by the index-finger in the vagina above. The pubic bones being V-shaped in front, it was easier to follow the line of union than from behind. With due care, no vessels of importance would be severed. The blade of the bistoury was now carefully worked down through the symphysis, the left index-finger still acting as a guide, and keeping the urethra and bladder out of the way. A small scalpel would be better than the curved bistoury, at least at the commencement, but the blunt point of the bistoury was a safeguard against injury to the subcutaneous structures and finger above. There was no comparison between this method and

Morisani's and Pinard's. In none of the four cases was there hemorrhage of moment.

The after-treatment consisted in the use of iodoform gauze, plaster strips around the hips, gauze removed in thirty-six hours, vulva and vagina kept clean by bichloride irrigation; catheterization could be done without risk; in no case was it employed more than twice. Any plastic operation should be postponed.

DR. AYERS used the term new method by contrast with Morisani's and Pinard's, which were the only ones given in text-books. He claimed no special originality, as suggestions had been received from different sources, the general operation having been suggested by Dr. Dawbarn.

After-Effects.—The joints in all four of the patients were satisfactory and showed firm union, and this was true of all the cases operated upon in this country so far as he had been able to learn, and he had heard from a large number. It appeared, therefore, that there was a natural tendency for the parts to reunite, for the after-treatment had been various. He had collected 110 cases of symphyseotomy in this country, with 5 maternal deaths, 16 infantile deaths. Forceps were used in 80.

To avoid symphyseotomy in contracted pelvis one must induce labor near the seventh month, and then the infantile mortality averaged more than fifty per cent., for French statistics on this point did not hold for this country; maternal mortality two to five per cent., or nearly as high as in selected symphyseotomy.

DR. J. CLIFTON EDGAR said he considered himself very fortunate in having witnessed Dr. Ayers operate, for he regarded the method adopted as superior to those of Morisani and Pinard. The mode of extraction was important, for upon it depended to an extent the amount of pubic separation, and this influenced the after-result. To go beyond ten centimetres meant danger of lacerating the vagina and impairing the sacro-iliac joints.

DR. SPENCER BROWN mentioned a case in which he had performed symphyseotomy by Morisani's method twice, finding bony union below, fibrous union above, at the second operation. The hemorrhage back of the joint was larger and more difficult to control at the second operation.

DR. W. T. LUSK gave a detailed description of Pinaud's operation, and showed instruments devised by Farabœuf for measuring the pelvic diameter, diameter of the head, etc. By observing the points laid down there should be no hemorrhage.

DR. DAWBARN read the history of a case of symphyseotomy performed by him January 16, 1894, it being the first time the method practised by Dr. Ayers had ever been employed. He afterward experimented on the cadaver and concluded that it was the best procedure, and recommended it to his friends. His patient had already been in shock, and died a few hours later.

DR. R. A. MURRAY thought the subcutaneous method, using a small knife, was best. The question of version or forceps depended upon the case. According to his observation, cases had done best following version, but where the head was in the pelvis and already moulded forceps should be used.

DR. P. A. HARRIS in one case had kept the parts together by a bandage eight inches wide, laced at the end, but buckles would probably be better. In moderate contraction the mode of delivery could best be determined at the time of labor. For instance, in one case he had performed craniotomy on a dead child, weight ten pounds, while on another occasion he extracted a much smaller child with forceps on the same patient.

DR. H. L. COLLYER would wait before doing symphyseotomy, for much depended upon the size of the

child. In some cases suprapubic symphyseotomy might be best, in others infrapubic. The latter had impressed him favorably. In his case the bones did not separate until the subpubic ligament had been divided, then the separation was sudden and some hemorrhage occurred. A support should be used to prevent too great and sudden separation.

DR. J. F. GRAY, in one case of symphyseotomy, did not divide the subpubic ligament, hoping to get sufficient room for delivery without it, but during extraction the ligament ruptured and some injury to the soft parts was the consequence. There was now perfect union in spite of the fact that the attendants allowed the patient to get up with a very loose bandage during convalescence.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 27, 1895.

HENRY S. STEARNS, M.D., VICE-PRESIDENT, IN THE CHAIR.

Hodgkin's Disease: Occlusion of the Thoracic Duct.

—DR. F. S. MANDLEBAUM presented specimens from a case of Hodgkin's disease in which there was thrombosis of the left innominate, and of the subclavian and internal jugular veins, with occlusion of the thoracic duct, and consequent chylous ascites and chylous hydrothorax. The patient, R. K.—, nineteen years of age, had always been well up to July, 1894, at which time a small tumor was noticed on the left side of the neck. It was removed by operation four months later, and then there were some small tumors noticed in the axillary region. She was apparently well up to February, 1895, when a mass appeared at the site of the scar and grew rapidly. The abdomen then became distended. On October 13th she was admitted to the Mount Sinai Hospital. Examination showed large tumors in the neck and axillary region; none in the groin. The right pleural cavity gave clinical evidence of effusion and on aspiration a milk-white fluid was withdrawn. Microscopical and chemical analysis showed it to be a mixture of chyle and serum. The abdomen contained similar fluid. Both cavities were aspirated several times. The total quantity removed from the abdomen was thirty-seven quarts, and about as much oozed from a cannula which was left *in situ*. Twelve quarts were taken from the chest. The urine was clear and gave no evidence of chyluria. There were no filaria found in the blood. The patient finally died of pulmonary oedema. The autopsy was made eighteen hours after death. Both pleural cavities and the peritoneal cavity were distended with chylous fluid. There was a large mass of mesenteric and retro-peritoneal glands the size of a child's head. The intestines were apparently normal. There was no involvement of Peyer's patches. The spleen was only slightly enlarged; the liver was congested; the kidneys were apparently normal; the lungs were compressed, and the heart was normal. The mediastinum was filled with glands. The veins of the neck were dissected out, and an organized thrombus found in the innominate of the left side, extending through the subclavian and internal jugular veins to the valves. It was six centimetres in length and firmly adherent. It completely occluded the thoracic duct. The veins were all embedded in and compressed by enormous masses of glands. The thoracic duct was removed, but, with the exception of a few dilated portions, nothing abnormal was found.

DR. THOMAS S. SOUTHWORTH presented a specimen of **Pulmonary Emphysema in an Infant.**—The child was nearly six months old at the time of its death, and it had been bottle-fed on cow's milk prior to coming

into the hospital. On admission, when three and a half months old, it was in a marasmic condition. It was fed on modified milk, and then on peptonized modified milk, but did not thrive. The child died on November 24, 1895. There was no history nor were there any physical signs of involvement of the lung. At the autopsy the heart was found to be normal; the lower lobe of the left lung was bound down by old adhesions; the anterior borders of both lungs were fully distended. The upper lobe posteriorly showed an area of non-aërated tissue, and the lower lobe posteriorly an area of hypostatic congestion. The left lower lobe over which there had been firm adhesions was firm and non-aërated, and contained a cavity about the size of a hazelnut. On the mediastinal surface of the same lung were three or more similar cavities, situated so near the surface of the pleura that it bulged outward. Two of the cavities connected with the main bronchi. There was some pus in the other bronchi but none in these cavities or in the bronchi leading into them. If these cavities were, as they appeared to be, dilatations of the bronchi, the condition was quite rare in such a young infant. No microscopical examination had yet been made of the wall of the cavity.

DR. HENRY POWER said that he would like to ask if it were possible to exclude forcible artificial respiration at birth as the cause of this emphysematous condition.

DR. SOUTHWORTH replied that the appearance of the lung did not seem to him like that of the interstitial emphysema found as a result of forcible artificial respiration. Such an emphysema was usually along the edges of the lung or between the lobes and just beneath the pleura, whereas in this case it appeared to be actually in the substance of the lung.

DR. STEARNS thought that one of the areas exhibited looked very much like an interstitial emphysema.

Syphilitic Osteo-Chondritis.—DR. JAMES EWING presented specimens removed from an infant who had been born in the Sloane Maternity Hospital and had survived only a few days. The mother had active secondary syphilis, and at birth the child had a characteristic maculo-papular eruption, moderate snuffles, and general weakness. A few hours before death there was sudden collapse. At the autopsy, the frontal lobe on the left side was found to have been converted into a small necrotic mass into which there had been a moderate hemorrhage. At the base of the lobe and involving the orbital plate of the frontal bone was a well-marked periostitis with adhesions around the opening into the softened area. There was also an osteitis which had evidently connected with the superior nares on that side. There had apparently been a syphilitic periostitis and osteitis which had established a communication with the brain and given rise to this area of necrosis. On the other side of the anterior fossa there was a similar infiltration of the periosteum, but no affection of the brain. Sections from the side having the more advanced lesions showed only round-cell infiltration, and some fatty degeneration. The wall of the necrotic area was too much decomposed to admit of making sections, and for the same reason no proper histological examination could be made of the viscera. Sections were made of the ends of the long bones at the elbow, knee, and hip; they exhibited the usual syphilitic osteo-chondritis. In the fresh state there appeared to be only a hyperæmic condition. One quite typical feature was a separate centre of ossification beyond the normal zone of ossification. The microscopical appearances were as follows:

The irregularities of the pathological process were seen principally in the ossification zone. The cartilage cells had gone through the usual process of swell-

ing and stratification with absorption of the matrix and final extrusion into the medullary cavity, but in many places the cell spaces were occupied by one or more small round cells as well as by the older cartilage cells. Many cell spaces were occupied by granular matter, partially calcified and apparently derived from the degenerated cartilage matrix. They were often arranged in dense red circles about the cell spaces. The capillary vessels were occasionally the source of minute hemorrhages in the ossifying zone. New blood-vessels were occasionally seen above the ossification zone. The ossification zone itself was very irregular in outline, and sent out linear off-shoots or showed completely isolated areas of calcifying cartilage. The regular process of ossification had been limited in some places by the previous transformation of the cartilage matrix into a tissue composed of small round and fusiform cells, entirely devoid of nuclei. The periosteum was in many places infiltrated with small round cells. In the most advanced focus, *i.e.*, in the superior nares, the medullary spaces surrounding the primary calcifying area were occupied by dense masses of small round cells, fusiform cells, and polynuclear leukocytes. This round-cell infiltration and failure of blood-supply had finally resulted in the ulceration found in the superior nares and anterior cerebral fossa.

DR. STEARNS said that this description appeared to correspond with that of the appearances observed in rachitis, and he would therefore like to know how the ossifying zone in the femur differed from a rachitic zone.

DR. EWING replied that he did not think any sharp distinction could be made.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

REGISTRATION OF NURSES AND MIDWIVES—UNIVERSITY OF LONDON—RENAL COLIC IN INFANTS—PREVESTICAL ABSCESS—SALICYLIC ACID AS A PRESERVATIVE—NOTICE TO AMERICANS IN REGARD TO INTERNATIONAL POSTAGE.

LONDON, January 17, 1896.

THE registration of nurses is a subject which still agitates doctors as well as the nurses themselves. On Tuesday a conference, called by the parliamentary committee of the British Medical Association, was held, with representatives of those nursing institutions which chose to send them. The move can hardly be called successful, for such important bodies as the Nightingale Fund, the London Hospital, Charing Cross and Middlesex Hospitals, the Leeds, the Marylebone, and the Westminster Training-Schools, repudiated it, and replied to the invitation that legal registration was "inexpedient in principle, injurious to the best interests of nurses, and of doubtful public benefit." Nevertheless, the advocates of compulsory registration made a bold stand for their plan. Of course, the question of midwives or midwifery nurses was sure to come up at such a meeting and distract attention. Many discordant suggestions were offered, but nothing practical was the outcome of the conference. The representatives of institutions were asked to vote, with a result that five held up their hands for legislation and six against. Dr. B. Fenwick declared that a bill was being drafted and would shortly be published, and was reproved for taking part in such action until the committee to which his resolution had been referred had had the opportunity of consulting the institutions. A further show of hands demonstrated that the representa-

tives of institutions present disapproved of medical supervision over midwifery nurses. Many attempts to define a midwifery nurse have been made, but all definitions seem to be objected to, and the discussions about nurses threaten to be interminable. Another definition is demanded by one party, viz., that of "natural labor," as it is proposed to restrict midwives to such cases. How? ask the opponents of the scheme, and the advocates make no satisfactory reply.

Another question which your readers may think is interminable, is the reconstruction of the University of London. A meeting of convocation will be held next week, and it is anticipated that an acrimonious debate will ensue. The two parties are issuing a strong whip, and as the government has intimated that the opinion of convocation should be consulted, we may expect that the meeting will be a full one and the debate animated.

Some interesting cases of renal colic in infants were brought forward at the Medico-Chirurgical Society meeting on Tuesday. They all occurred in infants with gouty parentage, all had symptoms of renal colic supervening suddenly, and there was nothing prior to these attacks to lead to medical advice being taken. No calculi were found, but much uric acid was passed and small mortar-like masses which were found to consist largely of uric acid. All were children of the well-to-do classes. One speaker said he was familiar with similar cases among children of the poor, and attributed them rather to the rheumatic diathesis. It was suggested that salt might be given, as it increased the solubility of uric acid.

Another paper at this meeting was on "Prevesical Abscess," founded on four cases which had all given rise to difficulty of diagnosis. These cases are rare here, but Brigade-Surgeon Macleod said he had seen many of them in India. The natives, when pulled down by malaria, were prone to suppuration in loose connective tissues, and the prevesical space offered a convenient situation. He had known such an abscess to reach up to the umbilicus. Diagnosis was to be made, he said, by aspiration, and treatment by incision, but recovery was rather slow.

A prosecution under the adulteration of food and drugs acts for selling wines into which a little salicylic acid had been added as a preservative, has led to no result, except an exhibition of the differences of the experts called in. It seems almost a pity that this prosecution should have been commenced, as the amount used was very small, the object reasonable, and any injurious effect on the health hardly credible. And yet this decision may encourage others, who will appeal to it as a precedent, to resort to more decided adulteration.

American correspondents, attention! When you write to England, take care to put the proper stamps on your letters. Two or three friends of mine are making disagreeable remarks about your inattention to this matter, and, really, I hardly know how to defend you. It is not advertisers and traders who are the culprits. The children of this world are wiser in their generation, and know that a fine of 3*d* on a circular is not likely to predispose the receiver in favor of the goods offered. No, it is men of light and leading, who are too much in the clouds to remember that international postage is not the same as national. I have promised to draw your readers' attention to this insignificant grievance, and hereby fulfil my promise. No doubt a word in the MEDICAL RECORD will suffice, so far as medical correspondents are concerned.

An Active Germ.—Cohn says a single germ could, under good conditions, multiply in three days to 4,772 billions, and make a mass weighing 7,500 tons.

OUR PARIS LETTER.

(From our Special Correspondent.)

FRENCH WINTER RESORTS—NICE—MENTONE—MONTE CARLO—HYÈRES—ALGIERS—SAINT RAPHAEL—COMPARATIVE MERITS OF DRAINAGE—PREVAILING ATMOSPHERIC CONDITIONS PREFERABLE TO FLORIDA.

PARIS, January 10, 1896.

The new year has begun with overcast sky and cold, damp weather, which has driven many, especially invalids, to warmer climes. The School of Medicine opened its doors again on the 6th instant, after the short vacation, for the remainder of the winter semester and professional matters generally are getting into swing once more, although the season is acknowledged by all, physicians and chemists, to be a rather dull one.

The Riviera seems to be in vogue with doctor and patient alike, and it is Nice that is usually recommended, more especially in cases of chronic disease of the respiratory organs, laryngeal troubles, certain affections of the spinal cord, and neurasthenia, although as a general rule neurotic patients do not do well at the seaside. The air is dry and bracing, with cold winds at times and sometimes snow. The climate of Cannes much resembles that of Nice and the same class of patients is sent there. At Mentone the changes of temperature are less sudden than at either Nice or Cannes, and the climate is altogether more equable. There are several gaps or wide ravines down which the wind sweeps sometimes, making it very objectionable and even dangerous in some cases for delicate people; but this is in Mentone itself, which should not be recommended so strongly as the east end or East Bay, as it is called; this part of the town is entirely hemmed in at the back by a semicircular range of mountains, quite like an amphitheatre, affording protection from the mistral.

Dr. Henry Bennet, in his valuable work entitled "Winter and Spring on the Shores and Islands of the Mediterranean," assures us after many years of personal observation and study that the moisture-laden sea breeze which is drawn in daily by the sun's heat in cloudless weather is arrested by this amphitheatre of mountains, which it cannot pass. The colder atmosphere of the elevated regions condenses its moisture and so forms a haze over the landscape from about 11 A.M. These condensed vapors soften the atmosphere in an exceptional manner, and no doubt this explains the fact that so many invalids improve, or even get well at Mentone, while other regions of the North Mediterranean coast and the Riviera disagree with them.

Monte Carlo, situated between Nice and Mentone, although supposed to be an independent principality, is really under the protection of France and, being actually on the French Riviera, may very properly be mentioned as a French winter resort. It is somewhat higher than Mentone and has likewise a background of mountains. Patients with locomotor ataxia sometimes do well in its climate.

But the climate which an unusually large number of invalids are seeking this month is that of Algiers, on the south coast of the Mediterranean, for that, too, is a French winter resort, although situated in Africa. Algiers possesses among other advantages this very important one—phthisical patients are not crowded together as they often are in the hotels of the East Bay of Mentone. We all know what a depressing influence is exerted upon patients as a mass when many frequent a small resort. It does not, however, come within the province of an ordinary letter to do more than mention this *en passant*.

Algiers is especially recommended for diseases of the throat and chest; some rheumatic and gouty pa-

tients also do well there, but abundant observation has shown that such cases usually derive more benefit away from the sea. There is about the same degree of humidity as in the East Bay of Mentone and the temperature is higher than at any other Mediterranean station, the mean during the winter months being 61° F. Residence should always be taken on the Mustapha Superior, which is much higher than Algiers itself and close by the city. Patients of the class referred to always do better in that section and there is less humidity there than in the town proper. The Atlas Mountains, owing to their proximity, form a barrier to the sirocco and contribute to make the climate of Algiers the most equable of any of the French winter resorts. As regards malaria, it is to be feared only in low marshy localities, where there is stagnant fresh water and vegetable decomposition. The rainfall averages about the same on both Mediterranean shores.

As there is a certain class of cases which it is unadvisable to send to the mountains, so there is another class that cannot be sent to the seaside. The combination of sea and mountain climate, the blended geographical and meteorological conditions that are to be found almost anywhere on the Riviera or in and about Algiers, explain why such cases sometimes do well in either of the places mentioned. Instead of sending their wealthy patients to Aiken, Thomasville, Asheville, Gainesville, or the Indian River, our American confrères would do infinitely better to advise a winter *outré mer*, in one of the resorts of which we are now speaking, and above all in one of the smaller stations near Algiers, rather than in the city itself.

A new sanitarium has just been created at Birmandreil in the environs of Algiers by Dr. Verhaeren, which is very highly spoken of from a professional point of view as well as in other respects. It is designed chiefly for the reception of tuberculous cases. The ground is calcareous and free from humidity, provided with good spring water, and at considerable elevation above the level of the sea.¹ There is an extended view of the surrounding country and sea, while the quiet that prevails has a very happy moral effect, acting at the same time as a calumet of the nervous system. A few miles farther inland the atmosphere is still purer and perhaps the driest in the world. There is also to be found good hunting, a sport so valuable in the treatment of phthisical subjects.

Returning now from the southern coast of the Mediterranean to the northern, two French winter stations which, although possessing less *renomme* than those already spoken of, should not be passed over in silence. These are Hyères and Saint Raphael, the former by far the better of the two. Hyères itself is situated on the southern slope of the Maurettes hills, attaining here a height of about seven hundred feet. The mean temperature during the winter months is 55° F., with a mean humidity of the air during the entire year of fifty-eight per cent. The hour of sunset is the dangerous one here, as it is at any of the Riviera resorts. Patients should be cautioned to remain indoors at that time, and thus avoid the sudden chill and atmospheric change to which they would otherwise be exposed. Three fine avenues, planted with palm trees, have obtained for Hyères quite a reputation and the name "Hyères les Palmiers." The climate on the whole is rather a dry and stimulating one.

Saint Raphael is a very pretty place, but unfortunately has no protecting hills nor mountain range behind it, and is thus left open to the full force of the mistral. We should, therefore, hesitate to send there

¹ The elevation of places about Algiers averages from 600 to 1,800 feet above sea level.

patients at all seriously affected. As regards drainage there is a natural drainage by declivity, but although great improvements have been made in this line considerable yet remains to be done, as cases of typhoid fever on the Riviera still attest. The same system of drainage is in practice in all the places noted, any one of which, with the exception of Algiers, may be reached in from twenty to twenty-three hours from Paris.

Invalids usually leave Paris in the cold and wet and are rapidly transported to Marseilles. From there the railway runs along the seashore parallel with the celebrated Corniche road, passing in succession through the different health stations until Mentone, the last one and touching the Italian frontier, is reached, with bright sunshine overhead and the clear blue water of the Mediterranean, with its white foamy waves breaking against the red-brown cliffs on the one side and the olive-covered slopes of the Alps Maritimes on the other. With orange, lemon, and palm trees almost everywhere, among picturesque villas and casinos with their gardens of roses and japonicas in full bloom, the invalid, already brightened, arrives at the station chosen and, at the end of the winter, is encouraged to return home, if not cured at least greatly benefited.

OUR PHILADELPHIA LETTER.

(From our Special Correspondent.)

PUBLIC BATHS IN PHILADELPHIA—LEIDY FELLOWSHIP—
PHILADELPHIA COUNTY SOCIETY—PUERPERAL FEVER
—HOSPITAL FOR CONVALESCENT CHILDREN—AC-
CIDENT TO H. C. WOOD.

THE success of the People's Baths and the Riverside Baths in New York City, for the organization of which much credit is due Dr. Simon Baruch, has stimulated other cities to similar undertakings. The Public Baths Association of Philadelphia is a year old, and has collected \$24,850, to form part of a fund of \$50,000 or \$60,000, which is to be devoted to the building and equipment of a suitable bathing establishment for popular use. It is intended to erect one or more bath-houses and laundries, where for a small fee persons of both sexes can obtain hot or cold baths at all seasons, and where women can do their family washing. A lot has already been purchased for the purpose. There will be no swimming-pool, showerbaths only being provided. The building will contain fifty-seven baths, and a small number of tubs for women and children. Each bather will have a separate and private apartment in which to dress and bathe, and will be supplied with soap and towels. It is estimated that provision will exist for one thousand baths a day.

As already noted in the MEDICAL RECORD, it has been proposed to establish, with a fund of \$30,000, a Fellowship in Anatomy in the University of Pennsylvania, as a memorial of the late distinguished Joseph Leidy, who for thirty-eight years occupied with conspicuous ability the chair of anatomy in the University Medical School, and who died five years ago, at the age of sixty-eight years. Of this sum \$7,000 has already been subscribed.

At the business meeting of the Philadelphia County Medical Society, on January 15th, Dr. James C. Wilson was re-elected President, and Dr. James Tyson First Vice-President. Dr. T. J. Mays was elected Second Vice-President, and Dr. F. P. Henry Censor. Delegates to the American Medical Association and to the Medical Society of the State of Pennsylvania were also elected. The report of the directors showed the finances of the society to be in a tangled condition,

appropriations of a given year having been used to pay the obligations of the preceding year.

On the evening of January 16th, Dr. William T. Lusk, of New York City, read a paper before the Section of Gynecology of the College of Physicians, on "Recent Bacteriological Investigations Concerning the Nature of Puerperal Fever." The discussion that followed disclosed how widely at variance are the views of gynecologists as to the use of ante-partum and post-partum douches and of the uterine curette. While Dr. Lusk expressed the hope that good might come from the performance of hysterectomy in certain cases of puerperal infection, many doubts were expressed as to the ability to recognize and select the cases at an early enough period to secure the good of which the operation might be capable. At the conclusion of the meeting a well-attended reception was tendered Dr. Lusk at the house of the retiring President, Dr. C. B. Penrose. Dr. B. C. Hirst was elected President of the section for the ensuing year.

A bequest of \$20,000 has been made by Mrs. Anna R. Aspinwall, of Pittsburg, who died in Edinburgh a short time ago, for the purpose of founding a hospital for convalescent children in Philadelphia, in which female children are to be given the preference.

Dr. William M. L. Rickards, who had been engaged in the practice of medicine for more than fifty years, died on January 17th, at the age of seventy-four, in consequence of gastric ulceration. He graduated from the University of Pennsylvania in 1843.

Dr. H. C. Wood, professor of materia medica and therapeutics in the University of Pennsylvania, fell from his bicycle on January 16th, in endeavoring to avoid a trolley-car, and collided with a carriage, being kicked by the horse and run over by the vehicle. Fortunately the injuries were not serious, and Dr. Wood will soon be at his work again.

"ANTIPHTHISIN."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a letter to the MEDICAL RECORD of January 18th, Dr. Joseph Muir criticises an inference expressed in a recently published article by Dr. Baldwin and myself on "antiphthisin."

Dr. Muir's letter conveys the impression that we were ignorant of the fact that the tubercle bacillus can be grown on media presenting a slightly acid reaction, and that the inference above referred to, which we drew from our observations, is thereby rendered erroneous.

As I have been engaged in growing cultures of the tubercle bacillus almost uninterruptedly for ten years, had on hand many flasks of these cultures on Lubinski's¹ unneutralized potato broth, which gave a very perceptible acid reaction, before the "antiphthisin" article was written, and had shown before the New York Academy of Medicine, as long as five or six years ago, cultures on unneutralized potato grown according to the method described by Pawlowski,² when these were not so familiar to bacteriologists as at present, I was cognizant of the tolerance to slight acidity of the medium which is displayed within restricted limits by the tubercle bacillus.

De Schweinitz's³ experience as to the production of acidity in the medium coincides with ours: "The reaction of the media when inoculated is slightly alkaline. As the growth increases it becomes less so, and finally it is acid in reaction."

De Schweinitz's asparagin medium, the various me-

dia described by Proskauer and Beck,⁴ as well as Lubinski's potato broth, owe their acidity to the presence of acid salts, usually phosphates, but there is a limit to the tolerance of the bacillus for this acidity.

There is no reason, however, why this limited tolerance should invalidate in any way the observations in question, or the very moderately expressed deduction which we drew from them, and which refers to the acidity induced in the medium by growth of the germs, the observed facts being briefly as follows:

That the usual shallow layer of a slightly alkaline or neutral medium becomes markedly acid by the fact of having had a culture of tubercle bacilli grown on its surface until such a culture has completed its development, and that "the addition without heat of a little alkali to a filtered culture medium, upon which bacilli have ceased to grow, renders it again fit for the development of a second crop of germs, so long as any nutriment remains."

Since the acid was not present at the time of planting, since it is therefore induced in the medium by the growth of the germs, and since its neutralization enables a second crop to develop freely on the surface of the medium, we feel warranted in our moderately expressed inference: "It may be inferred that the limitation of the growth of the tubercle bacillus in such a culture medium is most likely due to the acidity induced in the medium, rather than to any specific germicidal substance produced therein."

An analogous effect is noted by Hueppe,⁴ in regard to the inhibiting influence produced on the bacteria of milk fermentation by the acid which they generate in the medium, and the continuance of the growth after its neutralization.

"When these acids are formed by the bacteria, the further development stops within a certain limit, determined by me for lactic acid—similar to that which obtains in yeast fermentation by the effect of alcohol.

"If one neutralizes the acid, e.g., by addition of calcium carbonate, the decomposition again proceeds further" (Hueppe).⁵

E. L. TRUDEAU, M.D.

SARANAC LAKE, N. Y., January 25, 1896.

ADVERTISING IN THE COUNTY REGISTER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The writer has received a notice to send \$3.00 to the treasurer of the Medical Society of the County of New York, the annual dues in advance up to October 26, 1896. It may be presumed that this assessment is to cover the outlay for publishing the "Medical Directory of the City of New York" for 1895. If this be so, I would like to inquire by what authority the editor of the "Directory" publishes the numerous advertisements of trade-marked medical goods, etc., along with the list of names in the "Directory"? This advertising I cannot endorse, and there are other members of the society of the same way of thinking. I am quite willing to be assessed to aid in printing the list of names, but do not wish to contribute toward advertising the class of goods referred to above, unless it can be shown that the society approves of such outlay, in which case there seems no other course left but to resign from the society. M.D.

NEW YORK, January 11, 1896.

Extremes of Temperature, and especially excessive heat, favor the development of chancroid and bubo. —MASTROSIMONE, *Giorn. Ital. delle Mal. Ven. e della Pelle*, June, 1895.

¹ Centralbl. für Bakteriöl. und Parasit., August 8, 1895.

² Annales de l'Inst. Pasteur, 1888.

³ Medical News, December 8, 1894.

⁴ Zeitsch. f. Hygiene und Infect., xvii., 1894, page 128.

⁵ "Naturwissensch. Einführung in die Bakteriöl.," F. Hueppe, 1896, p. 46.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 1, 1896:

	Cases.	Deaths.
Tuberculosis.....	115	123
Typhoid fever.....	8	3
Scarlet fever.....	125	11
Cerebro-spinal meningitis.....	2	6
Measles.....	338	24
Diphtheria.....	245	42
Small-pox.....	0	0

The Value of the Comparative Method in the Study of Pathology.—The following abstract of Dr. Roswell Park's presidential address before the Medical Society of the State of New York, at its recent meeting in Albany, was received too late to be inserted in the body of the report of said meeting: His plea was for a further extension of methods of comparative study in the investigation of disease and departure from the normal standard. While a man might be perfectly competent to reduce a fractured fibula who had never heard that the fibula was a disappearing relic, and that in many of the lower animals it was the larger bone, there nevertheless was no reason why in the interests of higher medical education this fact should not be perfectly familiar to him and to all. While admitting that such knowledge (several illustrations having been given) was desirable, the question arose, how should it be taught? for at present it was known to but few.

First of all, we must not lose sight of the fact that our bodies are aggregations of cells, each of which has its own individuality. Every organized being is a republic of cells, but it was not widely enough appreciated that, as in a republic of citizens a little disturbance in one region may bring about by most unexpected agencies a disturbance or even a revolution, so in the bodies alike of plants and animals cellular disturbance at one point was sure to affect to greater or less extent the entire economy. In higher animal and vegetable forms, however, the cellular organization was altogether too complex to permit a study of the conditions which so disturbed interrelation of parts. We must begin by study of organisms vastly simpler—begin the study of the activity of cells in the lowest and most immature organisms first. It was by studying inflammation in the lower organisms that Metschnikoff had added so greatly to our knowledge of this process. At this point the speaker dwelt on some of the knowledge of cellular pathology which had been gained by comparative study. The formation of tumors in trees was interesting. Among the influences were cold and parasites. For the cellular pathologist a tumor in an animal or upon a tree was practically the same. Malignancy of tumor formation was largely a process of cell degeneration and incompetence. In cancer atavism could be traced back to the hydroid stage, where simple fission was the prevailing method of multiplication, in consequence of which we had a longer lived and more aggressive cell growth which we called malignant. Neoplasms were less common in lower animals.

Among the most remarkable phenomena pertaining to cells was the tendency to reappearance of traits peculiar to remote ancestors, and quite out of keeping with cells in their present locations. Here the speaker referred to a number of congenital malformations.

Reversion to earlier types in avian and reptilian stages was shown in our liver cells, where the tendency was often to the elimination of nitrogenous materials

in the form of uric acid rather than urea. Garrod said: "Our gouty patients are a sort of birds." Goitre was of a reversionary type. A conspicuous example of atavism was seen in the mutual convertibility of skin and mucous membrane.

His plea, in closing, was that men in various branches of scientific work should come together and make common stock of their knowledge. There existed to-day no works in any language on comparative pathology. The ideal work would require two, three, or more volumes, in condensed form, to be placed in the hands of every second-year student. He feared that not until this was done could medicine claim to be really liberal.

The president was tendered a vote of thanks for his able address.

Beri-Beri.—Max Glogner, of Samarang, says that most of the cases of beri-beri on which he made his observations had been a considerable time under observation, and suffered from a slight intermittent fever. Scheube and Baelz had noted such a fever as occurring in forty-five or fifty per cent. of all cases of beri-beri. Glogner has already recorded that in most of his cases he found living amœba-like organisms present in the red corpuscles. Although these organisms greatly resembled the plasmodia found by Laveran and others in cases of malaria, Glogner, after taking into consideration the clinical differences between malaria and beri-beri, came to the conclusion that the micro-organisms in the two diseases were probably different, in spite of their similarity in appearance. However, in a further series of cases, in which multiple neuritis had commenced with fever, Glogner found not only the amœboid organisms, but also the pigmented, sickle-shaped, and oval forms described by Laveran. In other cases of multiple neuritis, which likewise began with fever, he could find none of these microbes; he has, therefore, come to the conclusion that these microbes must not be regarded as the cause of beri-beri, but rather as a sign that the patients really had malaria, of which the multiple neuritis was a sequela; in fact, that the multiple neuritis followed malaria, just as in Europe it has been observed to follow diphtheria, enteric fever, influenza, etc. Leyden long ago suggested that the circulation of ptomaines in the blood was the cause of multiple neuritis following infectious diseases; Glogner thinks that such a ptomaine occurring in cases of malaria may cause a multiple neuritis, which in the tropics may be set down as beri-beri. In this supposition he is confirmed by statistics of the geographical distribution of the two diseases. He believes that what has been called "beri-beri" is not always etiologically the same disease.—*British Medical Journal*.

Death as Read in the Face.—A rather curious discovery has been made with reference to soldiers killed in battle. On the authority of several English army surgeons, it can be stated that the cause of death is clearly shown in the expression of the face of a corpse on the field of battle. Those who have been killed by sword thrusts have a look of repose; if it was a bullet that killed, pain, often of the most frightful nature, is clearly depicted.—*Medical Review*.

A Prospective Fee.—The Nawab Fakr-ul-Mulk must have great confidence in the integrity of his medical attendant, for he has let it out that the latter is to receive an immense fortune upon his patient's death. The *Deccan Budget* says that it is not often that anybody meets with a windfall such as Dr. Dyce, the medical attendant to Nawab Fakr-ul-Mulk, has come in for, or rather expects to come in for. We have had the pleasure to witness a genuine document by which Dr. Dyce is entitled to inherit £600,000 in England and Rs. 2,000,000 in India.

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Original Articles.

SUBPHRENIC ABSCESS.

By CARL BECK, M.D.,

PROFESSOR OF SURGERY, NEW YORK SCHOOL OF CLINICAL MEDICINE; VISITING SURGEON, ST. MARK'S HOSPITAL, GERMAN POLIKLINIK, WEST SIDE GERMAN DISPENSARY, ETC.

BUT few years have elapsed since subphrenic abscess was granted a place in medical literature. It is therefore not surprising that even the most modern and complete text-books lack a description of this important condition.

So far as my knowledge goes, R. F. Weir¹ and S. J. Meltzer,² both of New York, are the only ones in this country who have published cases.

Notwithstanding surgery owes most of its recent development to advances of the natural sciences, especially bacteriology, yet here surgery has been the donor by disclosing to pathology as well as to internal medicine the mysteries of this disease.

It was reserved to the genius of a Richard von Volkmann³ to show, as early as 1879, that abscesses situated below the diaphragm can be reached and cured by the knife. His bold yet successful procedure of opening the pleural cavity and incising the diaphragm called the interest of the whole medical world to this new subject.

In the following year Leyden⁴ published his views upon this condition from the standpoint of general medicine, and to him is due the credit of having offered the first clear and simple methods for its diagnosis. How much the knowledge of this subject has increased is evident from the fact that, while from 1879 to 1890 only twenty-eight operations were performed for subphrenic abscesses, the period from 1890 to 1893 shows thirty-two cases. The record has since risen to one hundred and seventy-nine cases, seventy-five of which were operated upon.⁵ Notwithstanding the long array of cases, there are many points concerning the origin of subphrenic abscess that still remain obscure. This is the more to be deplored in that here, as in many other suppurative processes, early diagnosis is essential to successful surgical treatment. Even the most thorough observers sometimes meet with great difficulties in diagnosis, difficulties which can be overcome only by clearing up the manifold etiological factors.

A remarkable effort in this direction was recently made by K. Maydl,⁶ who classified subphrenic abscesses into twelve groups, according to their anatomical point of origin. At the same time the primary disease causing the abscess was considered, whenever possible. Since diagnosis and prognosis, as well as therapy, are naturally dependent upon the seat of the primary affection, I have adopted the anatomical principle as the basis for my own deductions. It is fitting, therefore, before going further, to consider the

topography and pathological anatomy of the disease as the foundation for diagnosis, prognosis, and therapy.

Topography.—The subphrenic space, in which subphrenic abscess forms, is bounded by the epigastrium and the two hypochondria. The right hypochondrium contains the right lobe of the liver, the sharp lower margin of which is overlapped by the gall bladder in the region of the cartilages of the ninth and tenth ribs. Below the liver is the right half of the transverse colon. The right suprarenal capsule and the upper margin of the right kidney, which always leaves a slight impression upon the liver, occupy the most dependent part of the right hypochondrium.

In the left hypochondrium is the fundus ventriculi, covered by the larger portion of the left lobe of the liver. A little further below lies the spleen, connected with the curvature of the stomach by the ligamentum

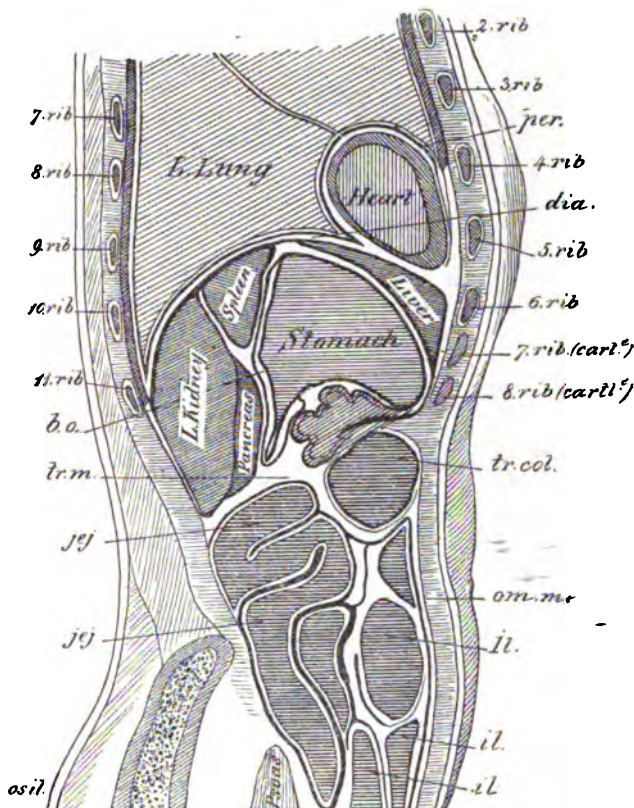


FIG. 1.—Vertical Section through the Human Body, one inch to the right of the External Margin of the Right Rectus Abdominis.

gastro-lienale and the vasa breviora. In front of the spleen lies the left part of the transverse colon. That part of the epigastrium adjacent to the anterior abdominal wall contains a part of the left lobe of the liver, separated from the wall of the abdomen by the suspensory ligament. The pylorus and a portion of the duodenum are below the liver.

About on a level with the lower margin of the nipple (lower margin of ninth to eleventh dorsal vertebrae posteriorly), the diaphragm forms a figure-of-eight, whose knot is situated between the œsophagus and the pericardium. The peritoneal coat of these organs is incomplete at three portions: 1, At the suspensory ligament of the liver; 2, at the place where the lobus Spigelii touches the minor omental bursa, at the lower

¹ MEDICAL RECORD, February 13, 1892.

² Internationale klinische Rundschau, 1893, Nos. 29, 31, 34.

³ Verhandlungen der Deutschen Gesellschaft für Chirurgie, Bd. 8, 1879, p. 19.

⁴ Zeitschrift für klinische Medizin, Bd. 1, p. 320.

⁵ W. Sachs, Centralblatt für Chirurgie, May 25, 1895.

⁶ "Ueber subphrenische Abscesse," Wien, 1894.

surface of the liver; and 3, at the portion situated between the end of the bursa omenti and the posterior end of the peritoneal cavity, which adapts itself to the liver from in front.

Fig. 1 shows the upper half of the anterior surface of the left kidney covered by peritoneum, while the lower half is not covered by serosa, and behind the stomach is separated from the great omental bursa by the suprarenal capsule and the pancreas. The anterior surface of the stomach has a serous coat which faces the great peritoneal cavity, while its posterior serous coat forms the anterior wall of the great omental bursa. The posterior portion of the same covers the anterior surface of the pancreas and the end of the duodenum. The serous coat of the stomach running downward covers the transverse colon. The upper portion of the transverse mesocolon passes over to the pancreas, thereby forming the posterior wall of the great omental bursa, while the lower portion passes over into the mesentery of the small intestine.

These anatomical facts show that, with the exception of the cardiac region and the junction of the great and small omental bursa, the stomach does not anywhere

with peritoneum toward the median line, but have a peritoneal coat laterally. Only the upper surface adapts itself to the diaphragm directly.

In front of the lower surface of the kidney is the duodenum, partly covered by the serosa of the small omental bursa. In front of it is the pyloric portion of the stomach, whose anterior surface is coated with the serosa of the lower anterior surface of the liver. The transverse colon is often found in front of the pylorus, while neither the transverse nor the ascending colon has ever been found between the convexity of the liver and the anterior abdominal wall, as the external convexity of the liver always lies close to the abdominal wall.

The peritoneal coat of the liver sometimes embraces the gall bladder completely, forming a mesentery for it, from which it hangs; sometimes it merely passes over its under surface and binds it closely to the under surface of the liver. The pancreas is separated from the posterior surface of the stomach by the great and small omental bursæ, and lies very close to the diaphragm.

Pathological Anatomy.—Subphrenic abscesses (synonyms: hypophrenic abscess, subdiaphragmatic abscess, subphrenic empyema, empyema hypophrenicum, pyopneumothorax subphrenicus, perigastric abscess, perigastritis, false pneumothorax, localized tympanites, suppurative perihepatitis, suprahepatic abscess, pneumoperforative peritonitis, subperitonitis) are divided into intraperitoneal and extraperitoneal.

In the first variety the abscess lies wholly within the peritoneal cavity. In the second variety the abscess wall may or may not be formed in part by peritoneum, but in any case only by its external surface. An important differential point in these conditions is, that, since an extraperitoneal abscess never lifts the peritoneal serosa of the diaphragm, it is perforce confined within narrow limits and consequently does not fill the subphrenium so completely as does one of the intraperitoneal variety. Another characteristic feature of the extraperitoneal form is that it has a greater tendency to perforate into the thorax, especially into the pleural sac.

Intraperitoneal subphrenic abscess assumes an entirely different significance according as it is located on the right or the left side of the falciform ligament. This ligament forms the median line between the right and left subphrenium. As the whole right subphrenic space is filled by the liver, the lower wall of an abscess situated on the right side is formed by the upper convexity of the liver, while on the left side the stomach, as well as the spleen, the transverse colon, and the left lobe of the liver, may form a wall.

Extraperitoneal abscesses are most frequently found on the right side. This is quite natural, since clinical as well as post-mortem observation has very often traced their source to the cæcal region. Rarely this form of abscess arises from the kidneys or ribs.

Diagnosis.—Regarding differential diagnosis, three questions most frequently arise, namely: Is the condition to be considered a pyothorax, a subphrenic abscess, or a subphrenic pyopneumothorax? The diagnostic points of these three conditions, as first advanced by Leyden, almost unexceptionally remain authoritative. In subphrenic pyopneumothorax deep percussion above the retracted lung yields resonance. From the third rib downward it is generally full and tympanitic. Instead of liver dullness on the right thoracic margin, a profound and full sound is present. Below the right costal arch the liver is pushed far into the abdomen, and its lower border is easily recognized by palpation and percussion.

Auscultation shows the absence of respiratory murmur from the third rib downward. Amphoric breathing and metallic tinkling take its place. In auscultatory percussion, metallic phenomena are noticed. There is no vocal fremitus on the lower part of the

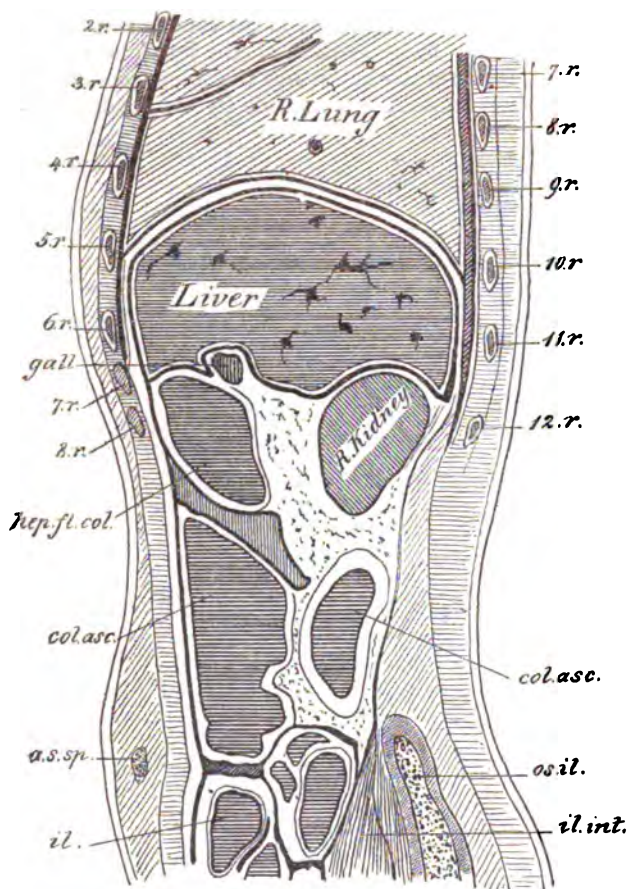


FIG. 2.—Vertical Section through the Right Rectus Abdominis.

adapt itself directly to the subphrenium, but touches it with a serous coat which comes from another organ. Consequently the stomach may be the medium of intraperitoneal as well as of extraperitoneal subphrenic abscess.

Extraperitoneal abscess could also originate from the left lobe of the liver, if it perforate alongside the triangular ligament into the subphrenic space.

On the right side (see Fig. 2), the whole diaphragmatic cavity is filled by the right lobe of the liver. Posteriorly the right kidney slightly indents the liver, touching the diaphragm with the upper half of its posterior surface and the psoas muscle with the lower half. The liver is covered with peritoneum from its lower margin up to the hilus. The posterior surface of its convexity, as well as its posterior margin and the posterior half of its lower surface, are not covered

right thorax. The succussion sound can be heard by shaking the patient. If the effusion can be made out by percussion on the lower thoracic portion, it is found to change its seat easily and quickly, whenever the patient is turned. If the effusion is situated on the right side, the heart will be slightly displaced toward the left, and *vice versa*.

It must be remembered, furthermore, that an admixture of gas is a characteristic feature of subphrenic pneumothorax. This gas is the product of putrid decomposition, and seems to give the pus a capacity for rapidly eroding the surrounding tissue. An exploratory puncture reveals ichorous pus of offensive odor. It is superfluous to say that when the admixture of gas is recognized by an exploratory puncture, a most valuable point for differential diagnosis is obtained.

The history is often an important guide as to the location of the abscess. In subphrenic abscess there is often a history of previous abdominal disturbance. On the contrary, there is no history of cough and expectoration. The heart is little, if at all, displaced, and there is no ectasy of the thorax or of the intercostal spaces. In the lungs, vesicular breathing is found below the clavicle. Pectoral fremitus is also clearly perceptible. There is a well-marked limit to the region of vesicular breathing, below which the expiratory murmur is replaced by amphoric sounds. Deep inspiration pushes the boundary line of the region of vesicular breathing much farther down, into areas in which formerly no respiratory murmur could be perceived. This would indicate a well-marked separation between the lungs and the abscess cavity, the boundary line of the lungs protruding toward the abscess cavity during deep inspiration.

It is sometimes impossible to distinguish an encysted pleuritic effusion from a subphrenic abscess. The pathognomonic signs of pleuritic effusion urged by Leyden were, absence of cough and expectoration, slight displacement of heart, and rapid change of note if the patient is rapidly turned. But, according to my own observation,¹ pyothorax sometimes occurs without these symptoms.

In reference to the absence of thoracic ectasy and the inversion of the intercostal spaces as pathognomonic of subphrenic pyopneumo-thorax, it must be stated that Herrlich holds precisely the opposite view, and

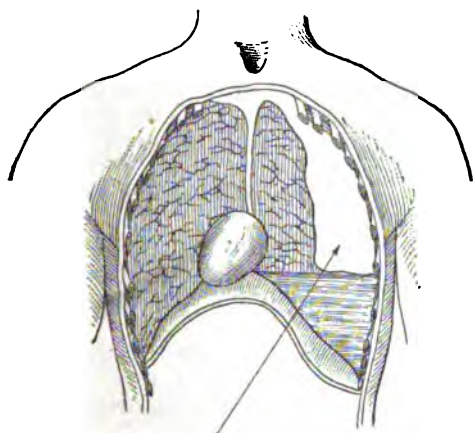


FIG. 3.—Left-Sided Pyopneumo-thorax.

claims that ectasy of the lower thoracic sphere is a decided characteristic of the presence of this condition.

The motions of the exploratory needle, introduced into the abscess, were also regarded as pathognomonic by Fuerbringer. But, bearing in mind that in subphrenic abscess the function of the diaphragm is greatly impaired, and that, furthermore, the point of the exploratory needle may be fixed by the diaphragm as well as by the abscess membrane, neither the pres-

ence nor the absence of the motions can be regarded as determining pathognomonic factors.

If the diaphragm, being pushed up high, tightly adheres to the thoracic walls, the needle may invade the subphrenic abscess without being fixed by the diaphragm. Consequently, even if the diaphragm should still be able to make respiratory movements, the needle would not necessarily be moved by them.

All these points go to show that, aside from the history, there are but few absolutely reliable pathognomonic data for the diagnosis of subphrenic abscess. Practically, however, it will make little difference to

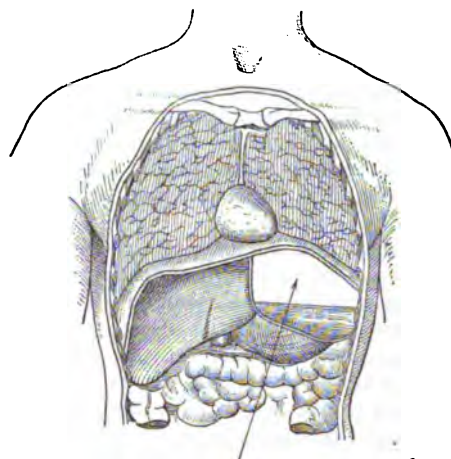


FIG. 4.—Left-Sided Subphrenic Abscess (containing gas).

the surgeon whether pyothorax or subphrenic abscess is present, as the essential part of the treatment of either condition is free opening. The main question will always remain as to the presence of an abscess. Whenever suspicion arises, the introduction of the exploratory needle should be a matter of course. The same aseptic precautions should be observed as in any other operation. The skin of the patient, as well as the hands of the surgeon, should be rendered clean, and the syringe and needle thoroughly sterile. If the first trial be negative, the needle should be introduced several times into different portions, as the pus cavity may either be of small extent, or may contain a cheesy accumulation, or, finally, may be divided into several minor cavities by adhesions.

In the first event the cavity might be missed altogether by the exploratory needle, and in the second the needle, being introduced into the solid cheesy mass, could draw no pus. After each negative result, therefore, a wire should be pushed through the needle (which should not be of too small a calibre); this procedure sometimes brings a little pus into the needle. Occasionally it will be useful to fill the syringe with sterile water after the operation, and force the water through the needle into a Petri dish containing gelatin. In case cheesy masses are present, small particles are sometimes drawn into the calibre of the needle which cannot be perceived by the unaided eye; but which, by being mixed with the sterile water, can be recognized under the microscope.

Prognosis.—Experience leads me to conclude that the prognosis of the subphrenic abscess of malignant origin, such as carcinoma pylori for instance, depends almost entirely upon early diagnosis. I hope not to be reproached because the percentage of mortality in my cases is *nil*, but I may state at once that it has so far been my good fortune to encounter cases of a more favorable etiology than those generally found. I am confident that I shall meet with a higher mortality rate as soon as I have opportunity to see more cases. Still I may say that the mortality rate of fifty per cent., as given by Maydl, is much too high. Considering that Scheurle's mortality rate was 82.5 per cent., while Sachs in a series of six cases lost none, it can clearly

¹ "Pyothorax and its Treatment," MEDICAL RECORD, May 19, 1894.

be seen that the kinds of cases reported differ remarkably. Furthermore, it must be considered that very few of the cases reported in the unfortunate series were operated upon. An approximate judgment can be based only on a large number of well-defined cases.

Spontaneous healing of the subphrenic abscess is extremely rare, as is that of pyothorax. Perforation may take place into a hollow organ, like the stomach, or a bronchus, or the bladder. Literature shows spontaneous healing of subphrenic abscess six times in one hundred and four cases. As the mechanism of such natural healing is unknown to us, and therefore cannot be controlled by any medical therapy, it can only be by chance that a cure is thus effected.

Since the pathology of appendicitis has been more widely recognized, poulticing and opium have ceased to be the panaceas. The expectant treatment of subphrenic abscess also will be discarded as soon as the condition has become more closely studied. I have already said that the important point in prognosis is the source of the abscess.

Microscopical and bacteriological examination of the aspirated pus yielded no prognostic aid in my own cases. But it may fairly be assumed that with greater interest in this disease and the higher development of our examining methods, more valuable information on these points will be obtained. It is to be regretted that, according to the reports of reliable investigators, pus-culture experiments are negative. Probably the microbes are dead, since even the pus taken from the subphrenic abscess of tuberculous patients has repeatedly failed to produce reaction when injected into rabbits.

So far there have been found in the pus of these abscesses the staphylococcus pyogenes aureus, streptococcus, bacillus coli communis, bacillus pyogenes fœtidus (Passet), micrococcus tetragonus, various species of proteus (Hauser), saccharomyces, and diplococcus citreus conglomeratus. As the analogy with pyothorax is obvious, it may be remembered that the pus of that condition shows streptococcus, bacillus tuberculosis, typhus bacillus, staphylococcus aureus and albus, and diplococcus lanceolatus (Fraenkel). In 109 cases of pyothorax Netter found streptococcus 50 times, pneumococcus 32 times, saprogenous microorganisms 15 times, Koch's bacillus 12 times. The presence of pneumococcus or staphylococcus in subphrenic abscess would suggest a pulmonic origin. We know that the presence of streptococcus in pyothorax seems to favor the formation of solid masses in the effusion, and, furthermore, that this coccus has a predilection for the infectious diseases of adults, whereas Fraenkel's coccus shows the most benign character of all microbes found in pyothorax. Whether this is accidental or not, and how much the analogy can be utilized for the prognosis of subphrenic abscess, the future must show.

Undoubtedly the prognosis is also influenced by the extent of the accumulation, the consistency, appearance, and odor of the pus, the age and the constitution of the patient, the pulse, the temperature, and, perhaps the most important of all, the stage of the disease. Early operative interference will certainly reduce the percentage of mortality considerably. If the percentage of successful operations, as reported in literature, is still far from being satisfactory, it can be due only to disregard for this principle and to the fact that the unsuccessful cases are the result of a defect in diagnosis quite as much as in operative procedure.

In all of these cases the autopsy showed the presence of another abscess, so that the essential condition for success, a thorough evacuation, was not fulfilled. In six cases, besides subphrenic abscess, pyothorax was present. In nine cases abscesses were present in adjacent organs, *i.e.*, in the spleen, liver, kidney, etc. In four cases the additional disease was

suppurative peritonitis. In ten cases there was pneumonia, in addition to pyæmia, tuberculosis, actinomycosis of vertebræ, etc. In several cases an incision was made, but the abscess was not detected during life.

Varieties classified according to source.—By far the greater number of subphrenic abscesses are the result of pathological processes in the stomach. There may be direct perforation into the subphrenium, due to an ulcer or a neoplasm, or infection may occur through the lymphatics which drain that part of the stomach involved in the pathological process. Most of the cases reported, however, point to simple ulcerative processes as etiological factors.

The intestine is nowhere attached to the diaphragm. Consequently other conditions prevail here than in those organs which are in direct contact with the diaphragm. The experiments of Saenger very clearly illustrate the manner in which a subphrenic abscess may arise from the intestine. This author noticed that when he injected a solution of Berlin blue into the retrocæcal tissue, only a trifling amount of the colored solution could be driven around the cæcum and alongside the linea innominata down to the inguinal canal. But the liquid column rose behind the ascending colon, formed a considerable fluid collection around the right kidney, and, passing the inferior horizontal portion of the duodenum, reached the dull margin of the liver and the diaphragm. Little fluid reached the transverse mesocolon, and none at all the mesentery of the small intestine. From this experiment the rule may be deduced that subphrenic abscess is more apt to arise from perforation of the cæcum, ascending colon, or duodenum, than of the small intestine or transverse colon. The experience gained from autopsies is in entire accord with this theoretical assumption, as in thirteen intestinal cases, reported by Maydl, perforation of the duodenum was found eight times; of the colon, four times; while perforation of the ileum was found only once, and that, too, near the colon. It is of interest to notice that the etiological factor of these perforations of the gut, with the exception of one case which was caused by a foreign body, were all ulcerative processes. Trauma could never be made out as a primary source. The ulcers of typhoid fever, since their favorite seat is the small intestine, cannot, according to Saenger's experiments, enter into the formation of subphrenic abscesses. Autopsies have shown that appendicitis causes subphrenic abscess by perforation from the appendix into the retroperitoneal space, the resulting abscess extending up behind the kidney and liver to the subphrenium. From the anatomical situation of the appendix, such abscesses are generally found on the right side, but in a few cases they have passed from behind the right kidney, over the vertebræ, to the left kidney.

The great advance in the therapy of appendicitis, however, leads us to hope that the future will give us very little opportunity to study its sequelæ at the autopsy table.

We seldom see a case of echinococcus in this country, but in Germany, Austria, France, and England, where it is more common, it sometimes figures as a cause of subphrenic abscess. Of the cases of subphrenic abscess due to this cause, seventeen were operated upon, with the result of seven deaths. No case recovered after perforation of the abscess into the pleura, except those treated by operative means.

The starting-point is generally an echinococcus cyst, formed in the cellular tissue between the diaphragm and the liver. Such a cyst may, however, be developed between the diaphragm and the left kidney or the spleen, since both these organs are occasionally the seat of the parasite, and are both in contact with the diaphragm. Simon-Brown, Mosler, and Fiaux have reported abscesses from this source.

In what manner subcutaneous trauma gives rise to the formation of subphrenic abscess is not always manifest. The explanation may be that trauma originally causes a simple extravasation, into which pus-producing organisms emigrate from the neighboring intestine. These microbes are usually abundant in the gut and are found in tissues whose vitality has been lowered by trauma, a most favorable soil for their further development.

It is also conceivable that trauma producing a capillary separation in the continuity of kidney, pancreas, or liver, causes oozing of the secretions of these organs, which may then irritate and infect the adjacent tissue. Or a more extensive rupture of one of these organs may cause the formation of an abscess within it, which later on might burst into the subphrenic space.

Sometimes trauma may be produced by an apparently insignificant amount of force. Simply lifting a heavy package, for instance, is reported to have done it. The literature contains seventeen cases with this etiology, six of them recovering after operation and two spontaneously.

The gall bladder and the intra- and extra-hepatic bile ducts naturally offer marked opportunities for the formation of subphrenic abscess. Bearing in mind that the anterior surface of the gall bladder adapts itself to the right inferior insertions of the diaphragm, it seems easy for inflammation of this organ to extend by means of the lymphatics, or by ulcerative perforation to the lower surface of the diaphragm. It may be that a stagnation in the flow of bile favors infection of the gall passages from the intestine. Retention cysts containing bile may originate in the liver itself as well as on its surface, and may burst and discharge into the subphrenum. Thus subphrenic abscess might arise from purulent cholecystitis terminating in ulceration and perforation, or from cholangiectasia due to obliteration of a large gall duct, or from cholangioitis terminating in purulent hepatitis, or from purulent inflammation of the ductus communis choledochus itself, followed by rupture.

There are reports of sixteen cases of cholangioitic origin (mine excepted). Of these, fourteen were not recognized until the autopsy, while two were operated upon successfully. In several of the cases gall stones were found. In all of them, naturally, the subphrenic abscess was located on the right side. Every one of the patients had complained of well-defined acute pain in the right hypochondrium.

The anatomical situation of the kidneys gives them an important relation to the formation of subphrenic abscess. According to Hyrtl's anatomy and to Maydl (Figs. 1 and 2), the kidneys are situated in the lumbar region of the abdominal cavity, and are covered in front by peritoneum. The right kidney lies in contact with the ascending, the left one with the descending, colon. Behind they are bounded by the lumbar portion of the diaphragm, and above by the suprarenal capsules. The left kidney extends a little higher into the pleural domain, so to speak, than the right, so that in perforation from the renal sphere into the pleura, the left side is more frequently concerned than the right.

The most frequent cause of perinephritic abscess is a primary perinephritis, arising from a contusion in the renal region or from one of the infectious diseases. Another cause may be pyelonephritis calculosa, suppurativa, or tuberculosa. Repeated exposure to cold can scarcely be considered an etiological element.

Since suppurative pyelonephritis is most often the outcome of disease of the uropoietic apparatus, viz., prostatitis, stone, carcinoma of the bladder, etc., it will be wise to reflect upon the possibility of the formation of a subphrenic abscess in all such conditions.

The lower border of perinephritic subphrenic ab-

scuss is generally formed by the ascending or descending colon, sometimes by the duodenum.

In reference to diagnosis, it is maintained that if the abscess occupies the whole anterior or posterior surface of the kidney, there is generally tenderness or pain, swelling, and œdema on the anterior surface of the abdomen. My own experience, however, does not accord with this, as, with the exception of pain, I found no local symptom in the case described below (Case II.), even seven weeks after the onset of the disease.

If the abscess has formed on the upper surface of the kidneys, pleuritic symptoms, combined with œdema of both legs, jaundice, ascites, and vomiting, may be observed.

Of eleven such cases reported in literature, only one was saved, the unfavorable course probably being due to delayed diagnosis. Perhaps, too, the kidney is so much affected in this condition that nephrectomy ought to be added to the operation for evacuation of the abscess.

Subphrenic abscess originating in the ribs (from a tuberculous focus, as a rule) is of rare occurrence. If situated on the right side it may easily be confounded with cholangioitic subphrenic abscess. In the cases reported in literature, the tuberculous process was localized, and there was consequently quick recovery.

The great tendency of subphrenic abscess to perforate into the thoracic cavity has been alluded to before. On the other hand, there are subphrenic abscesses of true thoracic origin. The most frequent purulent affections of the thoracic cavity are pyothorax and abscess of the lung. Suppurative pericarditis is rare. A circumscribed pyothorax may perforate directly, while abscess of the lung will first produce an inflammatory adhesion of the adjacent visceral and diaphragmatic pleuræ. Free pyothorax has a tendency to perforate the middle of the diaphragm.

Of nine cases reported in literature, one case recovered spontaneously by perforating into the gut; one after surgical operation; three died with, four without, surgical interference.

Metastasis is another important etiological factor, but is, as a rule, observed only in the tropics. It has been found after trauma in connection with pyæmia (septic phlegmon of forearm and tuberculous coxitis [Godlee]); following ulcerative processes in the digestive tract (perforation of fishbone into the vena portæ); and associated with fistula ani and gangrene of the appendix. Abscess of the spleen, perforating into the portal branches, as well as suppurative processes in the mesentery and mesenteric glands, may cause abscess of the liver. Malaria, enteritis, and dysentery may do the same. In tropical dysentery Koch¹ could always prove the presence of amœbæ in portions of the intestine, and regarded them as the etiological factor. Abscesses of the liver were also demonstrated by von Bergmann. Other authors claim that such amœbæ are not the cause of the abscess, but only the characteristic admixture of the secretion transported from the seat of ulceration to the liver.

An attempt was made to obtain cultures from the pus of thirteen cases of dysenteric abscess of the liver. In eight cases the results were negative. Among the positive results staphylococcus pyogenes aureus was found twice; staphylococcus albus, bacillus pyogenes fœtidus and proteus, once each. But in sections and cover-glass preparations amœbæ were found in every one of twenty-two cases. In ten cases they were mixed with bacilli. Of eleven cases reported in literature, ten died. In one case recovery was obtained by surgical interference. Only two of the fatal cases were operated upon.

A wound inflicted directly in the diaphragmatic space may also in rare instances cause subphrenic

¹ Gaffky, "Reports on Investigations of Cholera," 1883.

abscess, somewhat as do the subcutaneous traumata defined above. The wound is generally produced by a bullet. There are in the literature reports of autopsies in four cases. The liver, kidneys, and thoracic cavity may be involved at the same time.

Besides the varieties described above, another group of subphrenic abscesses must be mentioned, the original sources of which either are questionable or cannot be discovered. There are eleven such cases reported in literature. In three of them successful operations were performed. One recovered after perforation into a bronchus. The other seven died under expectant treatment. In one case actinomycosis of the vertebræ was found, while there was pyosalpinx in the case which finally perforated into a bronchus.

In those cases of subphrenic abscess originating in diseases of the female sexual organs, *e.g.*, endometritis, pyosalpinx, perimetritic exudations, the route to the subphrenium is through the retroperitoneal space.

Course.—As said above, subphrenic abscess may arise from infection carried from an area of suppuration by means of the lymphatics. It oftener originates in an abscess of an adjacent organ, which bursts into the subphrenium. The fistulous tract representing its route may then become obliterated, or may remain and gradually grow larger.

If perforation of a subphrenic abscess into a lung has taken place, the rusty sputa and their offensive odor, as well as that of the breath, together with the microscopical demonstration of elastic fibres, point to a limited gangrenous process as the initiative factor of the perforation.

The cough, which then is always present, generally brings up fetid pus, in which particles of food, such as starch grains or margarin crystals, can be seen by the naked eye or demonstrated by the microscope. This would, of course, point to a gastro-intestinal or cholangioitic source.

While in a small number of such cases recovery is obtained by the perforation, the majority of patients succumb either to the shock of the perforation itself, or to a foreign-body pneumonia later on. The symptoms of perforation into the pleura consist in intense pain, rapidly developing dyspnoea, and collapse; while those of perforation into the peritoneal cavity are identical with the well-known symptoms of the general type of peritoneal perforation.

Therapy.—The treatment of subphrenic abscess must be surgical. Before the days of asepsis, the surgeon very properly hesitated to open the chest or abdomen, but now such fear need no longer prevent him from procuring timely evacuation. Such evacuation can be thoroughly effected only by wide opening. This can usually be secured by resecting a piece of a rib, as the subphrenic abscess is generally within the extent of the ribs. Very exceptionally, it must be approached below the costal arches or the xiphoid process. I cannot agree with those authors who pronounce it a misfortune for the patient when the abscess is reached by the transpleural route. On the contrary, it seems to me that no other route offers so many advantages in after-treatment, as a rule.

While for purposes of prognosis it is important to know whether the pleuræ are adherent or present a cavity filled with serum or pus, so far as surgical procedures are concerned it makes very little difference. The adversaries of the transpleural route maintain that to open the pleural sac, if it be in a normal state, would expose it to the dangers of pneumothorax, as well as to infection from the atmosphere or from the escaping pus.

Regarding the first objection, pneumothorax, it has to be borne in mind that in subphrenic abscess the aspirating power of the diaphragm is greatly impaired. As is evident by the dulness on percussion, the dia-

phragm is pushed so far up toward the thoracic cavity as to be pressed against the thoracic walls to a considerable extent, and to have its summit brought into permanent contact with the costal pleura. It may even have been so overstretched as to be entirely paralyzed. Furthermore, the lower part of the thorax itself is generally expanded, thus diminishing its aspirating power. When pneumothorax does occur after the exposure of the pleural sac, and a feeble patient suffers shock, final incision and evacuation may be deferred until the following day.

In reference to atmospheric infection, I may refer to Petri's and Cleves-Symmer's experiments, which demonstrated bacteriologically what had long appeared probable from clinical observation, *viz.*, that the microbes contained in the atmosphere are non-pathogenic. Furthermore, I do not see why the pleura should be more inclined to become infected than other parts of the body, provided thorough aseptic prophylaxis has been observed.

While the incision should be made in the centre of the dull area, the exploratory needle will always indicate its ultimate route. The technique of the operation is practically the same as that of resection of a rib for pyothorax. As a rule, the eighth, ninth, or tenth rib is selected. I choose the median axillary line, as thence the thoracic walls can be reached equally well in front and behind. It also enables the patient to be brought to the edge of the table during the operation, and permits him to assume the dorsal decubitus; whereas, if the incision were made farther back, he would be obliged to lie on the healthy side, thus rendering evacuation more difficult.

It goes without saying that thorough aseptic precautions must be taken. Particular attention must be given to the skin of the patient and to the hands of the surgeon, scrubbing with green soap for three or four minutes, then washing with alcohol or ether, and subsequently with bichloride (1 to 500). To sterilize thoroughly the skin of the patient, it is advisable to cover the field of the operation for from ten to twenty hours with a large poultice of green soap, and allow this to remain until shortly before the operation. Should this tend to produce a dermatitis, a bichloride fomentation should be substituted. All the paraphernalia needed at the operation must, of course, be sterilized; the instruments, ligatures, etc., in boiling soda-solution, and the towels, sponges, etc., in steam. If no sterilizer be on hand, towels, sponges, etc., can also be sterilized in boiling water. The incision, about four inches in length, should be made directly down to the periosteum of the rib selected. Its direction must, of course, be parallel to the margin of the rib. An incision is then made along both borders of the rib, and the peritoneum both in front and behind is raised by means of an elevator.

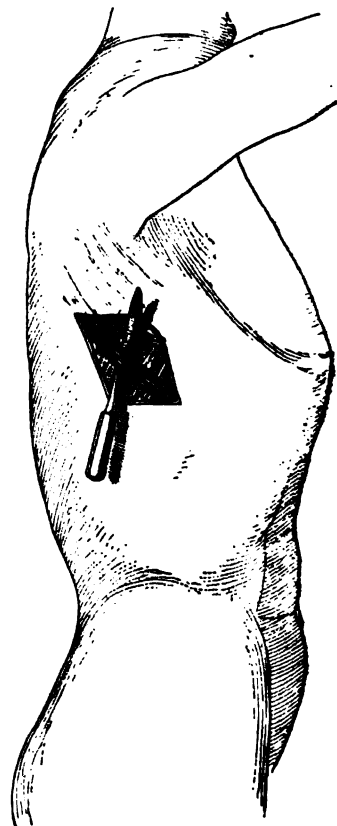


FIG. 5.—Resection of Rib (rib riding on the elevator).

Having freed the peritoneum, the elevator is pushed beneath the rib, between it and its posterior periosteum, and allowed to rest on both edges of the wound (Fig. 5). With a blunt hook the tissues are retracted alongside the rib toward the axilla, and by means of

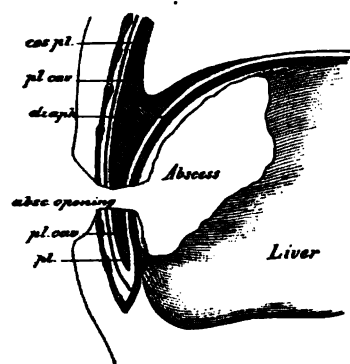


FIG. 6.—Thoracic Opening in Subphrenic Abscess.

the bone scissors the rib is then cut between hook and elevator. Next, the elevator is pushed toward the sternum, forcing the rib from the last fragment of adhering periosteum; the retractor is inserted into this end of the wound, and with the scissors the same manœuvre is executed. If my own elevator shears¹ are used, nothing is needed but to tear away the

connection between the periosteum and the rib and divide the rib, the instrument being of such shape as to keep the tissues properly retracted. One blade, if separated, can be used as an elevator, so that, with nothing else at hand than a knife and these shears, practically the whole operation could be performed. A piece two inches in length, or at least large enough to allow introduction of the finger, suffices for the purpose of drainage. It is impossible to strike the intercostal artery during these manipulations on account of its anatomical situation, while in performing simple incision this accident has frequently occurred (fatal hemorrhage was reported in Billroth's clinic).

A saturated solution of iodoform in ether is then spread upon the wound surface, to form a protection against the pus.

The very thin thoracic fascia and the costal pleura are now incised, and if the pleural sac be found empty the pus cavity is located by means of the exploring needle, and an opening is made through the diaphragmatic pleura just large enough to permit the introduction of a grooved director. As soon as pus appears in the groove of the director, a small Péan forceps is introduced and the opening gently dilated. Evacuation of the pus should take place slowly (it may consume twenty to thirty minutes). A sponge should be pressed against the opening from time to time to interrupt the stream, so as to avoid too rapid expansion of the lungs. If the condition of the patient permit the finger is now introduced and any solid masses, such as fibrinous lumps or necrosed tissue adhering to the abscess wall, are wiped out with the index finger or with a blunt spoon made for this purpose. For inspection, my dilating speculum² can sometimes be used to advantage. If hemorrhage should occur or if signs of shock are present, such procedures may be deferred for a day or two, as may also the irrigation of the cavity with a sterile normal salt solution, which is used to secure thorough evacuation. When malodorous pus is found, an antiseptic wash, preferably bichloride, 1 to 5,000, is used for this once, instead of the sterile salt solution.

The pleura or the edges of the diaphragm are stitched to the skin with four silk sutures (preferably iodoform silk), one at each end of the wound and one on each side, with strong Hagedorn needles. Thus the wound surface is entirely covered and the adjacent tissues protected against infection. At the same time secondary hemorrhage is prevented and the wound kept open. Then the cavity, if of small extent, is packed with iodoform gauze.

In real pyothorax about one ounce of an emulsion of iodoform glycerin (one-half ounce in children) is infused into the cavity as an antiseptic, as well as to reduce the amount of secretion. But if the cavity be very large a drainage tube, five-eighths to three-fourths of an inch in diameter, is introduced and secured by two large safety pins arranged in the shape of a cross. (In pyothorax I refrain from introducing it immediately after operation, for I have seen much hemorrhage follow its immediate introduction. No doubt the constant motion of respiration produces friction against the drain, which accentuates the irritation already produced by contact of the wound with the air; whereas, after the tissues have in a measure recovered from this shock and granulations have begun to form, *i.e.*, after about three days, a soft rubber drain is well borne.) The cavity is then covered with iodoform gauze. The whole side is protected with a large piece of pasteboard, which, after being slightly moistened, adapts itself to the contour of the body like a plaster-of-Paris dressing. A strip of rubber adhesive plaster serves to exclude the air. So the pasteboard during respiration acts like an aspirating valve and aids the absorption of the wound secretion at the same time.

Particularly in pyothorax, retention of pus is prevented if the patient always lies on the diseased side, and if his feet are elevated about every four hours to compel the pus to flow into the dressing. A pillow may also be pushed underneath the opening at the most dependent part. At a superficial glance this advice may appear rather strange, but clinical experience shows that the observance of this method is apt to prevent retention, and it is needless to urge the importance of never allowing stagnation of pus in a cavity. This also renders unnecessary the counter-openings advised by Kuester.

It is only after the rigorous procedures described above that the cavity can be pronounced entirely evacuated. No necessity of subsequent irrigation arises, which, besides being irritating, destroys those very adhesions much needed for the obliteration of the cavity. (How important these adhesions are for the agglutination of the pleuræ, for instance, was emphasized as early as 1865, by Dr. A. H. Smith, of this city.)

Two weeks after the operation a smaller and shorter drain is introduced. After another week this second tube must be shortened. When the discharge becomes serous and scanty the tube may be dispensed with, and a small strip of iodoform gauze or a wick substituted for a day or two. For the next few days the patient must be watched very carefully. The cavity may be obliterated after twenty-four hours, but very often the union is only superficial and retention of pus occurs, as shown by an elevation of temperature. In such case the drainage tube must be re-introduced and after a week its shortening repeated, until for about four days after the obliteration of the pus cavity no discharge appears and the temperature remains normal. In a doubtful case careful introduction of a grooved director through the scar tissue may reveal the presence of retained pus. The dressing should be changed twice a day for the first week; later on once a day, and after three weeks it will suffice to change the dressing every second, third, or fourth day.

The patient, if at all able, should get up after one week. During after-treatment, for the first few days small doses of morphine are administered for the purpose of immobilization. If the pulse be weak, strychnianthus or caffeine may be added. Nourishment is given frequently and in small quantities to avoid overdistention of the stomach.

Full anæsthesia should be administered only if the pulse is strong. This is an exceptional circumstance in the case of abscesses that have existed for a long

¹ Osler, *Centralblatt für Bacteriologie*, Bd. 7, No. 23.

² Beck, "Modern Theory and Technique of Surgical Asepsis." Saunders, Phila., 1895, p. 213.

time. It is well known to what immense dangers a general anæsthetic exposes the thoracic organs when their functions are much impaired by compression. Ether being contraindicated in every respiratory disturbance, only chloroform could be used, and I need not call attention to the danger to which the use of

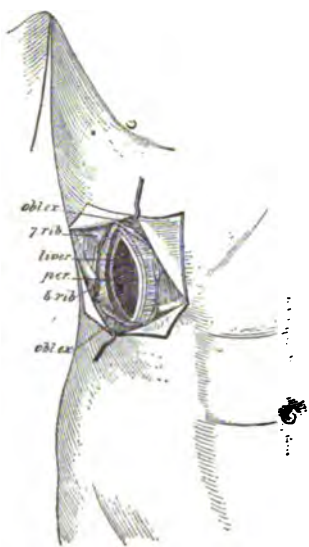


FIG. 7.—Anterior Resection in the Seventh Intercostal Space.

this paralyzing drug subjects the heart, which is always, in these cases, either displaced or somewhat compressed. Since the operation takes but a few moments, it would be better when an anæsthetic is required to use an ether spray. Even cocaine has its dangers.

If resection for subphrenic abscess is done anteriorly, an incision must be made from the anterior axillary line between the seventh and eighth rib (see Fig. 7). Having divided the fascia of the external oblique muscle, the seventh and eighth ribs are exposed and resected. The further procedures are the same in this operation as described above.

The lumbar route (Fig. 8) merits special consideration in subphrenic abscesses of perinephritic origin. The incision in such cases should begin on the prominence of the sacro-lumbalis muscle and extend to the anterior axillary line. After the thick lumbo-dorsal fascia and the latissimus dorsi and serratus posticus inferior muscles are cut through, the sacro-lumbalis muscle is drawn toward the spinal column. The lumbo-costal fascia is next divided and the quadratus lumborum muscle appears running vertically, parallel to the border of the sacro-lumbalis muscle. A grooved director, introduced alongside the outer margin of this muscle, will lead to the pus cavity, which, after being carefully and slowly evacuated, must be packed with iodoform gauze. The after-treatment should be conducted according to the principles of aseptic open-wound treatment.

Histories.—A striking feature of the cases below is that they all concern the right side, and all occurred in men in the prime of life.

CASE I.—F. G—, of this city, forty-three years of age, clerk. Family history good. On May 14, 1894, he was suddenly seized with violent pain in the right side radiating up to the axilla, nausea, and slight dyspnoea. Under the application of an icebag and administration of codeine, Dr. L. Bischof, of this city, noticed marked improvement until four days later. Then the pain set in as violently as before. At the same time fever and slight jaundice developed.

When I saw the patient, May 21st, I found the following condition: Stout man (weight about 200 pounds), very restless and occasionally delirious. Hiccough. Temperature, 103.2° F.; pulse, 124; respiration, 26. Face icteric. Pupils of equal size, reacting well. The tongue thickly coated. Mucous membranes pale yellow. Percussion note normal on the left side; on the right side, dullness from the upper margin of the sixth rib to two inches below the costal arch in front, and clear sound from the middle of the scapula downward behind. Auscultation revealed vesicular breathing on the left and anteriorly on the right side. Posteriorly from the middle of the scapula, bronchial breathing. Below the eighth rib no respiration could be heard. Vocal fremitus normal.

Pulse small but regular. Abdomen distended and its walls tender. Percussion tympanitic. Urine scanty, containing no albumin. The patient had had no evacuation of the bowels for three days.

On account of the absence of previous respiratory symptoms, particularly of cough, the diagnosis of subphrenic abscess was made, its location as well as the jaundice pointing to a cholangioitic origin. The exploratory puncture, made in the anterior axillary line, seventh intercostal space, corroborated the diagnosis of abscess. Operation was refused, and death occurred four days later.

CASE II. (presented at the New York Post Graduate School, December 19, 1890, and at the Medical Society of the German Poliklinik, October 11, 1895).—F. B—, of this city, forty-two years of age, grocer, married. Family history good. Father of five children; four of them are in good health: on the fifth I had performed resection for tuberculous hip. The patient had never been sick before. In September, 1889, he noticed a slight pain around the angle of the right scapula. One week later, about September 17th, he became feverish and the pain extended over the whole right side. No cough was present. The family physician called it pleuritis. Temporary improvement and normal temperature followed, as reported to me, alternating with attacks of fever and pain of varying intensity for fully seven weeks. During this period the patient was seen by many physicians, who variously pronounced the condition pleuritis, cholelithiasis, nephritis, carcinoma of the liver, carcinoma pylori, and muscular rheumatism.

On November 5th I saw the patient for the first time, and found the following condition: Emaciated man of medium stature; weight about ninety-five pounds. Face very pale. Appearance of a grave disease; so weak as to be scarcely able to move. Tongue shown with apparent difficulty. No swollen glands. Temperature, 100° F.; pulse, 116; respiration, 24. Percussion and auscultation revealed normal conditions on the left side (see Fig. 9). On the right side there were diminution of respiratory sounds and vocal fremitus below the margin of the eighth rib. In the posterior axillary line, there was dullness from the lower margin of the eighth rib to the upper margin of the third lumbar vertebra. In the posterior axillary line, roughened expiration. No râles, no cough, no expectoration. Heart normal. Pulse soft and regular. Right hypochondrium slightly more convex than the left. Dullness alongside the spinal column from the upper margin of the tenth rib and along the middle axillary line from the seventh intercostal space. Turning the patient made no change in the limit of the dull area. Anteriorly the liver overlapped the costal arch a little less than an inch. The right hypochondrium was painful to the touch. No tumor nor fluctuation could be felt. Constipation. Urine scant, containing no albumin but abundant sediment. No microscopical evidence of nephritis. Patellar reflex normal. No paresis. Slight hiccough.

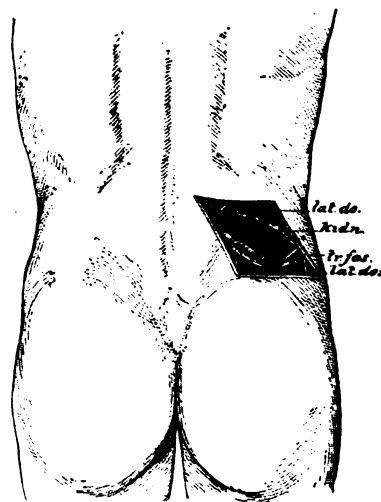


FIG. 8.—Lumbar Route. Incision passing under the Twelfth Rib.

Perinephritic abscess was suspected because of the

pain in the right lumbar region, the remittent fever, and the extent of the dullness. An exploratory needle was introduced five times at different points of the dull area, with negative results. A sixth puncture, made

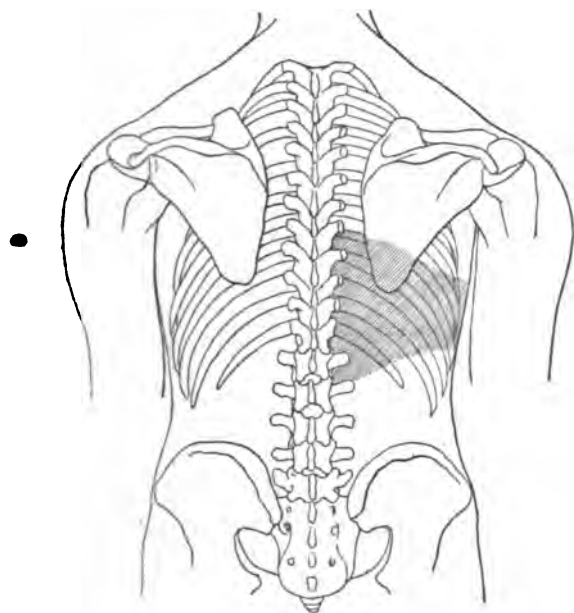


FIG. 9.—Dull Area. Slight Protrusion of Right Hypochondrium.

this time in the tenth intercostal space, brought out thick yellow pus.

The patient was immediately transferred to St. Mark's Hospital, where operation was performed the following day by making an incision alongside the outer margin of the sacro-lumbalis muscle. To get better access, the eleventh and twelfth ribs were resected without interfering with the pleura. On pushing a grooved director past the outer margin of the sacro-lumbalis muscle pus appeared. The opening was then dilated. After about half a pint of thick, cheesy pus had been discharged, the right kidney as well as the diaphragm could be inspected. The cavity was cleansed and packed with iodoform gauze. Uninterrupted recovery followed, and the patient was dismissed from the hospital five weeks after the operation.

CASE III. (presented to the German Medical Society of New York City, June, 1892).—A. M—, of South Carolina, thirty years of age, merchant, single. Family history good. The patient had never been sick before. In August, 1891, he was taken with repeated chills, disturbance of digestion, and emaciation. He was at first treated for malaria at his home. Later, when a slight cough set in, a diagnosis of pulmonary tuberculosis was made. As it was just at the time when Koch's tuberculin was being tried, the patient was sent to the institution of Dr. Aronson, of this city, to receive injections of tuberculin. Dr. Aronson, however, came to the conclusion that the patient suffered from abscess of the liver, and sent him to St. Mark's Hospital for surgical treatment.

On February 13, 1892, he presented the following condition: Emaciated man, of medium stature; weight about one hundred and twenty pounds; face and mucous membranes pale. Tongue thickly coated. Temperature, 101° F.; pulse, 120; respiration, 44. Profuse perspiration. Abundant expectoration. Sputa yellow and sometimes of a copper tint. Region of the liver painful to touch. Appetite poor. Considerable dyspnoea. Percussion and auscultation reveal normal conditions on the left side. Percussion on the right side showed complete dullness in front from the upper margin of the fourth rib to two inches below the costal arch (see Fig. 10). Posteriorly complete dullness

from the angle of the scapula to the lower margin of the tenth rib. Auscultation revealed râles from the clavicle down to the fourth intercostal space. Below this area there were no respiratory sounds at all. In the infraspinous fossa there were dry râles and amphoric breathing. No change in the limit of the dull area upon turning of the patient. Diminution of vocal fremitus on the right side. Urine scanty; no albumin. Constipation.

Operation under chloroform on February 10th, at St. Mark's Hospital. Typical resection of the eighth rib in the median axillary line. Evacuation of two and one-half pints of brown, cheesy, malodorous pus upon opening the pleural sac. To gain space a long piece of the ninth rib was resected.

Inspection of the immense cavity revealed a communication with the subphrenic space. Blunt dilatation brought out two ounces of the same kind of pus from this sinus. On irrigating the cavity with bichloride of mercury (1 to 10,000), great dyspnoea set in, the patient's face becoming cyanotic. After a violent fit of coughing the dyspnoeic symptoms entirely disappeared, the patient improving very rapidly under the usual treatment; but whenever the cavity was irrigated the same phenomenon supervened. During the coughing brown sputa mixed with arterial blood were occasionally expectorated. This could leave no doubt as to the existence of a communication with the lungs.

Six months after the operation the patient had gained thirty pounds and was in excellent health. But a thoracic fistula remained; wherefore I resected six inches of the seventh and tenth ribs. The cavity then became much smaller, but the patient could not be persuaded to stay until perfectly recovered. Subsequently, however, as I am informed, recovery was complete.

A particularly interesting feature of this case is the question of the mode of perforation. It seems to me that the subphrenic abscess, most probably being of a cholangioitic origin, first perforated the lungs and then the pleural sac, whence it may have perforated the diaphragm a second time, thus forming a true "vicious circle."

CASE IV. (presented to the Medical Society of the German Poliklinik, June, 1895).—F. S—, of this city, thirty-one years of age, shipping-clerk, single. Family history good. According to Dr. E. Mayer, of

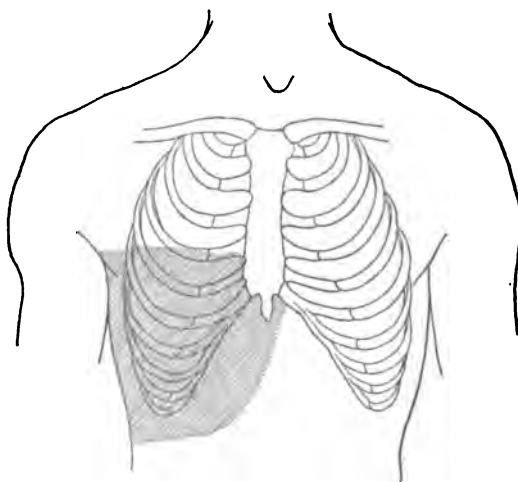


FIG. 10.—Case III. Dull Area.

this city, he was seized on March 24th with violent pain in the right side, nausea, and rapid pulse. These symptoms disappeared in two days under the administration of morphine. The diagnosis at that time was gall-stone colic. The patient resumed work for three weeks thereafter, when suddenly he was again seized

with intense pain of the same character in the same place. Temperature was about 101° F., but the pulse was very rapid. This time the pain persisted with varying intensity for ten days, when the patient was again able to attend to his business. Four days later the attack was repeated, this time dyspnoea being the predominant symptom.

On May 3, 1895, I found the following condition: Tall man, slightly emaciated; weight about one hundred and forty pounds. Face slightly yellowish-brown. Great dyspnoea (respiration, 64). Tongue thickly coated. No appetite. Right hypochondrium not protruding. No cough. Slight expectoration. Temperature, 99.5° F.; pulse, 126. Percussion in front revealed complete dullness, from the upper border of the fourth rib down to the line of the umbilicus (see Fig. 11). In the axillary line the same condition obtained. In the paravertebral line there was complete dullness, from the spine of the scapula down to the spinous process of the eleventh dorsal vertebra. Throughout the extent of the dullness there was no vocal fremitus. Percussion and auscultation from the fourth rib up to the supraclavicular region normal. Auscultation revealed vesicular breathing, rough expiration, and râles. The same condition behind. Amphoric and metallic sounds could not be made out. Whenever the patient was laid on the left side, a tympanic sound took the place of the dullness from the upper margin of the ninth rib downward. Urine scanty, no albumin. Constipation: Considering the temperature, the great pain, the dullness, and the former history, the diagnosis of subphrenic abscess seemed justified. The subphrenic location of the abscess was rendered more probable by the entire absence of respiratory symptoms. The dyspnoea could easily be produced by the pressure of the accumulation. Exploratory puncture in the eighth intercostal space, in the posterior axillary line, revealed thick, brown pus. Bacteriological examination revealed diplococci which could not be defined. Cultures of proteus vulgaris, diplococcus citreus conglomeratus, and bacillus coli communis were obtained.

The patient was sent to St. Mark's Hospital, where the operation was performed on May 4th, under in-

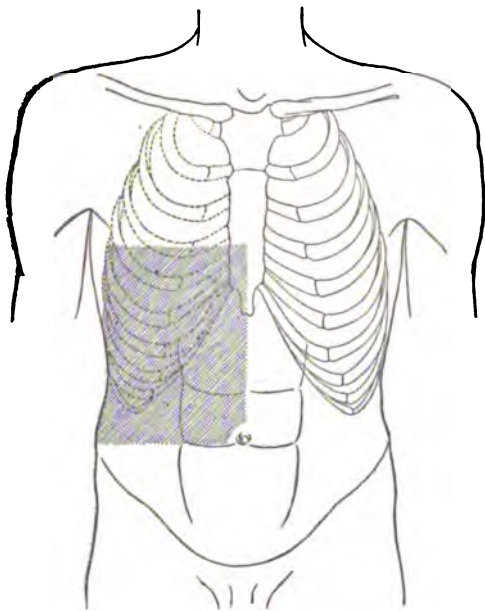


FIG. 11.—Case IV. Dull Area.

complete chloroform anæsthesia. After resection of the tenth rib the pleural cavity was opened. It was empty, and air rushed in with considerable noise. The face of the patient assumed a cadaveric appearance, and the pulse entirely disappeared. Fearing to proceed further, I packed the cavity with iodoform

gauze. Under the administration of stimulants the patient soon rallied, and on the following day, having used the aspirating needle as a guide, I introduced a grooved director through the diaphragm into the abscess and slowly dilated the opening. Red-brown clots and thick pus tinted with dark blood were evac-

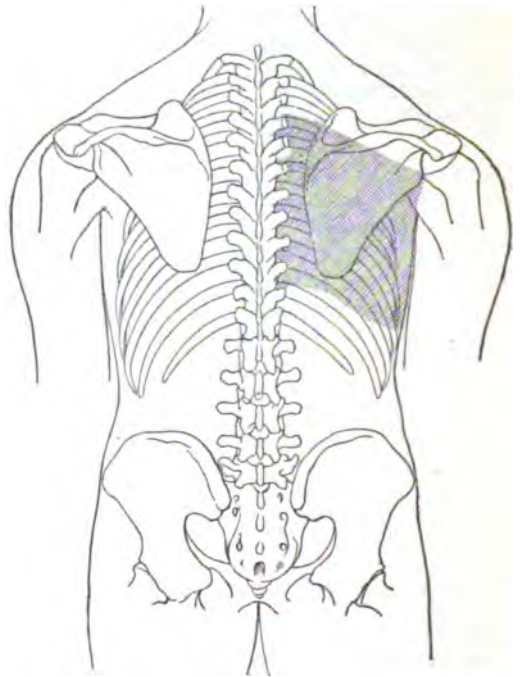


FIG. 12.—Dull Area (posteriorly).

uated. The edges of the diaphragmatic incision were sewed to the skin. Typical dressing. Uninterrupted recovery. Discharged from the hospital cured, June 15, 1895. The microscopical examination yielded no information as to the origin of the abscess, but the clinical symptoms pointed to a cholangioitic source.

CASE V. (presented to the Medical Society of the German Poliklinik, October 18, 1895).—H. M—, a Cuban, thirty-nine years of age, married, employed in the sugar business. On June 15, 1895, he was taken with diarrhoea, tenesmus, and pain in the epigastrium, with repeated chills. Later on, cough. At first the patient was told that he had malaria; later on, dysentery; and when the cough set in, pulmonary tuberculosis. At the beginning of July he removed to Jersey City Heights, where he improved slightly under anti-tuberculous treatment. On July 22d, Dr. Morvay-Rottenberg, of this city, diagnosed pyothorax, and sent the patient to St. Mark's Hospital for surgical treatment.

On July 24th, the following state was found: Emaciated individual, of phthisical appearance; weight about ninety pounds. Tongue thickly coated. No appetite; slight dyspnoea. Urine scanty; no albumin. Constipation. Temperature normal; pulse, 110; respiration, 42. The right hypochondrium did not protrude. Percussion in front revealed complete dullness from the lower margin of the third rib to one inch below the costal arch. Posteriorly (see Fig. 12) there was complete dullness from the third to the tenth intercostal space. The region in front, from the supraclavicular fossa down to the fourth intercostal space, was slightly tympanic. The same behind from the suprascapular fossa to the third intercostal space. No respiratory sounds over the dull area. No change in the limit of the dull area from turning the patient. Râles from the supraclavicular fossa down to the third intercostal space. Cough and expectoration frequent. The yellow sputum did not contain tubercle bacilli. The exploring needle revealed thin, malodorous, yellowish-white pus, mixed with fibrinous flakes and gas.

Bacteriological examination showed the presence of bacillus coli communis, staphylococcus pyogenes aureus, bacillus pyogenes foetidus, and proteus vulgaris. Taking into account the presence of respiratory disturbances, especially cough and expectoration, and the extent of the dull area, I diagnosed pyothorax.

On July 25th, resection of ninth rib in the median axillary line was made, under incomplete chloroform anæsthesia. The pleural sac was found empty. No pneumothorax. After careful introduction of the exploring needle through the diaphragm and gradual dilatation, a pint and a half of sero-pus was discharged. Typical dressing. Uninterrupted recovery. Discharged from the hospital cured, August 21, 1895.

AN UNUSUAL CASE OF GUNSHOT WOUND OF THE CERVICAL SPINE.

By ALFRED C. HAVEN, M.D.,

LAKE FOREST, ILL.

AN interesting case of paralysis following a gunshot wound of the cervical spinal region recently occurred in my practice.

The first peculiarity was in its origin. Paradoxical though it may seem, the innocent cause of the disaster was our justice of the peace, who, filled with righteous indignation at the depredations of his neighbor's chickens, proceeded to administer summary justice to them without waiting for the minor technicalities of the law. Perhaps he knew too well these often block the course of justice.

His weapon was a navy revolver of 38 calibre. The second peculiarity now appears, viz.: One of the bullets missed the chickens, turned round the corner of an adjacent building, and hit my patient, one hundred yards distant, squarely in the neck.

As a possible explanation of this eccentric procedure, I might mention the justice suffers slightly with strabismus, or possibly the chicken may have been tough enough to deflect the bullet; but I realize modern medicine wants facts, not theory, so I will simply record the fact that the bullet described a very devious course.

And this brings us to the third peculiarity. The bullet penetrated the neck of my patient and he lived to receive the kindly ministrations of the justice, who, in lieu of a trained nurse, relinquished his judicial functions for those of a good Samaritan.

The accident happened August 9th, at 6:15 P.M. Patient, T. E.—, aged twenty. The ball entered the right side of the neck on a level with the upper border of the thyroid cartilage, immediately over the carotid artery, and I found and removed it from the opposite shoulder midway between the spine and the acromion, on the upper border of the trapezius muscle. He was unconscious of the wound, but complained of violent pains in all his extremities, requiring a hypodermic to relieve them. Strange to relate, the ball picked its way through the intricate anatomical structures of this region, without serious injury save to the spinal column; a body of one of the cervical vertebra evidently was penetrated or injured, as the subsequent symptoms proved. I found the entire left lower extremity cold and paralyzed; sensation slightly present. The right lower extremity was not paralyzed, but sensation was markedly diminished. The upper extremities were partially paralyzed in motion and sensation—total loss of power in left hand and partial loss in right. Continued sharp pains in all the limbs, and also in the intercostal nerves of the left side were present. Pain was felt along the whole spine to the cervical region. Paralysis of bladder existed.

Diagnosis.—I saw immediately that the ball had in-

jured the spine, and had produced either a fracture, with pressure on the cord, or else hemorrhage into the spinal canal, with consequent pressure. The neck could be moved freely without pain, and manipulation of the cervical spine gave no evidence of fracture, but the subsequent history of the case confirmed the diagnosis of blood clot.

The character of the symptoms located this to a certain extent. The motor paralysis was on the left side; the anterior roots of the spinal nerves on the left side were therefore pressed upon. After eliminating the effect of shock, which lasted a few hours, loss of sensation on both sides showed some pressure on the posterior roots of the spinal nerves, both right and left. There being little motor paralysis on the right side, showed the clot to be mostly on the left side of the canal, also extending somewhat backward, involving the posterior roots of the spinal nerves, as sensation was affected on both sides. The greatest pressure was in the lumbar region on the left side, involving the left anterior roots or motor nerves forming the sacral plexus, causing paralysis in the left leg. The subsequent history was as follows: August 10th and 11th, the pain persisted, requiring anodynes. August 12th, the pain in the left leg abated somewhat and was followed by numbness. Patient could distinguish different toes by touch; no motion. August 13th, less pain; urinated spontaneously for the first time since accident. August 14th, regaining sensation in right lower limb. The temperature was $101\frac{1}{2}^{\circ}$ F. the second night, but rapidly dropped and was normal the sixth day. The wound healed without suppuration in a week. Patient gradually improved till August 26th, when he was removed to St. Luke's Hospital, Chicago. His left leg was still totally paralyzed, his right lower extremity had regained sensation. Right hand still partly paralyzed, and unable still to use his left hand. I did not see patient again until October 21st, when he returned. I found that the arm and leg on the right side had regained both motion and sensation. Left arm improved, but could not flex or extend fingers. Left thigh showed muscular atrophy; could flex and extend both left leg and thigh, but had no control over muscles of foot and toes. In ten days the patient left for Idaho, where he soon got about on crutches. December 9th, when last heard from, he had abandoned his crutches and was getting about slowly, showing that the clot had been absorbed and function nearly restored, just four months after injury.

The case is remarkable, in that so large a bullet, 38 calibre, should perforate the neck with so little damage, and that a blood clot in the spinal canal should be absorbed and function so largely restored in so short an interval as four months.

The Poison of Viper's Blood.—Messrs. Phisalix and Bertrand, who have been studying the properties of viper's blood for some time, and who claim to have discovered that it contains the same poisonous substances as the venom of the same reptile, gave an account of additional investigations before a recent meeting of the Paris Academy of Sciences. They had supposed that the viper, which resists inoculations of its own venom, did so because it was accustomed to this poison. But they now find in the blood, besides the poisonous substance, another substance that neutralizes the effect of the former. These two substances are destroyed by heat at different temperatures. The toxic substance disappears if the blood be kept at a temperature of 58° C. during a quarter of an hour, while the antitoxic substance remains. If the blood thus heated be injected into a guinea-pig, not only does the animal not die but it can endure an inoculation of fresh viper's blood.—*Public Opinion.*

IS SYPHILIS ANTAGONISTIC TO TUBERCULOSIS?

BY FRANK W. ROSS, M.D.,

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ATTENDING PHYSICIAN TO THE ARNOT-OGDEN MEMORIAL HOSPITAL.

AN article by Dr. F. Abrahams of New York, in the issue of the *MEDICAL RECORD* for December 28, 1895, entitled "Syphilis vs. Tuberculosis," confirms an observation made by me several years past, but I have long looked for a second case of inoculation of pulmonary tuberculosis with syphilis.

My case began in 1886. A young man, about eighteen years of age, presented with incipient pulmonary tuberculosis and hemorrhages. A year spent in the pine woods of Michigan arrested the disease. He returned to me apparently well. About a year later he had a return of the hemorrhages, with cough, expectoration, night sweats, all the physical and rational signs and symptoms of pulmonary tuberculosis.

Although severely ill, he was decidedly amorous, and to my surprise he acquired a chancre of the glans and subsequently the secondary symptoms of syphilis developed.

This was in December, 1888. I was in despair, and expected a rapid increase in the pulmonary symptoms. I, however, placed him on iodides and inunctions of mercury, and to my surprise his pulmonary symptoms began to improve; his night sweats, cough, expectoration, and hemorrhages ceased gradually. He was under my eye for about a year and a half, with constant anti-syphilitic treatment. To-day, seven years after the initial lesion of syphilis, he is well and healthy. I frequently see him, acting as a delivery clerk for a grocery house, which requires constant work and exposure in all weathers, both night and day.

I have often wondered whether the cure was from syphilis, from the syphilitic treatment, or spontaneous. He had no other treatment, and is to-day well of both syphilis and tuberculosis.

My opinion has been, from a careful observation of this case, that the syphilis was antagonistic to the tuberculosis, but have in vain looked for a second case. Until Dr. Abraham's case I have seen none reported, and have failed to meet one in my own practice.

In view of some of the wonderful cures by serum-therapy, I am inclined to think that these two cases will furnish a hint, perhaps, for further investigation in this particular line. Doubtless such have been made, but I have never noted them.

The factors to note and questions to be solved are: Is syphilis antagonistic to tuberculosis? Is the ordinary treatment of syphilis in any way curative in tuberculosis? Or were the two cases noted merely a coincidence?

The Most Suitable Preparations of Digitalis.—In an article on "The Digitalis Group and Their Use," by Dr. George W. Balfour, of Edinburgh, he discusses the relative value of the different preparations of this drug. He says a word in the beginning with regard to strophanthus, which he considers is the only one of the digitalis group which has any pretensions to rival digitalis. It is so much more uncertain in its action, and so devoid of tonic qualities, that it will not, in his opinion, displace the old drug. Strophanthin, however, has two advantages over digitalin, namely, it is readily soluble in water, and is rapidly absorbed, and thus is of use when quick stimulant action is desired. The most suitable preparations of digitalis to employ, he says, are, first, the powdered leaves, carefully prepared, and not over a year old. The infusion ranks next to the powdered leaves.

A CLINICAL STUDY OF TRACHEOTOMY—TEN CASES, ONE DEATH.

BY FRANK V. CANTWELL, M.D.,

SURGEON TO ST. FRANCIS' HOSPITAL, TRENTON, N. J.

CASE I.—J. B——, man, aged sixty-five. Tracheotomy, low operation, before excision of tongue. Tube removed on second day, wound healed in a week.

CASE II.—M. M——, girl, aged two. Mother, in her efforts to remove a piece of a peanut that had lodged in the child's throat, pushed it into the wind-pipe. I was called by the attending physician on the second day. I found the child breathing rapidly with a wheezing sound, suffering for the want of sufficient air. Tracheotomy, low operation, done. Thymus very much in the way, pushing up into wound. Failed to find the cause of obstruction after many attempts. Breathing remained as it was. The tracheal wound was kept open. On the third day after operation, the child, who had been sleeping quietly, leaped to its feet, and after violent efforts, expelled what the nurse called "a lot of stuff," after which she obtained a great deal of relief. The peanut was no doubt among this stuff. The child is still well, although she is at times asthmatic.

CASE III.—G. W——, girl, aged six. Operation, September 12th; discharged well, September 28th. Tonsils covered with membrane, croup well marked, child very uneasy, breathing labored, cyanosis commencing. Tracheotomy, the low operation, was done. Antitoxin injected. Recovery uneventful.

CASE IV.—J. K——, boy, aged five. Operation, September 28th; discharged well, October 21st. This boy had nasal, pharyngeal, and laryngeal diphtheria. Croup marked, breathing labored, cyanosis. Tracheotomy, low operation, was done. Antitoxin injected. Membrane cleared off, and tube was removed on fifth day. On the seventh day I was called hurriedly. The croup had returned, and there was some membrane on tonsils again. With some difficulty I reintroduced the tube, and for several days, at intervals, casts of the bronchi were expelled. He was very much exhausted after this second attack, but was sent home well on the twenty-second day. While this boy was at the hospital, his brother died at home of diphtheritic croup.

CASE V.—S. E——, girl, aged two. Operation, October 31st; discharged well, November 10th. Laryngeal diphtheria. Croup marked, breathing labored, no cyanosis. Tracheotomy, low operation. Antitoxin given. Recovery uneventful.

CASE VI.—E. R——, boy, aged six. Operation, October 31st, at home; tube removed, November 5th. He had been sick for five days, with a few white spots on tonsils, and very slight croup. I was called by his medical attendant at midnight. The boy had grown rapidly worse. He was restless, uneasy, tossing, cyanosed, with rapid breathing and drawing in of epigastrium. Tracheotomy, low operation. No antitoxin. Recovery uneventful.

CASE VII.—J. M——, girl, aged eighteen months. Operation, November 15th; discharged well, December 10th. Some membrane on tonsils, croup marked, cyanosis, breathing labored. Tracheotomy, low operation. Antitoxin injected. It was with difficulty we introduced our smallest tube. This child got along well for several days, when it was noticed that milk escaped through the tracheal opening, due, I thought, to some paralysis. There was trouble in keeping the wound clean. Tube was removed on the seventh day, but had to be reintroduced on the eighth. There was some danger of septic pneumonia, but the child rallied, and was discharged well on the twenty-sixth day.

CASE VIII.—A. M——, girl, aged eight. Operation, November 4th; died November 5th. This child had

for several years a bad bronchial asthma. About two weeks before the attack of diphtheria she had measles, so that she was in no condition to withstand the disease that killed her. Tracheotomy, low operation, was done. Antitoxin was injected. About one and one-half drachms of pus, *débris*, and softened membrane were expelled upon opening the trachea. A like amount was coughed out after removing the tube the next day. She died thirty-six hours after the operation.

CASE IX.—M. McK.—, girl, aged six. Admitted, November 27th; operation, November 28th; discharged well, December 11th. She had some membrane on tonsils. Croup slight. Antitoxin was injected as soon as she came, with the hope that the membrane would not increase, and that the croup would be aborted. The child grew worse, until I did not feel that it was right to wait any longer. Tracheotomy, the low operation, was done, after which she had an uneventful recovery. I have succeeded in one instance in aborting a commencing croup by the use of antitoxin.

CASE X.—R. H.—, boy, aged four. Operation, November 29th; discharged well, December 10th. This child was a typical clinical picture of laryngeal diphtheria. He had what his physician called a relapse, croup coming on several days after the membrane had disappeared from his pharynx. Tracheotomy, low operation, was done, and antitoxin injected. He had the same trouble as Case VII. Milk, when swallowed, came through the tracheal opening. For a few days I was fearful of sepsis. Other than this, he had no bad symptoms, and was discharged well on the thirteenth day.

During this series of operations, four cases that refused operation died. In no case was tracheotomy refused. All of these children were suffering very much from mechanical obstruction before I saw them. Cases III., IV., V., VII., VIII., and X., were brought to the hospital in desperation, some of them driving a distance in an open carriage, wrapped in blankets. The low operation was done in the usual way, by careful dissection. In one case a small artery was cut, but required no ligature. In four of the cases a vein was tapped, flooding the wound with blood for a moment, but this was easily controlled.

After cutting the trachea a thread was passed through each edge of the opening, and loops made, about four inches long. This made easy the introduction of the tube, both at first and during the after-treatment. It also facilitated the thorough cleaning out of the trachea. As the incision was not long, no sutures were introduced. The usual gauze dressing was applied, although I have thought that gauze beneath the tube shield was in the way. I used tape long enough to go around the neck twice, so that it crossed at the back, and each tape could be pulled with equal force and tied on one side. I thus avoided any tilting of the tube on either side. The after-treatment was of the simplest kind. The tube was entirely removed every day and scrubbed. The inner tube was frequently taken out and cleaned. For this purpose I found very useful the small brushes used for cleaning the tubes of the old-style nursing-bottles.

Although the room was kept at a comfortable temperature, it was well ventilated. No effort was made to make the air moist. When the child's respiratory sounds were dry, or the breathing impeded, the trachea was steamed for a short time with lime-water or water with a pinch of bicarbonate of soda in it. The children were given milk for the first few days, and then ordinary solid diet. They were all very manageable, indeed; the insertion of a tracheotomy tube seemed to have a quieting effect, or else they appreciated what we were trying to do for them. I ascribe the good re-

sults in these cases to the use of antitoxin in conjunction with the low operation of tracheotomy. A strong argument with me is that before the introduction of antitoxin, I operated in six cases, with but one recovery. In Case VIII. there were undoubtedly other micro-organisms than the bacillus of diphtheria. It is just this kind of cases in which antitoxin is useless, cases in which there are not only pathological changes in the organs, but which are also inoculated with pyogenic organisms. Another argument in favor of the use of antitoxin is the fact that in not one of these cases of diphtheria was the wound infected, although no antiseptic was used, either as a wash or a dressing.

Progress of Medical Science.

Œdema without Albuminuria.—Dr. Tchirkaff calls attention to a new syndrome, characterized by great œdema without appreciable organic disease. He has studied six cases between 1886 and 1894. The patients were all men of from twenty-five to sixty years of age, generally of a good constitution, though some of them slightly anæmic. In the cases presenting anæmia the œdema developed slowly over a period of three to four months; in the plethoric subjects it developed much more rapidly. The anæmic cases strongly resembled the picture presented by cases of chronic nephritis. In the non-anæmic cases there was a different picture, anasarca coming on rapidly in the space of a week or so, the peritoneal cavity filling with fluid, and in the course of the next two weeks the pleural and pericardial cavities also showing signs of exudate. The face, trunk, and extremities all became swollen at the same time. At times only the upper extremities were œdematous, but usually the lower were most affected. In some cases the œdema affected mostly the neck, face, chest, and upper arms. Certain patients lost the hair from the eyebrows, beard, mustache, and pubes at the time that the œdema appeared; the hair of the head also became very thin and of a softer texture, and changed its color somewhat. The cases all ended in recovery. Most careful examinations showed that there was no nephritis in these cases; the urine was repeatedly examined, and albumin was never present, showing that they were not cases of chronic nephritis with temporary absence of albumin; there were never, moreover, any signs of uræmia or kindred symptoms. The blood was carefully examined in all cases, and no changes were found in either the number of corpuscles or the percentage of hæmoglobin; a large percentage of reduced hæmoglobin was, however, always present. The heart was negative in all cases, and there were no frank signs of hepatic cirrhosis. The majority of the patients either showed signs of or gave a history of a preceding lues. From the increase in the reduced hæmoglobin, and the fact that there were no signs of deficient oxygenation in the lungs or venous stasis, Tchirkaff concludes that we must be dealing with a stasis in the venules and capillaries, probably of vasomotor origin. As the result of his observations he formulates the following conclusions: 1. There exists a form of disease but little known, characterized by general œdema, with effusion into the serous cavities, without albuminuria; at the same time the heart, lungs, liver, and other organs show no change capable of causing œdema from blood stasis. 2. These œdemas are of a vasomotor origin and can be called "general vasomotor œdemas." 3. They are characterized by, and often accompanied by, dilatation of the right heart and moderate arteriosclerosis. 4. They are always accompanied by changes in the blood, *i.e.*, the hæmoglobin is considerably reduced. Beyond this one occasionally sees trophic trouble and pro-

nounced paralysis of the veins of the skin. 5. In most cases these œdemas are of syphilitic origin, and disappear under treatment by mercury and the iodides. It is possible that the œdema without albuminuria, from which the African soldiers suffer, does not always occur from cold or the formation of ptomaines from indigestion.—*American Journal of the Medical Sciences.*

The Diuretic Action of the Salts of Lithium.—As the result of an experimental investigation, which was confirmed by clinical observation, Mendelsohn has found that while all of the salts of lithium possess diuretic properties the most active in this direction is the citrate, which possesses the additional advantages of solubility and comparative freedom from unpleasantness of taste. Next in activity is the acetate. The author admits, however, that chemic solvents of uric acid are not necessarily useful agents in the treatment of gout or the uric-acid diathesis.—*Deutsche Medicinische Wochenschrift.*

Cure of Leprosy.—Dr. Goldschmidt, of Madeira, where more or less leprosy exists, reports in *Le Bulletin Medical* of December 18, 1895, a case of apparent cure after five years of treatment by frictions over the plaques and infiltrated areas with a five-per-cent. solution of pure eucrophen in olive oil. His conclusions are: 1. External applications of eucrophen oil should be recommended, in energetic and prolonged frictions, in all cases of leprosy of slight extent upon the skin surface and nasal mucous membrane. 2. Cases of internal leprosy or those in which the affection has invaded the entire cutaneous surface call for another mode of administration of the drug, namely, by subcutaneous injection of the same oil solution (sterilized and filtered). 3. Under the influence of this treatment the specific bacilli diminish or disappear; in consequence the propagation of the disease by contagion is rendered more difficult or impossible. Consequently preventive measures, such as segregation, can, at least in recent cases, be considered as unnecessary. The writer then gives an account of leprosy in the island of Madeira.

Schleich's Method of Local Anæsthetization.—The skin is first made aseptic, then pinched up and the sterilized needle of the syringe containing the solution, which should be cold, is passed obliquely under the epidermis, and a few drops are injected until a white elevated wale appears. The needle is withdrawn and inserted at the edge of this wale and so on until an area as large as may be desired is made anæsthetic. If the spot to be cut is first cooled by an ether or rhigolene spray, if it is the skin, and by a strong solution of carbolic acid, if it is the mucous membrane, the prick of the needle is not even felt, but in the case of the small needle, which should be used, the pain is almost nil, especially when the skin is pinched. Würdemann has used this method in operations about the eye and also in abscesses and felons with success. Schleich has even done cræliotomies with it, but others might not dare follow this lead. The solution most usually employed is a grain and a half of cocaine, one-third of a grain of morphine, and three grains of sodium chloride in three ounces and three drachms of sterilized water. Two other solutions, one containing double the quantity of cocaine and the other one-tenth the amount, are also used. The value of this operation is in the technique, and stress is laid on the point that the needle must not go beneath the skin. This process is capable of development and is worthy of a careful trial.—*Maryland Medical Journal.*

Sex and the Prognosis in Epilepsy.—Dr. William Browning thinks that the prognosis for females, in epilepsy, is worse than that for males. Among twenty-

five males, he reports six definite and five presumptive cures. Among twenty-two females there was only one cure, and this was not a sure one. The statement that six out of twenty-five epileptics were cured would be received with considerable hesitation, and gives rise to some doubt as to the value of the observations, as a whole, though Dr. Gowers has stated that the prospect of an arrest in epilepsy is slightly better in males than in females.

A New Antiseptic—Loretin.—Dr. Herbert Snow, surgeon to the London Cancer Hospital, speaks in the highest terms of loretin as an antiseptic. It is an iodine compound, acid in nature, and forms compounds with sodium that are soluble in water. Dr. Snow says (*British Medical Journal*): "My own experience is confined to the powder, which I have never found occasion to mix with any other substance. Dusted on the skin, or over a granulated wound, this causes not the slightest irritation or unpleasant sensation. It immediately destroys the malodor of the most fœtid cancerous sore, controlling this in a manner which no other agent I have yet tried will do. Copiously puffed with an insufflator into the deep cavity formed by evacuating the axilla of carcinomatous glands, it efficiently precludes suppuration, even when free hemorrhage has taken place after the closing of the wound, an occurrence almost inseparable from anæsthetic vomiting when the patient has been removed from the operating table. Not the slightest bad symptom from its employment in this way has so far been detected. When there is no deep cavity a wound dusted with loretin heals rapidly by first intention. I have had recourse to loretin in some sixty cases, mainly operations on the breast and axilla, notoriously a test region for antiseptics. In my hands it has proved an ideal antiseptic and deodorant, with no single drawback; and I am sure that no surgeon who has once tried it will ever again resort to the noisome and toxic iodoform from the free use of which I have seen more than one death."

Membranous Colitis Treated by Colotomy.—Dr. W. Hale White and Mr. Golding Bird have reported to the Clinical Society of London the case of a neurotic woman of thirty who had suffered for ten years from membranous colitis. Colotomy was performed, and the bowel washed out. The discharges ceased, the wound was allowed to heal, and the patient was cured. Three months after her cure she died of general peritonitis.

"Consumptive Bowels" in Children.—Writing to the *British Medical Journal* on this subject, Dr. Hobson says that food has less to do with tuberculous infection than is generally supposed. Out of 70 children under five years old who died with more or less generalized tuberculosis at Guy's Hospital in ten years, in only 28 could the intestines or their glands have by any possibility been the primary seats, and in many of these other parts appeared jointly responsible for systemic infection. These 28 cases constituted barely 11.4 per cent. of the total cases of systemic infection of all ages during the same period, and of course a very much smaller percentage of the total cases of tuberculous disease. He would say that about 5 per cent. of all medical cases were under five years of age at Guy's. On further analyzing his notes, however, he finds that of 21 children under two years of age, 9 showed tubercle in the intestine or mesenteric glands which could not have come to them by way of the lungs, for in no case were any tuberculous masses breaking down. Yet in only 1 of the 21 cases were the lesions such as were at all likely to have given recognizable symptoms during life. In 12 cases the primary seats were elsewhere. The age period of ten

to twenty appears to furnish a larger proportion of abdominal to other tuberculosis than any other, for of 35 cases 16 came under that category. Out of a total of 246 of all ages, 70, or 28.4 per cent., were possibly abdominal in their origin. While no one can deny the great relative preponderance of abdominal tuberculous affection under five years of age, he for one does not admit that great preponderance which is assumed. Still less does he admit that this is a matter of feeding. For (1) the children of the people who seek hospital accommodation get very little milk, and (2) dirt swallowing is a potent factor which must not be overlooked. All little children, especially the poor, swallow much dirt. From the mouth, nose, and upper pharynx tuberculous organisms may find their way to cervical glands, as, it is true, may be also the case with food-remains in the mouth; or be carried down to the stomach when its secretion is alkaline, and thence travel safely to the intestines and glands. He thinks we must look not to food but to a greater vulnerability in the infantile alimentary tract for its greater proneness to tubercle.

The Local Action of Salol.—A recent paper by Dr. Colombini tells us that he has been experimenting with regard to the local effects of salol dissolved in liquid vaseline. In the presence of alkaline fluids or living tissues salol appears to break up into salicylic acid and phenol in the nascent state. When split up in this way the author found that, while the good antiseptic action of each of the acids was maintained, their irritant action was absent, either from the way in which they were set free or from the small quantities of the acids evolved. Clinically it was found that salol in vaseline solution—the best solvent—did not irritate the skin nor inflame ulcerated surfaces, which healed under the treatment without pain or local reaction. The author thinks there may be a useful field opened up in the local application of salol as a non-irritating and sufficiently powerful antiseptic.—*Riforma Medica*.

Affections of the Cerebellum.—Dr. Friedeberg has prepared a paper on the subject of cerebellar disease. His personal observations extended to 9 cases, but he also examines critically the experiments of Luciani. The author's 9 cases included 1 of glioma, 1 of angiosarcoma, 1 of cysticercus, 1 of massive tubercle, 1 of hemorrhage, and 3 of abscess. The details of the cases are shown in a very instructive table. Etiologically, the disease could in no case be assigned to injury. In the 3 cases of cerebellar abscess there was middle-ear suppuration. The cerebellum is less frequently the site of abscess than the temporal lobe. In the case of hemorrhage there was arteriosclerosis of the cerebral vessels. The comparatively short duration of the disease was remarkable, the longest period being one year and a half, whereas the average was only a few months. The analysis of symptoms presented considerable agreement with Luciani's observations. In 8 cases occipital headache was present and in the remaining case of a child, aged three years, its presence could not be proved. It was mostly severe and usually the first symptom. In 5 out of these 8 cases there was marked rigidity of the neck, and this became more accentuated as the disease advanced. It was probably due to pressure on the medulla. Vomiting was present in 8 cases and vertigo in 4. Out of 8 cases long under observation there was more or less wasting in 5. Notwithstanding this dystrophy there were never any bedsores. Hemiplegic symptoms were never present. In cerebellar disease such symptoms hardly ever exist—at any rate, in tumor. The brachial monoplegia seen in 1 case and the facial paralysis in 2 cases were probably the result of pressure and not true cerebellar symptoms. Cerebellar

ataxia was seen in 2 cases only. According to Luciani, this ataxia is not the most characteristic symptom of cerebellar disease, as is believed by many. Forced posture was present in 1 case only. Here the patient lay with the body bent forward and the head backward. Forced movements were never present. Irritative symptoms such as spasm were seen in 4 cases, and were, perhaps, due to irritation of the mid-cerebellar peduncles. In 1 case the position of the hand was very like that seen in cervical hypertrophic pachymeningitis. In addition to the vomiting, probably due to pressure, the following symptoms were noted—loss of weight, occipital headache, vertigo, especially on standing and walking, ataxia, ultimate inability to stand or walk, spasm, etc. The rigidity of the neck was remarkable; it appears not to have been often noted. Of diagnostic value in abscess are the pain in the ear and tenderness over the mastoid process.—*Berliner klinische Wochenschrift*.

Extra-Uterine Pregnancy and Hæmatocele.—According to Dr. Condamin extra-uterine pregnancy is almost the sole cause of pelvic hæmatocele. The rupture of a tubal gestation cyst is far from invariably accompanied by the "cataclysms" and uncontrollable hemorrhage in which many authorities believe. Many such accidents have no symptoms, others give rise to small hæmatoceles, and only a few involve free loss of blood. Hemorrhages consecutive to ruptured tubal cysts in the first months of pregnancy cease spontaneously; operative measures are contraindicated at first, excepting when the rupture occurs after the fourth month, which Condamin believes is exceptional. The surgeon must wait till the collection of blood has become well encysted and the anæmic patient stronger. The best operation then is vaginal puncture and incision, with or without removal of diseased appendages. Abdominal section should be rejected in the majority of cases as more serious and less efficacious, as involving prolonged treatment, and as inducing grave complications in the future. Condamin describes three cases where the vaginal treatment was successfully employed. In one a piece of placenta, in two the foetus, was removed with the clots; in all more or less of the involved appendage was removed.—*Lyon Médical*.

Albuminuria During Pregnancy.—In a paper on this subject Dr. Harry G. Utley (*American Journal of Obstetrics*) says that albuminuria is simply an indicative symptom. Its meaning and import must be determined by the gravity of any coincident pathological renal condition (as shown by the urinary examination) and by the presence and degree of severity of the general manifestations of kidney disease. The treatment, therefore, is to be directed to the condition or set of conditions with which the albuminuria is connected or on which it is dependent, and its permanent disappearance will signify that the harmful processes or conditions with which it is related have become inoperative. Most naturally the therapeutic indications are suggested almost altogether by the condition of the kidney, the amount of elimination it can probably do, and the probable amount of noxious substances in the body to be eliminated, which latter condition can be made evident only by the signs of uræmic intoxication. In every instance it is wise to curtail the further production of toxin by restricting the amount of nitrogenized food. An exclusive diet of milk seems to fulfil the indications admirably, serving at the same time as a mild diuretic. The author has frequently seen albumin disappear altogether by the use of this measure alone. This result would seem to add some force to the proposition that albuminuria is often due to the presence and influence of these toxic materials. Excellent results may be gained by

employing a mixed diet of foods poor in nitrogen, viz.: bread, butter, fruits preserved or fresh, vegetables in limited quantities, etc., of which only a sufficient quantity to sustain nutrition should be taken, for any excess has to be eliminated by an already overworked kidney. This measure greatly relieves the kidney and puts it in a position to more effectually and quickly recover. Further, if circumstances demand or even justify it, the elimination of the harmful materials may be both hastened and accomplished by the use of the other emunctorial channels—the bowels and the skin. The indications for using one or both of these, as well as the degree to which their functions should be stimulated, must be suggested by the merits of each individual case. They should in all cases be kept active. The bowels may be “appealed to” with very satisfactory results by the frequent administration of the compound jalap powder, say in drachm doses every other morning, or any of the hydragogue cathartics, which will be found especially useful. As to the skin, its action may be encouraged by resorting to the hot bath, the steam bath, the hot-air bath, or the hot pack. The employment of the medicinal diaphoretics, especially pilocarpine, is not indicated except as a last resort, and even then the use of this agent should be extremely guarded, for the reason that pulmonary œdema is very often the result and the burden of cardiac depression is put upon the patient, possibly already struggling for life. It is probably neither wise nor necessary to unduly stimulate the skin function unless signs of beginning uræmia are evident, and even then their gravity should dictate both the method and the extent and frequency of its employment. The wisdom of the use of the stimulating diuretics to aid elimination by the kidneys is much to be questioned, at least in those cases not showing symptoms of uræmic intoxication, for it seems grossly unjust to goad on an already crippled organ when the same or a better result may be gained by the timely and judicious use of the eliminative powers of the bowels and skin. The high blood pressure incident to pregnancy cannot be overcome until delivery is accomplished; but it is not proposed to refer in this article to the indications for the inducement of premature delivery. The above principles of treatment, in addition to the fulfilment of any symptomatic indications that may arise, if prudently employed will bring much relief to the kidney laboring under untoward circumstances, and yield grateful and lasting satisfaction to the conscientious “man of medicine” in whose hands the destiny of so many innocent lives reposes.

The Intoxicating Principle in Alcoholic Beverages.—At a recent meeting of the Academy of Medicine, says the Paris correspondent of the *British Medical Journal*, M. Daremberg stated that pure alcohol at 10° is less toxic than impure alcohol, such as *eau de vie*, and above all old *eau de vie* made from wine at 10°. *Eau de vie* made from wine at 10° is less toxic than wine at 10°. *Eau de vie* is in fact wine purified. The intoxicating element in wine is not present in the part distilled, but in the residue. Red wine is more intoxicating than white wine; the latter is produced by the fermentation of the juice of grapes, whereas the red wine is the product of the fermentation of the juice, skin, and pips of grapes. It is the bitartrate of potassium which constitutes the special intoxicating principle of red wine. French beer contains five per cent. of alcohol; fifty cubic centimetres injected into the veins of a rabbit produced no result. The different varieties of cider, on the other hand, were generally very intoxicating. M. Daremberg injected alcohol into the veins of rabbits rendered tuberculous three days previously. Alcohol chemically pure did no harm, but *eau de vie* and wine killed them

rapidly. The wisdom of giving alcohol to tuberculous patients is therefore doubtful. The toxic quality of alcoholic drinks is not thoroughly evident when there is neither kidney nor liver trouble. Healthy subjects easily eliminate these toxic substances, which under certain circumstances may even be valuable as occasional stimulants.

Villous Tumor of the Rectum.—At a recent meeting of the Liverpool Medical Institution, as reported in *The Lancet*, Mr. Paul related the case of a woman, aged fifty-six years, from whom he had removed a very large villous papilloma of the rectum. Symptoms of bearing down, a constant desire to defecate, and the passage of blood and mucus had existed for five years. The growth formed a broad band two to three inches deep around the rectum about two inches and a half from the anus. The patient made a slow but otherwise good recovery. The tumor had the typical structure of villous papilloma and did not infiltrate the submucous tissue. The origin of the growth could be distinctly traced to the neck of Lieberkühn's follicles, and Mr. Paul suggested that the histological distinction between the three usual neoplasms in this situation was as follows: Papilloma commenced as an upward growth of the neck of the glands, polypoid adenoma as an overgrowth of the entire glands, and carcinoma as a downward growth of the deep portion of the follicles.

The Relation between Uric-Acid Excretion and Leucocytosis.—As the result of experimental and clinical observations, Dr. Kühnau has found that a group of diseases attended with leucocytosis are characterized also by increased excretion of uric acid, according to the *Medical News*. This increase is not to be attributed to the febrile process alone, as it may attend afebrile diseases (cachectic leucocytosis). Rapid subsidence of leucocytosis corresponds with increased elimination of urates. Experimental leucocytosis is attended with increased elimination of urates, which reaches its maximum with the disappearance of the leucocytosis. Increased excretion of uric acid may be induced without the intermediation of leucocytosis by the administration of substances rich in colorless blood-cells (aseptic pus, thymus infusion). Injections of nuclein induce directly increased elimination of urates, for which the leucocytosis developed at the same time cannot be held responsible. Colorless blood-cells constitute, if not the exclusive, the most important source of uric acid.

Post-Mortem Cæsarean Section.—Hoffman reports the case of a woman seized with eclampsia in the eighth month of her fourth pregnancy. Death ensued in the course of two and one-half hours. Cæsarean section was performed ten minutes after the last inspiration, resulting in the delivery of a living male child fifteen inches in length. Nourishment was administered to the child by means of a spoon, but in consequence of enfeebled vitality it died at the end of twenty-five hours.—*Centralbl. für Gynäkologie*, 1895, No. 50, p. 1,319.

Splenic Tissue and Bone Marrow for Malarial Cachexia.—Critzmann administered daily more than an ounce and a half of the finely chopped spleen of a young beef mixed with two drachms and a half of bone marrow and the yolk of an egg. Cases of chronic malarial cachexia presenting anæmia, emaciation, and enlargement of the spleen, in which the usual remedies, quinine, arsenic, hydrotherapy, etc., had failed, were greatly benefited when treated in accordance with the above method for several weeks.—*Revue de Médecine et de Chirurgie*.

SUPPLEMENT TO THE MEDICAL RECORD.

NEW YORK, FEBRUARY FIFTEENTH, 1896.



Living Hand taken January 17, 1896, with Professor Roentgen's X Rays, in the Physical Laboratory at Hamburg, Germany.

The plate at the time of taking was in a closed plate-holder, so that the rays passed through the hand and the wooden cover. The dark spots in the corner are the screw-heads in the walnut cover of the plate-holder.

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PHOTOGRAPHING THE INVISIBLE.

THE great interest in Roentgen's discovery of photographing the invisible is still unabated. The entire scientific world is busy in developing the wonderful process and in devising means for the practical application of its principles. In the present issue we reproduce a beautifully finished photograph, taken by Professor Roentgen, which shows in a very satisfactory manner what can be done with the detail representation of the living hand by means of the cathode rays. This is one of the latest authentic photographs taken by the distinguished scientist and one of the most recent that has reached this side of the Atlantic. It was kindly forwarded to us by our correspondent at Berlin, and for perfection of finish and accuracy of detail can be viewed not only as a scientific curiosity but as demonstrative of possibilities in the direction of extended usefulness in surgical diagnosis and pathological demonstration. Contrary to the many exaggerated representations of such conditions by the daily press, in which even the common anatomical details are inaccurate and absurd, this picture carries on its face the real evidences of genuineness and commends itself to thoughtful anatomical study.

The phalanges and metacarpal bones are shown with surprising distinctness of substance and outline, while the positions of the sesamoids and of the bones of the carpus are well indicated. The trapezium, scaphoid, os magnum, unciform, and the projection of the pisiform can be differentiated, while the trapezoid and semilunar are somewhat blurred as to definition. The same may be said of the articular extremities of the radius and ulna, which are evidently not in focus. The fleshy parts are well represented, while the finger ring, presumably of gold, is most distinct of all.

By the careful inspection of the skeleton hand, as a whole, many of the possible lesions of the bony tissue of such parts of the body as may be subjected to the Roentgen rays can be believed possible of demonstration, and be easily understood. An impacted bullet, the line of a fracture, the position and dimensions of a bony tumor, the existence of a sequestrum, or, in fact, any other similar pathological condition of bone, can probably be shown as clearly as is the ring upon the finger. Indeed, most of these conditions have been already demonstrated, with the promise of still more wonderful revelations.

Thus may we not hope, with the perfection of methods, that all the hitherto hidden recesses of the body may yet yield their tribute to the new light and open to view many, if not all, of the abnormal processes of the living body, as effectually as does the post-mortem knife in the hands of the most skilful pathologist? There is no doubt, in view of the present extensive experimentation, that the apparatus by which these results are obtained will soon become simplified, so as to place its range of application within the reach of the ordinary medical photographer. It has already been asserted that a Roentgen tube can be constructed by the multiplication of ordinary incandescent light bulbs having interrupted circuits. Aside from the use of these "X" rays in photography, it has been suggested by Mr. Glover Lyon, a correspondent in a recent issue of *The Lancet* (February 1st), that they may be utilized in the destruction of germs inside the body, and notably in connection with the well-known germicidal power of violet rays. Who knows? We may yet be able to throw a new light on the tubercle bacillus and give renewed hope to the forlorn consumptive, ever vainly waiting for a new remedy.

THE MECHANISM OF CEREBRAL CONCUSSION.

THE mechanism of shock, cerebral concussion, and cerebral traumatism, is a subject that is still much discussed, and there is as yet no satisfactory explanation or agreement as to the method by which severe blows upon the head produce their effects. The clinical facts are simple enough. We know that when a person receives a severe blow on the head, he falls down unconscious, his muscles relax, the reflexes are abolished, respiration is shallow and slow or irregular, and the pulse is weak and easily compressible. From this condition he may gradually rouse, or he may remain in a comatose state for a considerable time. Post-mortem examination, if the patient dies, sometimes reveals lesions and sometimes does not. There may be a superficial blood clot or localized bruising of the cortex. In some cases there are multiple punctate hemorrhages. In other cases there is a congestion.

Dr. S. P. Kramer, in the *Annals of Surgery*, has recently contributed a series of experiments tending to elucidate the condition which we have above described. Dr. Kramer precedes a description of his own experiments with a brief *résumé* of previous opinions upon this subject. He shows, as we believe others have already shown, that Durét's theory of concussion, according to which the effects are due to driving the cephalo-rachidian fluid through the foramen of Magendie into the fourth and other ventricles, is neither satisfactory nor rational. Koch and Filehne produced the symptoms of concussion in animals by striking the skulls with a hammer weighing from a half to about one pound. The blows were not severe but were continuous, the result being that after a time a concussion was produced which simulated that caused by a single severe blow. Their explanation of this was that the unconsciousness and practical suspension

of brain functions was due to a mechanical over-stimulation of the brain, just as nerves may be paralyzed by a continuous over-stimulation. Stromeyer held that the blow depressed the skull and produced a momentary increase of intracranial pressure which cut off the blood supply and thereby led to suspension of brain function. Dr. Kramer, who manifestly leans toward this view, instituted a series of experiments upon dogs in order to test its validity. By means of suitable apparatus he was able to record the condition of blood pressure, respiration, and intracranial tension when the blow was being applied. The record of intracranial tension was obtained by fastening a metal tube into a trephine hole in the parietal bone. This tube was filled with physiological salt solution and connected with a Marey writing tambour. Dr. Kramer's experiments showed that when a blow was applied to the skull there was at once suspension or a delaying of respiration. If this respiratory paralysis became permanent of course the animal died, and it is by this sudden respiratory paralysis that some cases of instant death from a severe blow on the head might be explained. The effect of a blow upon the cardiac rhythm was less marked. The blood pressure was slightly lowered in severe concussion. In some cases there was no change in the cardiac rhythm. As regards intracranial tension, he found that the blow always produced a sudden increase. He regards it, therefore, as proven that this sudden and temporary increase in the intracranial tension is always produced by a blow severe enough to cause any cerebral disturbance. He then attempts to explain how it produces this disturbance. In brief his theory is that the blow on the head produces a compression of the brain, as a whole. This compression causes an interference with the blood supply, which leads to a sudden cerebral anæmia, and this accounts for the primary symptoms of cerebral concussion. The subsequent symptoms depend upon the amount of damage done to the brain and the blood-vessels, the amount of hemorrhage, and so forth. He thinks that the capillary hemorrhages and bruising are due to the sudden driving of the brain against the rigid skull. Dr. Kramer does not think it necessary to add in further explanation the theory of Kocher, who maintains that the blow on the head acts as a crushing power and leads to a mechanical microscopic bruising of the brain substance.

It seems to us that the compression theory alone, however, is not adequate for the explanation of all these symptoms of cerebral concussion, for, if they were due to sudden anæmia alone, the brain would very quickly recover its normal condition. As a matter of fact we know that after cerebral concussion there often remains a long period of disturbance, and we have a right to assume that this occurs even when there are no decided bruising or superficial bruises or hemorrhages. The fact that occasionally there develop in later years peculiar mental disturbances, such as epilepsy and sclerosis, would favor the view of Kocher, that there is, at least in the severer concussions, a microscopic laceration of brain tissue and blood-vessels.

Dr. Kramer has evidently not seen the monograph upon this same subject by Dr. J. Braquehay (*Archives*

Générales de Médecine). This physician made experiments of very much the same character as those of Dr. Kramer and attained results which are detailed with much elaboration. They do not, however, conflict with the actual experimental findings of Dr. Kramer.

RATIONAL TREATMENT OF ABORTION.

DR. BENICKE has just published a comprehensive paper on this subject based on a large number of personal observations. He claims very good results from the treatment, which is strictly in accordance with modern views of asepsis. He believes in being "meddlesome" at the proper time. We append a *résumé* of his conclusions taken from the *Allgemeine medicinische Central Zeitung*, December 21, 1895.

1. In cases of severe hemorrhage and febrile disturbances occurring in the first two months the entire contents of the uterus should be removed. The finger or the curette or both may be used for this purpose. The calibre of the cervix will determine the choice of method.

2. In the third month, if the os uteri is not patent, tampons are at first employed. Anæsthesia is necessary for the radical removal of the product of conception. The placenta may have to be removed by means of the curette. The fœtus can generally be best taken away by slowly introducing the finger and using that alone.

3. In the fourth month the fœtus must be removed without the aid of the curette, although remnants of placental structure and membranes may call for the use of that instrument.

4. Even after spontaneous abortion the uterine cavity is to be explored and all remnants promptly removed by means of the curette.

5. Only very free hemorrhage calls for the employment of tampons. They are to be introduced into the vagina only. Uterine tampons are to be avoided as much as possible.

These views are not particularly novel, nor very radical, but they bear examination as embodying the results of large and conservative practice by a modern accoucheur.

IS THE HUMAN RACE DETERIORATING?

THE February number of the *North American Review* contains an article upon this subject which is rich in statistical lore. Out of it we extract some facts that are of interest to medical readers. The author shows by the statistics of births, deaths, and marriages of the seven principal European nations that the birth rates in these nations have declined, notably since 1880, but that the death rate has declined still more, so that the surplus of births over deaths is rising. It is also shown that marriage-rates have declined since 1880 but that the number of children to a marriage has increased, and that the natural increase of population has proceeded with greater rapidity in the last ten years than it did before. He

also shows that in the United States there has been a steady decline in the rate of increase of population, but that the annual increase of American-born population has been a uniform one up to the last decade, when it fell to $17\frac{1}{2}$ per thousand. This declining ratio has been coincident with a very great increase of the city population and a decrease in the relative number of children. One striking fact is brought out, namely, that in the United States there are more children per thousand inhabitants than in any European country; thus the number of persons under 15 years of age per thousand inhabitants in this country is 368, while in France, which furnishes the other extreme, it is only 266. Still another fact, which is not of so pleasant a character, is that the span of life in the United States is shorter than in Europe. Comparatively few people in the United States pass the age of 60. Thus, the number of persons 60 years or more of age among 1,000 persons over 20 years of age is in the United States 107, while in England it is 134, and in Ireland 196. It seems, therefore, that in the United States the rate of increase in population is diminishing, that the number of children per thousand is greater than in any other country but is decreasing, and that old age is not so often reached as in other lands.

The writer does not attempt to give explanations for these conditions. His general conclusion is, however, that the human race is not deteriorating, because it is increasing in numbers. It does not seem to us that this is an absolutely trustworthy criterion for testing the vitality of a race, although, so far as it goes, it is no doubt an encouraging sign.

DOCTORS AND THE BRITISH ARMY.

ANOTHER example has been reported of the way in which British army surgeons are treated by the officials of their department. Surgeon John Fowler, captain in the British army, was detailed for duty with a regiment, and he one day happened to witness an act of gross indecency in which several of the younger officers were implicated. Dr. Fowler protested against it and induced them to stop. He did not, however, report the occurrence, because his senior captain had also witnessed it and it was his business to report it. Moreover, as a medical officer, he had nothing to do with discipline outside his own department. A court of inquiry was ordered, and Dr. Fowler was dismissed from the service by peremptory order. Curiously enough, the name of the senior captain who was also present was not mentioned, and he escaped scot free. The captain later admitted that he was present and he was dismissed from the service. The doctor repeatedly applied for a court martial, but that was denied him. The state of the matter seems to be this: That a surgeon who had served for ten years with great credit in the British army was dismissed from his service without any trial for not having acted as an informer, when it was not, in any sense, his duty to be such.

News of the Week.

The New Medical Specialty.—Bicycling on the Boulevard is now extensively practised in the many leisure hours at the disposal of the "busy" practitioners of this city.

The Association of Assistant Physicians to Hospitals for the insane was organized somewhat less than a year ago, and has held two meetings, one at Kankakee and one at Kalamazoo. A third meeting will be held at Independence, Iowa, during May, 1896. Dr. I. W. Neff is secretary.

The St. Louis daily papers have been raising a sensation, says the *General Practitioner*, over the fact that two St. Louis surgeons made a mistake in diagnosis, and opened the abdomen of a pregnant woman, in whom they had expected to find a malignant tumor. There were some extenuating circumstances in the fact that the woman was of unsound mind and unmarried, and, therefore, neither the symptoms that she gave, nor the facts surrounding the case, led them to anticipate such a development.

New Hospital at Carlisle, Pa.—The new hospital presented to the city of Carlisle by the widow of the late ex-Congressman Lemuel Todd was dedicated on January 29th, President George E. Reed, of Dickinson College, accepting the gift in a brilliant speech.

Tea Smoking.—Cigarettes made of tea are said to be extensively smoked by fashionable women in England and to be responsible for many nervous maladies.

Explosion in a Hospital.—By the explosion of a barrel of alcohol on January 28th, the Jefferson Medical College Hospital suffered slight damage, though what might have been a frightful calamity was narrowly averted. There was a small panic among the patients, although it is not known that any were seriously harmed. The boy to whose carelessness the accident was due was rather severely burned.

Metropolitan Medical Society.—At a meeting of the Metropolitan Medical Society, held January 28, 1896, the following gentlemen were elected officers for the coming year: Dr. E. L. Meierhof, *President*; Dr. M. S. Kakels, *Vice-President*; Dr. I. P. Oberndorfer, *Treasurer*; Dr. Percy Fridenberg, *Recording Secretary*; Dr. L. M. Michaelis, *Corresponding Secretary*.

The Atlantic County (N. J.) Medical Association held its sixteenth annual meeting in Atlantic City on February 5th and elected the following officers: *President*, Dr. Philip Marvel; *Vice-President*, Dr. W. Blair Stewart; *Secretary and Treasurer*, Dr. Talbot Reed; *Reporter*, Dr. Walter Reynolds.

To Abolish the Office of Coroner.—A bill has been prepared under the auspices of the Medical Society of the State of New York abolishing the office of coroner when the present terms of those holding the office shall have expired. It will be presented to the State legislature without delay, and provides for the appointment by the appellate divisions of the Supreme Court of medical examiners and assistant medical ex-

aminers, four in each class, two of whom shall be an expert pathologist and an expert chemist respectively. The salaries of the principals are not to exceed \$5,000 yearly, paid by the State, while the counties in the different appellate divisions of the Supreme Court throughout the State pay the assistant examiners. The examiners and their assistants are to have all the power and privileges which are granted to the present coroners.

The Eastern Medical Society of New York.—On Friday, February 7th, Dr. S. Brothers read a paper on "Hypnotism," which was discussed by Drs. F. C. Valentine, L. Fischer, L. Lichtschein, R. G. Wiener, C. Block, and others.

New York Post-Graduate Medical School and Hospital.—Dr. Louis Fischer has resigned his positions as instructor in diseases of children and attending physician in that institution.

University of Pennsylvania.—Dr. Morris J. Lewis, a well-known physician and son of the late treasurer of the University of Pennsylvania, has been elected a trustee of the university to fill a vacancy caused by the resignation of Dr. William Hunt, who is in precarious health.

Jefferson Medical College.—Dr. George Dock, of the University of Michigan, has declined the chair of pathology and bacteriology in Jefferson Medical College, to which he was recently elected.

Dr. Horatio C. Wood, who suffered a fall from his bicycle a short time ago, has, upon the advice of his physician, gone South for rest and recreation.

State Hospital for the Insane at Norristown.—Drs. John R. Deaver, E. W. Holmes, Orville Horwitz, and Edward Martin have been elected members of the consulting surgical staff of the State Hospital for the Insane at Norristown.

The Prince and the Malaria.—The English journals come to us with accounts of the last illness and death of Prince Henry of Battenberg. This gentleman, whose life seems to have been far from a happy one, set out with the Ashanti expedition, and while there contracted a malignant form of malarial fever, from which he died. The *Medical Press* says, in a somewhat cold-blooded way, that "one good result that may accrue from the lamented death of Prince Henry is the more careful study that the subject of malaria will probably receive." It seems to be intimated that, while Prince Henry living was of no particular use, Prince Henry dead lends himself greatly to the advancement of pathology and the promotion of malarial therapeutics. Already one article has appeared, in which it is stated that the use of five grains of quinine daily by persons who are in a malarial region will keep off the disease. This does not seem to be a sufficiently epoch-making discovery to balance in any wise the untimely death of an esteemed person. But it may be only a beginning.

A Surgeon-General of the Cuban Army is reported to have recently arrived in this country.

Professor Du Bois-Reymond, the physiologist, who is now seventy-seven years old, is about to resign his office of perpetual secretary of the Berlin Academy of Sciences.

New Health Bill for South Carolina.—A bill has been introduced in the general assembly of South Carolina providing for the reorganization of the health law of that State. Two additional members are to be added to the executive committee of the State board, viz., the chairmen of the medical committees of the house and senate respectively. Five reputable physicians in each county, appointed by county societies or by the governor, are to constitute the county health boards. Each county officer residing in different townships shall be president of a local board consisting of himself and two other members, who shall be physicians by preference. It is also provided that these boards shall superintend and direct the collection of vital statistics, prevent and arrest contagious diseases, and in all other respects enforce necessary sanitary regulations.

The Kitasato Serum.—The Japanese mail brings by way of Vancouver the report of great excitement in medical circles, due to the announcement by Dr. Kitasato that he has produced a serum capable of arresting the plague, curing diphtheria, arresting cholera, and neutralizing the effect of the bacillus lepræ. The discoverer's great reputation gives much weight to the claim among Japan's physicians.

Too Presumptuous by Far was the throwing out of a bid for \$10,000,000 of the new bond issue because made by a physician. Just as if the profession were not filled with men well able to take up a few millions in bonds with their surplus earnings, if they have a mind so to do!

A Medical Man on the Board.—Dr. Alexander Hadden has been elected a member of the board of directors of the New York Juvenile Asylum. This is a new and desirable departure, and the office falls to a thoroughly representative and capable man.

Alleged Discovery of a Cure for Leprosy.—The government of the United States of Colombia has ordered that the lepers throughout that republic shall be treated by the new method discovered by Dr. Carsaquila, of Bogota.

The New York Orthopædic Hospital authorities have purchased the building adjoining and the hospital will be enlarged.

A Memorial Tablet to Surgeon Parke.—Stanley and Mounteney Jephson, the only white survivors of the Emin Pasha relief expedition, have just erected a brass tablet in Kilmore Church to the memory of their comrade, Surgeon Parke.

Misused Prescription Blanks.—There is a man about town who takes prescription blanks with name and address of physicians printed thereon, and, forging an order for sample drugs, acts as messenger for the physician and appropriates the package. Several drug firms, especially such as deal in tonic wines, have been victimized.

The Late Dr. Edward Wigglesworth, of Boston.—The *Boston Medical and Surgical Journal* offers the following eloquent tribute to the character of the distinguished pioneer dermatologist of America: "Throughout this period of continuous productive activity there was but little medical work of general public importance to this community in which he was not a participant. His enthusiastic, costly, although somewhat premature, labors in behalf of the popularizing of the metric system are well known. More fruitful were his efforts in establishing the Boston Medical Library Association, of the executive committee of which he has remained a member from the outset. He did yeoman's service as one of the committee to raise the large sum of money necessary to establish the Harvard Medical School in its present admirable building. He was an active participant in the early attempts at securing the registration of physicians, that the citizens of this State might be protected against quackery and extortion. As a member of the health Department of the American Social Science Association, he spent years of faithful and persistent effort in promoting its unselfish objects. Without undertaking to enumerate the entire list of public obligations he assumed, it suffices to state that he was always ready to encourage by word and deed, by suggestion, advice, and gift of money, all worthy objects demanding the active interest of the public-spirited physician; and his assistance was usually sought both in the inception and in the promotion of such objects. To what extent his private beneficence may have reached, none know but those who have profited from it. That it was abundant there is no doubt, but what his right hand did his left knew not. Through inheritance able to live solely for his own pleasure, his life was one of continued devotion to the welfare of others. A hater of shams, he was fearless in their denunciation. Uncomprising in his own sense of right, he always recognized that the golden shield might have a silver lining, and, therefore, was tolerant of the views of others. With the highest ideals, his life was a constant struggle in his efforts to live up to them, for, from the vividness of his imagination, possibilities often had to him the force of probabilities. He shone among his friends, to whom his brilliant wit was a never-failing source of delight, and the sparkle of his conversation made his seat the head of the table. To them he was ever loyal, trustful, chivalrous, tender in sorrow, courageous in danger, and to them who thus knew him through many years his memory will remain always green."

To Keep Horses from Balling.—Many of our readers, compelled at this season to drive over snowy roads, will be glad to learn that when glycerin is applied to the soles of the horses' hoofs "balling" is effectually prevented.

Proposed Medical Laws for Mississippi.—Bills have been introduced into the State legislature of Mississippi providing for the creation of an executive committee of the State Board of Health which shall control the licensing of medical practitioners; for the imposition of a yearly tax of \$10 on all legally

qualified practitioners, and also for preventing pharmacists in towns of over two thousand inhabitants from practising medicine. The inference from the latter would be that the inhabitants of small towns must be satisfied with what they can get in the way of medical advice.

A Curious Accident.—A woman in Elizabeth coughed up a wisdom tooth which had been lodged for three months in one of her bronchial tubes, and which had found its way there immediately after it was extracted and while she was under the influence of nitrous oxide gas. The name of the careless dentist is, fortunately for him, not given.

Trouble at the Hebrew Sheltering Guardian Society Orphan Asylum.—This institution, containing nearly eight hundred children, situated at 151st Street and Eleventh Avenue, has just been quarantined by the health department. The attending physician and consulting staff have resigned, for the alleged reason that the managers declined to follow suggestions regarding the necessary isolation of patients. According to the last monthly medical report made to the health department by the late attending physician, there were three hundred and sixty-seven cases of ringworm of the scalp, fifty-two cases of gonorrhœal vulvo-vaginitis, four cases of purulent ophthalmia, and twenty-one cases of catarrhal conjunctivitis.

Drugs may be Sold in Pharmacies Only.—Police Superintendent McKelvey, of Brooklyn, has issued an order calling upon the members of the force to enforce the law prohibiting the sale of drugs or medicines in any store other than a pharmacy. Acting Captain Knipe, of the Twenty-sixth precinct, which covers the territory formerly known as Flatlands, has reported the names of a dozen grocers in his district who sell drugs. These persons will be prosecuted by the Kings County Pharmaceutical Association.

Medical Expert Testimony.—"The special committee appointed at the last meeting of the Medical Society of the State of New York to report upon the most feasible plan by which the present methods of introducing medical expert testimony can be improved respectfully submit the following report:

"Your committee, recognizing the difficulties which lay in the way of formulating any plan within the constitution of the State, have corresponded quite extensively with qualified members of both the legal and medical professions, and believe that in submitting the following preamble and resolution they present a consensus of such opinions held with reference to this subject, which, under present constitutional restrictions, affords the best method of obtaining medical expert testimony.

"Whereas, The present method of obtaining medical expert testimony tends to lessen the value of such testimony and to bring the medical profession into disrepute; therefore be it

"Resolved, That the Medical Society of the State of New York would recommend the enactment of a law by the legislature providing for the appointment

of experts by the courts, and that only physicians of repute in the particular branch of medical science to which the question calling for expert opinion relates shall be appointed; that the function of the experts so appointed shall be advisory, and the number thus appointed shall be such as to adequately represent the court and both sides of the question at issue, as in the judgment of the court shall seem necessary; that the experts so appointed shall have full and free access to all the evidence in the case, as well as access to the plaintiff or defendant in person, as the case may be, if the issue involves his mental or physical state; that the experts shall submit to the court for transmission to the jury a report in writing, setting forth their conclusion, and the facts in evidence upon which such conclusion is based; that the cross-examination of such experts shall be limited to the facts and opinions embraced in their testimony as embodied in their report, and that their compensation shall be fixed by the court at a rate that is reasonable for professional services of such a nature.

"Most respectfully submitted: J. B. Ransom, M.D.; Carlos F. MacDonald, M.D.; H. E. Allison, M.D.; S. B. Ward, M.D.; E. D. Fisher, M.D., *Committee*."

Dr. Daniel Lewis has resigned the editorship of the *Medical Review*.

A New City Laboratory has been established in Boise, Idaho, Surgeon Wood, U. S. A., of the Boise barracks, being in charge. The building is the joint donation of the city and some of the earnest bacteriologists of the place.

Carrying Tuberculous Infection too Far.—Friedrich Weber was struck by a Third Avenue cable car and his knee was hurt. Eight months afterward he died of consumption. His widow Barbara sued the railroad company and in the Supreme Court, before Justice Freedman, a jury gave her \$6,500 damages. It was testified by experts for the plaintiff that the knee became tuberculous in condition shortly after the accident and offered a fertile soil for the bacilli which entered his system and caused death. It was therefore maintained for the plaintiff that the accident was the cause of death. Dr. Fowler, for the defence, testified very properly that there could be no such connection between the injured knee and the ultimate cause of death.

The Scientific Education on the Temperance Question in Public Schools is not popular in Brooklyn, the comptroller of that city having refused to supply the twenty thousand dollars for the purchase of books on that subject. The objection is perfectly reasonable.

Dr. Joseph C. De Vries has resigned as resident house physician of the Loomis Hospital, preparatory to his departure for Calcutta, India, where he goes to take a post on the *Indian Medical Record*.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the United States navy for the week ending February 8, 1896. February 7th: Passed Assistant Surgeon C. H. T. Lowndes, detached from marine ren-

dezvous, San Francisco, and granted one month's leave. Assistant Surgeon C. P. Bagg, detached from the *Vermont* and ordered to the marine rendezvous, San Francisco, Cal.

A Death Certificate.—This unique specimen of a certificate of death is said by an English contemporary to have been tendered by a native apothecary at an inquest in India: "I think she died or lost her life for want of food or on account of starvation, and perhaps for other things of her comfortables, and most probably she died by drowning."

The Seventeenth Balneological Congress will be held in Berlin, March 5 to 10, 1896, under the presidency of Dr. Liebreich. The secretary of the congress is Dr. Brock, Melchiorstrasse 18, Berlin, to whom all communications should be addressed.

An Anti-Cancer League.—Dr. Duplay, of Paris, proposes to organize an association for the study of the pathogenesis and therapy of cancer. He is about to establish a quarterly journal entitled *Revue des Maladies Cancéreuses*, under the editorial charge of Dr. Ozerone, which will contain original articles as well as a general review of the contemporaneous literature of cancer.

Registration of Phthisis.—An ordinance was proposed recently in one of the California health resorts providing for the registration of people suffering from tuberculosis, but it was defeated on the argument that it might lessen the reputation of California as the home of consumptives.

Total Abstinence and Longevity.—Sir George Humphry has collected information regarding 45 centenarians, of whom only 12 were total abstainers, while 30 were moderate drinkers, and 3 were heavy drinkers. Of 689 persons between eighty and one hundred years of age, as given in Sir George Humphry's tables, only a fraction over twelve per cent. were abstainers, while nearly nine per cent. were heavy drinkers.

An Unusual Form of Adulteration.—An analysis recently made of drugs sold by the pharmacists of Birmingham, England, showed that they were giving customers too much for their money, and the druggists have therefore been fined under a provision of the Adulteration Act which forbids the preparation and sale of articles of greater strength than the standard of the British Pharmacopœia. In some cases there was forty per cent. more iodine, etc., in their tinctures than there should have been.

Mr. John Chippendale, probably the oldest of English surgeons, died in London recently in his ninety-first year. He was educated at University College, London, and at Paris, and was the author of several medical works.

Foreign Medical Students in Paris.—Foreigners who are not bachelors of arts or of science or who have not obtained their degree from some approved college are to be excluded from the Paris medical schools, as the laboratories are overcrowded, and even enough subjects for dissection cannot be obtained.

Tuberculosis from Meat.—The recent death of Dr. William McLaughlin, chief United States inspector of cattle for New Jersey, is said to have been caused by tuberculosis contracted three months ago by biting into the raw flesh of a cow which he was examining for that disease.

Increase in Diphtheria Mortality.—According to *La Médecine Moderne* of January 15, 1896, the mortality from diphtheria in Paris, which for eighteen months has kept below the figure of ten per week, suddenly went up to twenty-three and seventeen respectively for the first two weeks of the year.

The frequency of the disease, however, has not increased, but, on the contrary, in the second week of January there were but ninety-four cases reported, as against one hundred and twenty-six in the preceding week.

This naturally brings up the question again: Have we been passing through a period of mild diphtheria and will the antitoxin serum prove less efficacious when the virulence of an epidemic is pronounced?

Manhattan Hospital Managers.—Governor Morton has appointed the following persons managers of the Manhattan Hospital for the Insane: Henry E. Howland, for the term of seven years; George E. Dodge, for the term of six years; Eleanor Kinnicutt, for the term of five years; John McAnerney, for the term of four years; Isaac N. Seligman, for the term of three years; Alice Pine, for the term of two years, and George S. Bowdoin, for the term of one year.

Body-Snatching in Ohio.—The janitor of the medical department of Worcester University was recently arrested on a charge of body-snatching. The authorities discovered a stolen body in the dissecting-room of the school. The newspapers announced that the school had compromised in a civil suit by the payment of \$1200, but the *Cleveland Journal of Medicine* states that this is not the case. "This incident," it adds, "is an illustration of the faulty medical laws of the State of Ohio," but we should infer that there was a screw loose somewhere else also.

The Chicago Clinical Review states that there are in the Illinois State Penitentiary seventeen convicts who are in an isolation ward and condemned to death. These convicts are all in different stages of pulmonary consumption, and are all, it adds, "incurable cases." The *Review* claims that these sick men ought not to be killed by the State.

Medical Society of the County of Erie.—The diamond anniversary (seventy-fifth) of this society was held on January 14, 1896. A historical sketch of the society was given by Dr. Franklin C. Gram, secretary. Dr. Wyckoff gave an account of the early days of the medical department of the University of Buffalo, and Dr. Cronyn told the story of the founding of the medical department of the Niagara University. A collection of photographs and biographies of the members was secured by the secretary. The Erie County Medical Society deserves to have its diamond anniversary, and deserves all the kind words said of it by

its members and friends. It has, as the *Buffalo Medical Journal* states, been one of the most active of the medical organizations of the State, and has always been liberal and progressive, yet has always aimed to serve the best interests and secure the highest standard of the profession. We are glad to learn that the anniversary occasion was made an opportunity for starting a fund to purchase a home for the society.

Dr. A. F. A. King has resigned from the staff of the Columbia Hospital in Washington because he would not countenance the unjust treatment of a member of the staff by a lay member of the board of directors. Dr. King's course, says the correspondent of the *Journal of the American Medical Association*, is cordially appreciated by the members of the medical profession in Washington.

The Boom in Medical Photography, which has been so luxuriantly in evidence, may receive a little shock by reason of the experience of a St. Louis surgeon, who has been sued for \$15,000 damages. The suit was brought by one of his patients, of whom he published a portrait in connection with a report of his case. The patient had given the physician the privilege of taking his photograph for a personal use, but not for publication.

Surgeon-General George M. Sternberg has opposed a bill introduced into the United States Senate having for its ostensible object the prevention of cruelty to animals, but, in reality, aimed at the prevention of vivisection. Dr. Sternberg says: "So far as observation goes, I do not think there is any necessity for legislation upon this subject. In my opinion, it is a mistake to suppose that those engaged in scientific investigation or in teaching physiology are any less humane than the members of the Washington Humane Society, and the passage of an act to place them under the supervision of inspectors, appointed by this society, would be an unmerited reflection upon them."—*Journal of the American Medical Association*.

An Analgesic and Antiseptic Dressing.—M. Delpech, of Paris, with the aid of M. Petit, has obtained an antiseptic and analgesic dressing, which he calls *la ouate picrique*. Picric acid was formerly used in the Spanish and English colonies as a febrifuge. Quite recently Dr. Thiéry, *chef de clinique* of the Paris Medical Faculty, published the results of his treatment of burns with picric acid, and he noted the antiseptic and analgesic action of the acid. Dr. Delpech's *ouate picrique* is prepared as follows: Purified cotton wool is steeped in a saturated solution of picric acid; the cotton wool is then dried in a disinfecting stove; square sections of this cotton wool, steeped in water, even in cold water, immediately relieves, and in a short time entirely abolishes, pain. Repeated applications of this wool, moistened, cure burns.

Dr. John B. Huber, deputy coroner, has resigned in consequence of what he considered to be derogatory remarks concerning his duties, which were made by Coroner Hoeber, his chief. Dr. Otto H. Schultze has been appointed to fill the vacancy thus created.

The Culture Tube in Diagnosis of Diphtheria.—We notice that some of our contemporaries are speaking contemptuously of the culture tube as a method of diagnosis in diphtheria, and some of the more foolish are intimating that we will soon do away with microbes and go back to the good old style. It is true that some modifications have been made in the method by which the bacteriological diagnosis of diphtheria is made, but the value of the method is none the less great. It is now, we believe, conceded that if the cultures obtained from the throats which are supposed to have diphtheria contain no bacillus either identical with or resembling that of the Klebs-Loeffler bacillus, the case is not one of diphtheria. If, however, these organisms are found, it is not possible to make a diagnosis at once of diphtheria, without inoculations, for there is a non-virulent bacillus which in all respects resembles morphologically the true bacillus. If, however, in connection with this bacillus there are clinical symptoms of diphtheria, then the diagnosis is practically certain. Thus, the bacteriological methods have both a positive and a negative value that is extremely great.

University of the State of New York Medical Examinations.—Examinations for license to practise medicine in the State of New York will be held as follows: *Dates.*—1896: April 7-10, May 19-22, June 16-19. *Places.*—New York, Albany, Syracuse, Buffalo. Each candidate is notified as to exact place. *Daily Programme.*—Tuesday, morning, 9:15-12:15, anatomy; afternoon, 1:15-4:15, physiology and hygiene. Wednesday, morning, 9:15-12:15, chemistry; afternoon, 1:15-4:15, surgery. Thursday, morning, 9:15-12:15, obstetrics; afternoon, 1:15-4:15, pathology and diagnosis. Friday, morning, 9:15-12:15, therapeutics.

Sancta Simplicitas.—Doctors have many curious experiences, but the following production, which the London *Lancet* has received from a medical man to whom it was sent by a child, and which is printed as it was written, omitting only the name and address, would be hard to beat:

"DEAR DR. —: I would be very pleased if you would let me have a Baby for one guinea. We want it on the 4th of Febry for Mother's birthday. We would like it fat and Bonny, with blue eyes and fair hair. We Children are going to give it to her ourselves please answer at once. Yours sincerely,

"ARCHIE —."

"P.S. Which would be the cheaper a Boy or a Girl?"

The "P.S." especially is delightful, and shows how wonderful the ramifications of the commercial spirit are among us.—*Westminster Gazette*.

The Eye Troubles of Bicyclists.—Dr. DuBoys describes a visual disturbance in a professional bicycle rider which he considers due to bicycle riding. His patient, a man of twenty-three, was seized with his trouble during a twenty-four hours' race in very cold weather. About the eighteenth hour he noticed that his vision was very much impaired. A diffusion of

both corneæ was found without superficial lesion. Under the influence of warmth and rest the vision began to improve, and the corneæ regained their normal appearance.

Dr. Calavelier reports another case of eye trouble occurring in a bicycler who had ridden a race of twelve kilometres at a very rapid pace. The patient was seized with severe vertigo, ending in a sudden diminution of vision of the left eye. Examination showed traces of retinal hemorrhages.

"My Hospitals."—Paul Verlaine, the French poet, who died recently, was a dissipated and diseased character, who had to enter the public hospitals frequently to get over the results of his debaucheries. He wrote a book describing some of his experiences, entitled "My Hospitals."

A Quack who was trying to practise in England, was recently arrested and fined. He claimed to have a degree of M.D. from the University of Philadelphia, but it was shown that the so-called university had its charter revoked in 1879.

The Medical Department of Vanderbilt University was reorganized a year ago. A new faculty was elected, and a graded course of three years was adopted. The school has lately moved into a new building, erected at a cost of \$70,000.

The Imperial University of Japan has 1,468 students, among whom are 175 in the college of medicine. The university includes colleges of law, literature, science, etc., but no theological school.

An Anatomical Peculiarity of Man.—Professor Rankie, at a recent meeting of the German Anthropological Society, called attention to the relative weight of the brain and spinal cord of man, and said that this ratio was so much greater in man than in the lower animals that it constituted a characteristic anatomical difference. The weight of the brain is about fourteen hundred grams, and that of the spinal cord thirty-three grams.

Three Kansas City Medical Colleges Outlawed.—Three medical colleges in Kansas City have refused to comply with the requirements of the Missouri State Board of Health, and have consequently been stricken from the list of colleges in good standing; which implies that their diplomas will not be recognized by the State Board of Health and that their students will be refused licenses to practise medicine in the State of Missouri.—*Medical Review*.

The Medical Library of Paris.—The French medical student of the present time is easily roused to wrath when suffering from a real or an imaginary injustice, but in some matters he is a long-suffering creature. The bad management of the library of the medical faculty is quoted as a proof of his meekness and endurance. During the year which is now passing away 159,180 students have consulted 270,000 volumes in the said library, these statistics giving a flattering idea of the library which is not supported by fact. The library is so over-weighted by debt that not

only new books are not bought but sixty subscriptions to publications have been discontinued. Five thousand volumes and pamphlets have been bequeathed to the library by deceased medical men. Among these thousands of volumes there were one hundred new works. Books that the library does not possess are constantly and repeatedly asked for. The medical press, with justice, considers this state of things to be hard on the medical students, who pay something toward the expenses of the library. The position of the library is a difficult one. The allowance for the new spacious library and reading-room is the same as that granted to the old one, which was much smaller and therefore comparatively inexpensive. The staff is larger and binding is a costly item, and for want of funds books remain ragged. More books than ever on medical and scientific subjects are produced, and yet fewer are bought by the medical faculty library.—*British Medical Journal*.

The Danger in Chlorosis, according to Dr. Lee Dickinson, is that in some cases there is a spontaneous thrombosis of the cerebral veins and sinuses. A series of cases illustrating this is reported.

Public Health is the title of a new quarterly journal of sanitation published by Dr. W. B. Atkinson, of Philadelphia, as the organ of the associated health authorities of Pennsylvania, the State board of health, and the State quarantine board.

The Hospital of the University of Pennsylvania was one of the beneficiaries of the very successful German-American charity, held on January 28th, Dr. Pepper, of the university, acting as master of ceremonies.

The Medico-Legal Society of Philadelphia, one of the oldest of the chartered medical bodies of that city, held its annual meeting and dinner on January 28th. The following were elected officers for the ensuing year: *President*, Dr. A. B. Hirsh; *Vice-Presidents*, Drs. W. H. Ziegler and J. B. Drripp; *Treasurer*, Dr. G. M. D. Peltz; *Secretary*, Dr. George Y. Pascoe, Jr.; *Librarian*, Dr. J. D. Nash; *Censors*, Drs. E. B. Wheeler, Thomas J. Beatty, and J. W. Mecaskey.

The Philadelphia Medical Club, an organization devoted to social purposes and meeting about four times during the year, held its annual meeting and banquet on January 29th and elected officers as follows: *President*, Dr. Hobart A. Hare; *First Vice-President*, Dr. Henry Beates, Jr.; *Second Vice-President*, Dr. A. K. Minich; *Secretary*, Dr. Lemuel J. Deal; *Treasurer*, Dr. Wilson Buckley; *Executive Committee*, Drs. James Van Buskirk, E. E. Montgomery, L. W. Fox, J. H. W. Chestnut, and S. D. Risley. Dr. Charles K. Mills was elected a governor for a period of five years.

Lord Wolseley and the Doctors.—The English papers state that at one of the late parades in Dublin, Field-Marshal Lord Wolseley, observing that the men of the medical staff corps attending the parade saluted on his arrival on the ground by "carrying swords," immediately directed Major-General Montmorency to

bid the medical officer commanding to issue the order "return swords," and that when giving General Montmorency these instructions Lord Wolseley added that "these men have no right to draw their swords; they are not soldiers, but civil attendants on the sick."

A Colored Boy died at Howard Hospital, on January 30th, while being anesthetized with ether in preparation for a surgical operation. Post-mortem examination disclosed the existence of miliary tuberculosis of the lungs. Not more than two drachms of the anæsthetic had been used.

Medico-Climatology.—The World's Congress of Medico-Climatology will be held in San Antonio, Tex., February 20 to 22, 1896. All communications relating to the meeting may be addressed to Dr. W. S. Rowley, San Antonio, Tex.

Yellow Fever is reported in the daily papers to be prevailing to an unusual extent, in spite of the winter season, in many of the towns of Cuba, especially on the southern coast.

Fifth District Branch.—The twelfth annual meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn, on Tuesday, May 26, 1896.

The American Microscopical Society will hold its nineteenth annual meeting in the new Carnegie Library Building, Pittsburg, Pa., Tuesday, Wednesday, Thursday, and Friday, August 18, 19, 20, and 21, 1896.

Meeting of Cumberland County (N. J.) Medical Society.—A meeting of the Cumberland County Medical Society was held, January 14th, at the Weatherby House, Millville, Vice-President Dr. Oliver presiding. A paper on "Drug Administration" was read by Dr. Jerome Massenger, of Millville. Dr. A. R. Judson, of Newport, gave an interesting talk on "Medicine as I Found It in Colorado," and Dr. Sullivan, of Shiloh, made a favorable report of the antitoxin treatment in diphtheria, which was based upon recent experiments in conjunction with treatment by the usual methods.

Serum Injections in Meningitis.—In the case of a seven-year-old boy in whom meningitis had been induced by an injection of pneumococci, Righi (*Gazz. degli Osped.*, October 24, 1895) injected blood serum obtained from the patient's sister, who was convalescing from meningitis. After the injection of five cubic centigrams the symptoms of danger disappeared, the fever was reduced, and the patient rapidly recovered health.

St. Louis Doctors.—St. Louis doctors, we are told by the *Evening Post*, not only differ, but quarrel over their differences. The disturbance is due to the very sensible efforts of the State Board of Health to increase the standard of education of physicians by requiring a higher degree of general education on the part of applicants for admission to the medical colleges. Unfortunately for the cause, the chairman of the board is a member of the faculty of one of the medical schools, and this makes the opportunity for

the officers of schools which are hit hardest by the new rule to assert that its purpose was to advance the interests of one college at the expense of the others. The fight waxes over this charge, but meantime the rule is being enforced, with the result that the uneducated are being weeded out, 101 of 165 in the junior class of one college being barred. The chairman of the Health Board makes public the charge that some of the medical colleges are run purely for the money there is in them, without any regard for the ultimate benefit or injury to the public.

The Larrey Prize of the Academie des Sciences.

—The late Baron Larrey, son of Napoleon's surgeon, has left a bequest to the Paris Academy of Sciences for an annual prize of 1,000 francs for the best treatise by an army doctor on any question of medicine, surgery, or sanitation.

Comparative Mortality of New York and Philadelphia.—A comparative study of the morbidity and mortality in the cities of New York and Philadelphia from what are designated "contagious diseases" discloses some interesting facts and affords food for reflection. Thus, for the weeks ending January 18th and 25, the figures, as published, may be tabulated as follows:

	PHILADELPHIA.				NEW YORK.			
	January 18.		January 25.		January 18.		January 25.	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Diphtheria	61	22	55	18	332	40	279	48
Typhoid fever . .	46	8	35	7	3	5	12	5
Scarlet fever . . .	25	1	34	2	214	21	195	23
Measles	..	8	..	9	330	22	430	22
Tuberculosis . . .	..	58	..	47	128	119	160	125
Cerebro-spinal meningitis . . .	..	1	..	..	1	3	3	3
Small-pox	..	..	..	..	1	0	0	0

If these figures show anything, they clearly demonstrate the disproportionately large number of cases of typhoid fever in Philadelphia. The discrepancy may be attributed to the differences in the character of the water supply of the two cities. New York, on the other hand, has a much larger number of cases of scarlet fever and diphtheria, and apparently also of measles and tuberculosis, but the mortality from diphtheria is distinctly the less. This condition is due in part to the fact that in New York membranous croup is included with diphtheria, and probably also in part to the more general use of the antitoxin in the same city. The large prevalence of scarlet fever, measles, and diphtheria in New York is no doubt to be attributed to the greater crowding and density of population.

The annual statement of the chief medical inspector of the Board of Health, just issued, shows that during the year 1895 there were reported 3,351 cases of diphtheria, 502 cases of membranous croup, 1,195 cases of scarlet fever, 2,748 cases of typhoid fever, 309 cases of small-pox, 12 cases of cerebro-spinal meningitis, and 1 case of typhus fever. Disinfection and fumigation of houses was practised 5,205 times. Pulmonary tuberculosis was reported as the cause of death in 2,449 cases.

There was a forcible demonstration of the infective-

ness of pneumonia in the death from this disease of four persons in one family within a period of five days.

Obituary Notes.—DR. ISAAC H. BARBER, one of the best-known physicians in Brooklyn, died February 5th, after a long illness. Dr. Barber was a native of Montgomery County, N. Y., where he was born in 1829. He was graduated from the New York College of Physicians and Surgeons in 1851, and soon afterward was employed on the Vanderbilt lines of steamers running to the Chagres River. He later became harbor surgeon at Chagres River. Nearly forty years ago he settled in Brooklyn. A widow and one son, Dr. Calvin F. Barber, of South Oxford Street, Brooklyn, survive.

DR. MARCUS L. TAYLOR, aged 45 years, of Booneville, Miss., who for nineteen years was attached to the medical department of the United States army, died in Philadelphia January 25th.

DR. ALFRED D. KENNEDY.—As the result either of an explosion or of an accident, it is not known which, Dr. Alfred D. Kennedy, of Philadelphia, a noted physician and scientist, was burned to death in his laboratory on January 30th. He was a volunteer surgeon during the war of the Rebellion and was an expert in botany, geology, chemistry, and civil and mining engineering. He was born in Philadelphia in 1818, and was graduated from the University of Pennsylvania in the year 1838. He was at different times assistant professor of chemistry, lecturer on chemical physics, and on general and medical botany and medical jurisprudence and toxicology in the Pennsylvania College, and lecturer on medical chemistry in the Philadelphia School of Medicine. In 1842 he established the Philadelphia School of Chemistry, and remained at its head until 1853, when it became the Polytechnic College of the State of Pennsylvania. He also occupied many other prominent positions.

DR. RICHARD MANNING HODGES, visiting surgeon to the Massachusetts General Hospital, and a professor of surgery at Harvard, died February 10th, in Boston. Death was due to heart failure. He was seventy years of age. He was an overseer of Harvard College for two terms, a fellow of the American Academy of Arts and Sciences, and a member of various medical and social organizations of Boston.

DR. H. ERNEST GOODMAN, a well-known and popular surgeon, died suddenly on January 7th, while riding in a suburban train to visit a patient. He was born in 1836, and graduated from the University of Pennsylvania in 1859. On the breaking out of the war he entered the army and made an enviable record during his four years of service. He was physician of the port from 1866 to 1872, and one of the originators of the Orthopædic Hospital (to which institution he was surgeon at the time of his death), and of the Pennsylvania State Hospital for Women (to which he was consulting surgeon). He was at one time professor of surgery in the Medico-Chirurgical College. He was also surgeon to Wills' Eye Hospital.

DR. W. W. JAGGARD, a well-known physician of Chicago, died in that city of appendicitis on January 30th.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LONDON UNIVERSITY—COLLEGE OF SURGEONS AND MEMBERS—HARVEIAN SOCIETY—ETHICS AND THE GYNECOLOGICAL SOCIETY—SPELLING, AMERICAN AND ENGLISH.

LONDON, January 24, 1896.

CONVOCATION of the London University met on Tuesday, and voted for reconstruction by a large majority—466 to 240. The scheme thus supported deprives convocation of its present power of veto, so some consider it a self-denying decision. There was a fair discussion of the plans. The opposition wish to have the opinion of the members at a distance, and it is thought that the government will not proceed with the bill until this has been ascertained. But under its charter the only constitutional way for convocation to express its views is in the assembly, and other universities have had to abide by the decision of those who could manage to attend. Whether we are any nearer the settlement of this vexed question remains to be seen, but if it continue to be agitated much more, the public may come to think that the most drastic reforms should be forced through parliament. The university hardly deserves the name. It is only an examining board, and maintains its prestige by the severity of its examinations, the obstructiveness of its regulations, and its locality within the metropolis. London doubtless ought to have a great university, but can it be gained by reconstructing this?

The Society of Members of the College of Surgeons has determined to wait quietly the result of its late victory, in order to see what will be the effect on the committee of the Council. This is probably wise, for its cause has made a distinct advance. The fellows now recognize the claim of members for some representation, and the principle once admitted details are of secondary importance. The fellows should take the full plunge and allow members to vote for candidates of either grade. The position of the fellows would always secure them their full representation.

The annual meeting of the Harveian Society was held on January 16th, when the report showed a satisfactory state of the finances, with a membership numbering four hundred and eighty. Sir John Williams, the president, delivered an address, in which he reviewed the changes that have taken place during the last thirty years in the examinations in midwifery and during some forty years in obstetric practice and operations.

A pronunciamento on ethics by the Gynecological Society provokes some irreverent members to talk about Saul among the prophets. It seems the editor of *The Lancet* had inquired how many homeopaths there were in the society and suggested that it was undesirable that such should be admitted, whereupon the council framed a new by-law excluding them. This was submitted to the annual meeting, and was passed after a feeble protest and a suggestion that it should be regarded as a pious opinion rather than a law. It is not very clear why the editor of *The Lancet* should interfere in such a matter. Perhaps he only inquired of this and other societies in an access of statistical zeal, in which case the terror of the council seems excessive. Be that as it may, once started on the war-path the council was not satisfied with its new ethical by-law, but added another to this effect: "It is contrary to the ethics of the British Gynecological Society that any of its fellows should advertise their publications, or otherwise bring themselves before the notice of the public by advertising in any way through the

medium of the lay papers. The council would look with disfavor also on announcements sent round to the medical profession generally."

This curious form of a by-law might well be called a "pious opinion," but it was duly adopted by the society and will probably be just as much disregarded as more rigid laws have been. It may, however, deliver us from the inundation of papers on gynecological subjects, in which presumably the interest of many is not very intense. Of course a correspondent of such a paper as the *MEDICAL RECORD* must, like an editor, keep his eyes and ears open on all departments, but there are a good many practitioners who rejoice to be able to close them to gynecology.

Writing this word reminds me that the question of discarding useless diphthongs has again come up. Of course you Americans have settled it long ago. Some are inclined to accept your decision, but the majority profess to be shocked with such barbarism as not following the Greek, and that, too, after the outcry that modern language should replace the ancient in our academies and the fact that the London University has fairly strangled Greek for its graduates.

Spelling-reform of this kind is more likely to be accepted by medical than literary publications. In fact some proposals have originated with us. Dr. George Harley some years ago made an effort to dispense with useless double consonants, but he did not get much support. Shorthand is a terrible enemy to our spelling, and now Dr. Gowers, who is the leader of those promoting shorthand for medical students, has taken up the subject of the troublesome diphthongs, avowedly on account of the United States practice. He has appealed to Professor Skeat, whose authority none will question and who clearly inclines to American usage, for though he remarks that in cases of doubt every man must "make his own laws," which I suppose means follow his own taste, yet he observes that in his new English dictionary while *anæmia* is the adopted spelling, *anemia* occurs in one of the examples. It is, he says, a question of date. The Latin *æ* became *e* in French, so words coming through French are spelled with *e*, as *primeval*, and he is trying to introduce *medieval* to pair with it. There is now in Cambridge a "medieval" tripos. Professor Skeat says forcibly: "There is no *æ* or *æ* in English; it is always pronounced as *e* and might just as well be so written. The use of writing is to represent the sound of the words, not to be everlastingly harping upon the Greek and Latin forms. But few people can see this; and when a thing is wrong they stick to it all the same."

After this, perhaps, literary as well as medical men may modify their opposition to change. If not they should write *cælestial*, just as medical sticklers for etymology should write *aneurysm*, and so on. Really, spelling is so confused I think the professor is right, "every one will make his own laws," and so we shall, perhaps, return to the simple method of Chaucer. Personally, however, I prefer the more uniform United States usage.

"Cold in the Head" in Infants.—J. Bermann, of Washington, thinks cold in the head in infants very frequently leads to serious trouble later in life and ought not to be neglected, as it too often is, but should be treated with a two-per-cent. solution of nitrate of silver applied to the throat with a soft brush. Care should be taken not to use the fluid so freely that it will drop into the larynx. If the child makes any noise in breathing through the nose the next day apply the nitrate of silver again. By treating an acute rhinitis in an infant, catarrh, deflections of the septum, or affections of the ear may often be avoided.—*Archives of Pediatrics*.

OUR PARIS LETTER.

(From our Special Correspondent.)

FRENCH QUARANTINE REGULATIONS—QUARANTINE ABOLISHED—DISINFECTION BY HOT AIR—LETTERS AND NEWSPAPERS EXEMPT—RAGS AND HIDES TO BE THOROUGHLY DISINFECTED BEFORE SHIPMENT TO THE UNITED STATES.

PARIS, January 25, 1896.

QUARANTINE regulations, as well as those relating to public health and hygiene in general, have taken a fresh impetus in several of the European countries, more especially those possessing seaport towns. It was Italy quite recently and now it is France. Doubtless the new regulations issued by the American treasury department regarding the disinfection of rags to be shipped to the United States for the manufacture of paper have done great good in causing foreign governments to take active measures to prevent the spread of contagious diseases either on the seaboard or through the interior. Only two weeks ago the Italian government put into force its new sanitary police regulations. About the same time orders were received in Paris from the United States treasury department that only hides cured by salt or arsenic could be shipped to the United States from France without being previously disinfected. In every other case the bundles of hides must be unbound and each separate hide soaked for half an hour in a solution of corrosive sublimate, one to one thousand of water. Of the various methods for the disinfection of rags that usually employed here (also in accordance with the United States quarantine regulations) is to spread them in layers of not more than six inches in depth, on racks, and thus expose them for six hours at least to the fumes of block sulphur burned in a brazier in a tightly closed room. The proportion is three pounds of sulphur to one thousand cubic feet of space.

The French government in its turn has just issued a fresh decree bearing upon the disinfection of passengers and mails, the prevention of epidemics, and the spread of contagious or infectious diseases in general. This decree is a decided improvement on that hitherto in force, in that it gives greater guarantees for protection of the public health. What is most remarkable about it is that it suppresses quarantines altogether and replaces them by precise sanitary information; by prophylactic measures taken either at the departure of or on board the ship under the direction and control of a physician, especially appointed for that purpose, and by a medical supervision whenever necessary of passengers at liberty for a length of time corresponding to the period of incubation of the disease in question. Special advantages, such as a notable reduction of taxes, are accorded ships having on board a hot-air disinfecting-stove and a sanitary physician who can certify on arrival that all the prescribed measures of disinfection, hygiene, and cleanliness have been rigorously carried out during the voyage.

Cholera, yellow fever, and the plague are the only pestilential exotic diseases that determine the application of permanent sanitary measures; other serious contagious diseases, more especially typhus and small-pox, may demand special sanitary and prophylactic precautions. It is of course understood that precautionary measures can always be taken against any ship the hygienic conditions of which are judged dangerous by the sanitary authorities. Each and every ship arriving at a French port is to be subjected to a different régime, according as said ship may be free from contagious or epidemic diseases, suspected, or actually infected. In the first two cases the passengers and crew are to undergo a sanitary supervision and the

ship is to be disinfected; in the last case those affected with either of the diseases to which the regulations are applicable are at once disembarked and isolated until cured; the others are to be submitted to observation in a hospital, the length of the observation varying according to the disease, and the date of the last case; the ship is to be isolated and disinfected.

It is strange, however, in a law that is evidently intended to be so searching that disinfection is not applied to mail matter as well. Mails can be circulated, received, and delivered without any restriction or disinfection whatever. This includes letters and correspondence, cards, printed circulars, books, newspapers, magazines, business papers, and official documents. The only exception made is against postal packages.

The physicians serving on board of French ships must be chosen from a list drawn up by the minister of the interior after an examination passed before a special jury. Every French steamship carrying the mails or at the least one hundred passengers and making a voyage the duration of which including landings passes forty-eight hours, must have on board a marine physician who also is a sanitary inspector. These regulations are now in force both in France and Italy, being based upon the resolutions drawn up by the congress at Dresden. It will be seen that great progress has been made in the last few years in sanitary and quarantine matters and that quarantine itself is gradually being abolished as inefficacious; that and sanitary cordons, however closely kept, never have stopped and never can stop the passage of microbes. The only true safeguard is their absolute destruction by heat and disinfection. No ship need ever be detained more than forty-eight hours at longest, and that long only in very exceptional cases. The system of disinfection by the hot-air stove is the best known to science and that now almost exclusively used in France, whether in the inland hospitals, on the seaboard, or in the ships themselves.

MEDICAL EXPERT TESTIMONY AND AN "EXPERT COMMISSION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your editorial on the "Advocacy of Expert Commissions," which appeared in the issue of the MEDICAL RECORD of January 25th, after referring to the discredit which has been thrown upon medical expert testimony in the past few years, you conclude with the opinion that "the only reasonable way to overcome such difficulties would be to create a commission of experts which should be entirely independent and absolutely impartial in its expression of scientific opinion in a given case." If this opinion could be put into execution the question would be solved in a very satisfactory manner, but unfortunately the enactment of a law authorizing such a commission would probably prove to be as lamentable a failure as the present method is. The fault of the present system lies at the door of the lawyers, and not with the experts. In all cases of any prominence both sides to the controversy secure the best experts available. They are usually men of the highest attainments in different branches of medicine; men who have stood before their brethren and the community at large for years without a smirch upon their professional ability or private character. Is it reasonable to believe men of this stamp would testify to what they know or think to be false? The opinion is also held by many that the expert's view of the case is frequently influenced by the pecuniary consideration he receives. Is this a reasonable hypothesis? Most of

the experts are men whose abilities have not only placed them beyond want, but, from a physician's point of view at least, they are in more than comfortable circumstances, and certainly not in a position to be tempted by the very moderate fee received in the majority of cases. It is the popular idea that experts receive enormous sums for their testimony. This may have been true in cases in which large sums of money were in dispute. But in the majority of cases the fee is a very moderate one and in many criminal cases the expert receives no fee at all, either being actuated by the desire of acquiring experience or else in response to an appeal for help giving his services because he does not desire to see an injustice perpetrated. In any event, if expert testimony could be purchased, such transactions could not possibly be kept secret for any length of time, and no attorney could afford to prejudice his case by allowing a purchased witness to take the stand. The fault does not lie with the experts but with the lawyers. In many instances the expert merely gives his opinion, based upon a series of alleged facts assumed in a hypothetical question. The expert upon the opposing side does the same. Each gives an honest opinion, based upon logical reasoning, and yet the two opinions are absolutely antagonistic.

The reason for this is obvious. The opposing experts are not asked the same question. The hypothetical questions put to each contain, as a rule, diametrically opposite suppositions of fact and therefore, the experts' opinions must differ. If the experts on both sides were asked the same hypothetical question there would seldom be any material differences in the resulting opinions. But this is a course which the opposing counsellors cannot follow. They attempt to prove opposite conditions of fact, and, therefore, present skilfully prepared questions to their experts, the answers to which are calculated to support their side of the controversy.

The answer to a hypothetical question is merely an opinion based on assumed facts, and should be carefully differentiated by the jury from an expert's opinion based upon facts the result of personal observation and investigation. It is for the attorneys to prove to the jury that the facts assumed are true. This being accomplished, the expert's opinion based upon those facts then becomes important, and then only. In many cases, such as contests over wills and again where the plea of transitory insanity is urged, and in other cases also, the expert's testimony is entirely confined to answering hypothetical questions and in giving opinions on assumed facts which are entirely without his knowledge. In other cases opinions based upon personal investigations are submitted by the experts, and here again the opposing experts may differ widely.

A careful alienist rarely bases his opinion of an individual's mental condition upon the exhibition of the objective symptoms alone. The subjective symptoms and, what is often of far greater importance, the family history, the peculiarities of character and disposition shown by the alleged lunatic, the history of strange and incomprehensible actions, and many other factors of a similar nature, are all taken into consideration and given their proper value. The major part of this kind of information is obtained either through the counsel or through the family and friends of the accused. Do the experts on both sides have equal facilities for making thorough examinations of alleged lunatics? Do they go into court prepared to give opinions based on facts and information imparted impartially to both? The answer to both of these questions is emphatically, No, and the answer can never be anything else so long as attorneys have the power and exercise it of interfering with medical examinations.

The attorney for the accused may afford the expert he engages every facility for making a thorough medical examination, and supplies him with information gleaned from the examination of prospective witnesses which has a tendency to prove the existence of those changes in character, temperament, and disposition which are so often the precursory symptoms of mental disease. The expert thus readily obtains the history of insane acts and speeches, if there have been any, and the history of all other facts tending to demonstrate mental disease. But how does the attorney act with the medical expert called by his opponent? Does he assist him as he did his own expert? Of course not. He is often present when the examination is made, and either instructs his client not to answer certain questions or else not to answer at all. If the expert attempts to obtain information from the friends or family of the accused, he is either rebuffed or misled. In fact he receives little knowledge except that which he obtains from a personal inspection of the accused. This meagre information is supplemented by a recital of assumed facts by the attorney retaining him, consisting of statements which, it is needless to say, are diametrically opposite to those supplied to the expert on the other side.

Is it at all remarkable that, under such circumstances conflicting opinions result, or at all strange that expert medical testimony should be regarded with suspicion and distrust? I agree with the writer of your editorial that something should be done to correct this evil, which is surely casting undeserved discredit upon an important branch of medicine, but I do not believe the course suggested, that is, the appointment by the court of a commission of experts to inquire into and report upon the mental condition of the alleged lunatics, will at all result in a satisfactory solution of the question. In the first place, what guarantee is there that the court will appoint experts who are well-trained alienists? This is not a trivial question, but is one which is suggested by the proceedings in one of our courts of record a few months ago. In that case a wretched paranoiac was defended by an alienist of acknowledged repute, whose testimony was given without reward or expectation of reward. Opposed to him were two physicians, virtually appointed by the court. They were reputable physicians and men of high character, but utterly inexperienced as alienists. They could see no evidences of insanity and so testified, and the lunatic was condemned to death. They were evidently honest in their convictions but were clearly incompetent to act as experts.

But let us suppose for the sake of argument that a commission of competent experts was appointed. Their report would be in the nature of evidence for the jury to consider. But neither the creation of this commission nor the passage of any law would deprive the accused of his constitutional right of producing witnesses whose testimony would be beneficial to his cause. He could, therefore, produce all the medical expert testimony he pleased, perhaps the testimony of men of equal eminence to those composing the commission. The evidence thus obtained would also be given to the jury and the same disheartening spectacle of expert against expert would be repeated again, and thus prove to be an utter failure.

The best solution of the question to my mind is this: Let the experts from both sides have identical facilities for examining the accused without any interference in any way on the part of the attorneys. Neither expert should be allowed to make an examination of the accused or his family or his friends without the other expert being present, and the entire proceedings in every examination should be recorded by an official stenographer, such report to be placed at the disposal of the attorneys of both sides to be used

in the trial. Any information imparted to one expert relating to the mental condition of the accused should be given to the other expert also, and a full statement of this information should be incorporated into the official record. By this means all the facts of the case would be shared by both experts equally, and the official record in the hands of the attorneys would effectually check any possibility of either expert deviating from the truth or attempting to distort the facts. This is a simple method. It is fair to both sides, and will bring out the truth better than any commission could possibly do. In cases in which the expert merely gives his opinion on a hypothetical question no remedy is needed. The attorney must prove the alleged facts contained in the question before the expert's opinion is entitled to any consideration by the jury.

GRAEME M. HAMMOND, M.D.

NEW YORK, January 25, 1896.

TENDON GRAFTING—A REPLY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I wish in justice to myself to make this further reply to Dr. Milliken's letter in answer to mine in the *MEDICAL RECORD* for January 11th of the present year.

When unexpectedly brought to task for his extensive claims upon the subject of tendon grafting, Dr. Milliken seems ready enough to acknowledge others' endeavors in the same direction. He, however, readily convinces one that he is not yet able to appreciate the great difference between a general law and the minute methods of carrying that law into effect.

I admit that I was guilty of using catgut deep sutures instead of kangaroo tendon; I admit that I may not have used the exact number of sutures he did, and that I now forget whether the sutures were interrupted or continuous; I admit that I sewed the tendons together (or grafted them) without cutting them, while he cut two tongues and then sewed them together; I admit that I did not preserve the two tendon sheaths entirely in the first operation; I did so in a second case long before his operation; I admit, finally, that I did not have to use balsam-of-Peru to heal a pressure sore. But do these differences give Dr. Milliken the right to claim an original principle and operation?

Clearly not.

I was very glad to read the report of Dr. Milliken's case, but why did he not report it as a modified operation?

I can see no reason other than the one he suggests—that I had failed to fulfil my promise to report further upon my cases since December 11, 1892. He, therefore, guessed I had dropped out of the field and his claim would not be questioned.

I wish to say here that the reason I have not given further reports upon these cases is that unfortunately I have been laid up in bed and on crutches since April, 1893, with a chronic synovitis. When I return to practice I shall endeavor to accommodate Dr. Milliken with further reports. In the mean time I shall be pleased to read his reports.

In regard to Nicoladoni's suggestion in 1881, that was brought to my knowledge by the kindness of Dr. Royal Whitman, of New York, and was reported by me at the time the case was shown at the Academy. In that, too, if I mistake not, he cut the tendons entirely off, since he "grafted in a manner similar to grafting of trees."

Why did not Dr. Milliken mention this in his "original" article? If this suggestion of Nicoladoni's prevents my claim to originality, I cannot understand why it allows Dr. Milliken's claim to the same thing.

As far as getting rid of adhesions is concerned, Dr. Milliken employs the method with which he best suc-

ceeds, and I that with which I best succeed. But this does not allow his claim to a new operation or principle.

Finally, I think, sir, that Dr. Milliken could with equal grace claim originality of principle and operation for exsection of a tuberculous hip-joint, because in doing that operation he might have used kangaroo tendon and a fascia knife in some parts of it; or because he used one or more sutures more or less than some one else may have used.

B. F. PARRISH, M.D.

MIDWAY, KY.

INFLUENCE OF A VEGETABLE DIET UPON LONGEVITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: With pleasure I read in your issue of January 4th an item entitled "How to be a Centenarian." I certainly agree with Sir Benjamin Ward Richardson, and I gave expression to my views on longevity in an article, "The Physiological and Pathological Influence of Vegetables upon Man," published in the *MEDICAL RECORD* on January 20, 1894. I there wrote: "Not only is height dependent upon a vegetable diet; also longevity and mental development are largely influenced by it. This we may infer from the fact that people in bygone years and centuries, at a time when meat was consumed much less generally and in much less quantities than now, not only were larger but also lived longer. It is self-evident that a structure constantly being kept in repair, a building whose main walls of support are constantly looked after, and any damage, slight as it be, immediately remedied, will naturally last longer. Again, it is also known that the first to suffer in another building left to itself are those parts upon which the safety of the house rests, and not the façades or any other ornamental work. Just the same is it in man. Bone is the first to show signs of weakness, when all other organs still do their work satisfactorily. This, however, is conjecture, and even if vegetables are not the only causative factor of longevity, a factor they certainly are."

Of course, the entire question of the causes of longevity necessarily cannot be deduced from actual experiments; they have to be inferred from observation and such scientifically established doctrines, a collection of which might bear upon the elucidation of the subject in question. In the question of longevity we can simply give the habits of centenarians and consider their tenacity of life in the light of our recognized physiological principles. Since the publication of my article mentioned before I have been much interested in the question of longevity, and I would mention the following abstracts confirmatory of my previously expressed views: Sir George Humphry says ("Habits and Family History of Centenarians"): "The average centenarian qualities are precisely those which might have been anticipated—a good family history; a well-made frame of average stature (5 feet 8 inches, which is rather above the average, in the male; 5 feet 3 inches in the female); . . . with little need of, and little consumption of, alcohol or animal food. . . . It is, perhaps, scarcely less important to note that our centenarians were for the most part small meat eaters." Hufeland says (translation of, London, 1797): "Is it possible to prolong life? Undoubtedly it is. . . . In the choice of food one should incline more to vegetables. . . . We find that it is not those who lived on flesh, but on vegetables, pulse, fruit, and milk who attained to the greatest age. . . . The Brahmins by their religion are confined merely to vegetables, and for the most part live to the age of one hundred."

It seems to me that I have been successful in giving scientifically the relation between cause and effect as regards longevity in my article above mentioned. I agree with Sir Benjamin Ward Richardson, and while I should advise the eating of much vegetable food in order to promote longevity, I would likewise insist upon considerable animal diet for other salutary reasons.

MARK I. KNAPP, M.D.

141 SUFFOLK STREET.

"THE WHITE THROAT OF THE LAKE."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the January 11, 1896, issue of your excellent journal I find a column on page 55 devoted to an article on "Septic Tonsillitis in Switzerland," by Dr. S. A. Tidey.

The statement is made that at Geneva this particular tonsillitis is termed the "white throat of the lake," or, in French, "la gorge blanche du lac."

Allow me to state, as a medical graduate of the University of Geneva and for several years assistant at the Butini Hospital for Women and Children in that city, that during the eight years I resided there I never heard of the above type of infectious throat disease.

In the last edition (1894) of their very complete "Manuel des Maladies de l'Enfance," my esteemed friends, Professor D'Espine and Dr. Picot, acknowledged authorities in the matter of infantile pathology and both of Geneva, make no mention of this form of tonsillitis.

That diphtheria is becoming more prevalent in Geneva has been asserted by Professor Revilliod, who, by reason of his enormous hospital and private practice, is most competent to make such a statement.

It would be most interesting to learn from what source our esteemed English confrère has received his information. CHARLES GREENE CUMSTON, M.D.

826 BEACON STREET, BOSTON, MASS.

BICARBONATE OF SODIUM IN THE TREATMENT OF A COMMON COLD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In an article with the above title, in the MEDICAL RECORD of January 18th, Dr. L. Duncan Bulkley claims that bicarbonate of sodium will control a cold, and he asks that a careful and fair trial be given by the profession. I want to state that I have tried the same remedy for the last six years, and have found that it would not only cure a cold but would also prevent future attacks; not that I kept my patients on bicarbonate of sodium, but I removed the cause, and that was the indigestion. I do not believe the soda cures the cold, but it cures the etiological factor, and the cold, which is a symptom of the indigestion, disappears.

I had patients that were subject to cold every two or three weeks in the winter, and I kept them free from the complaint for years by keeping their digestive apparatus in proper condition. In the majority of cases I put them on bicarbonate of sodium and hot water, but I have also found in cases where I cured the indigestion by other means that the same good result followed.

Following the theory that catarrhal inflammation of the mucous membranes is caused by indigestion, I have tried the same treatment in chronic pharyngitis with very good results.

I therefore conclude that it is not the bicarbonate of sodium especially which cures the cold, but anything that removes the indigestion.

L. W. ZWISOHN, M.D.

265 EAST 78TH STREET.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 6, 1896.

WILLIAM M. POLK, M.D., VICE-PRESIDENT, IN THE CHAIR.

Subphrenic Abscess.—DR. CARL BECK read the paper (see p. 217).

DR. R. F. WEIR opened the discussion. He had seen only five cases of subphrenic abscess, four acute, one comparatively chronic. Of the acute cases two started from an appendicitis, the pus travelling up between the liver and the diaphragm; the other two resulted from perforation of the stomach. The fifth case was reported to him as one of phlebitis; abscesses were found in the liver and one between the liver and the diaphragm. Abscess was proven in this case first by hypodermic needle, then a trocar was introduced. Inspiration made the outflow of fluid much more rapid. The reverse would probably have been true had the fluid been in the pleural cavity. If air were mixed with the fluid it would blow out a flame on inspiration following puncture. He thought this point of some value in differentiating between subphrenic abscess and collections of pus and air in the pleural cavity, especially on the left side. Subphrenic abscess probably occurred much oftener than we supposed. The cases should not be left too long in the hands of physicians, although he did not mean by this that they never effected a cure without operation.

A New Term for an Old Affection.—DR. E. G. JANEWAY said he had seen pus accumulations between the liver and the diaphragm before the condition was spoken of as subphrenic abscess. The last four cases had been operated upon, one by Dr. W. T. Bull, the abscess having originated in an appendicitis. This patient died, as did two of the others. According to his observation there was greater mobility of the diaphragm in cases of subphrenic pyopneumothorax than in cases of pure subphrenic pus accumulation. The second case had been aspirated for empyema and no pus was found; the patient was taken to the hospital, where Dr. Janeway saw him. An opening was made below the diaphragm on the left side, and pus escaped. The exact cause of the abscess was not learned. The third case was seen with Dr. Kelly; the abscess was opened, and after recurring sepsis the patient finally recovered. The abscess was on the left side, and had caused pressure on the lung and breathing of bronchial type, such as he would rather have expected to find in sacculated empyema or pyopneumothorax. The fourth case was operated upon by Dr. Flührer. The woman had recovered ten years before from supposed empyema which perforated into the lung. The same physician saw her in her last attack. Dr. Janeway thought it was a subphrenic abscess, due possibly to ulcer of the stomach, and the subsequent course of the case proved the correctness of the diagnosis, for gastric juice escaped with the contents of the abscess. The patient died of pneumonia.

Besides these cases Dr. Janeway had seen two of subphrenic abscess on the right side due to carcinoma of the pylorus with ulceration, and two of the left side from ulceration of the stomach, and a third without known cause, all without operation.

DR. PARKER SYMS had operated upon three cases of subphrenic abscess since last July, all recovering. Two gave a history of trauma; in the third the cause was not discovered. All the abscesses were intraperitoneal, and were not confined in close contact with the diaphragm. One was in a woman who had sustained a contusion of the abdomen eight weeks before

and had a small amount of pus in the urine, pointing in the first place to perinephritic abscess. Another case was that of a boy who three weeks before had been injured in the right side and a diagnosis of abscess of the liver was made. The patient was nearly moribund when operated upon in his absence by Dr. Gibbs, who found a large subphrenic abscess extending low, but recovery followed.

The Influence of Sex.—DR. S. J. MELTZER had collected 110 cases; 58 were in men, 52 in women. Five were bilateral, 4 of them in women. Of the 48 unilateral cases in women 34 were on the left side, 14 on the right, whereas in the 54 cases in men 41 were on the right side, 13 on the left. Simple gastric ulcer was one of the principal primary causes, 32 cases, 28 of which were in women, 4 in men. Duodenal ulcers were a cause in 7 cases, 2 in women, 5 in men. Of 13 cases of appendicitis 11 were in men.

The diaphragm phenomenon of Lytton was not of much value in differentiating between empyema of the chest and subphrenic abscess, being vitiated by the paresis accompanying the latter and preventing deep inspiration.

DR. BECK had no doubt that the three fatal cases related by Dr. Janeway would have recovered had he been called earlier. He believed that subphrenic abscess, like appendicitis, would be proved to be a comparatively frequent affection.

The Deformity of Hip Disease Illustrated by Automatic Models.—DR. A. B. JUDSON showed some simple automatic paper models useful in demonstrating the deformity produced by hip disease. By their aid one could readily understand why there was apparent lengthening in the presence of real shortening where ankylosis took place in abduction. Adduction also apparently increased the stature. But flexion with ankylosis reduced the height in fact and in appearance. Dr. Judson also showed a goniometer which he had found useful in determining the angle of deformity.

Electric Centrifuge for Urine.—DR. H. G. PIFARD showed an improved electric centrifuge for testing urine, milk, etc. A centrifuge shown by him two years ago had to be turned by hand and required seven minutes. The present one dispensed with the hand crank and might be termed the lazy man's centrifuge. The speed had five variations, the lowest 1,080, the highest 1,420. One would be surprised at the amount of dirt deposited from most samples of milk.

SECTION ON GENERAL SURGERY.

Stated Meeting, February 10, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Appendicitis due to Traumatism.—DR. W. B. COLEY presented a boy of sixteen who had applied at the hospital for a truss January 13th. He had no hernia, but gave a history of having been struck in the right iliac region by the handle of a push cart three days before. There was considerable pain and some vomiting the same night. On examination Dr. Coley felt a distinct tumor in the right iliac region, marked tenderness most acute over McBurney's point, and some pyrexia. At midnight the temperature rose to 104° F., and in his absence Dr. Curtis operated and found an abscess about the size of an English walnut just within the abdominal wall. The tip of the appendix was gangrenous. The wound was left open and was now closing by granulation. The case was interesting as an example of a patient with appendicitis walking about on the verge of general peritonitis and giving distinct history of trauma as a cause.

Patent Urachus.—DR. COLEY also showed a baby, aged three months, with patent urachus, through which

at the umbilicus urine constantly trickled, wetting the bandages. On pressure over the bladder the fluid came out in a stream. It was the only case seen at the hospital for five years. The opening would probably close spontaneously after a time; if it did not it would be operated upon.

THE CHAIRMAN thought it somewhat strange that we did not see more cases of appendicitis of traumatic origin, since blows in this region not infrequently caused laceration of the ileum.

DR. SAMUEL ALEXANDER had recently operated for patent urachus in a man twenty-five years of age. During all these years he had been annoyed by trickling of urine at the umbilicus, yet a simple operation gave complete relief. He dissected the mucous membrane, transfixed and ligated with catgut, refreshed the edges of the abdominal opening, closed it, and obtained primary union.

Peculiar Malformation.—THE CHAIRMAN was reminded by Dr. Coley's second case of one of peculiar malformation in an infant. This was a large umbilical hernia extending down to a tumor covered with mucous membrane. It was found to be exstrophy of the bladder, through the apex of which feces escaped. There was a lack of union of the symphysis pubis, and absence of anus. The infant was presumably a female. As nothing could be done, it was left to its fate.

Foreign Body in the Appendix, Weight One Drachm.—DR. JAMES P. TUTTLE presented a tapering cylindrical concretion weighing three grams and a half, found in the abscess of an appendiceal case. It was probably fecal, but had not been opened. The man was aged, was in extremis, and died.

Seeds in Only One of Two Hundred Cases of Appendicitis.—DR. GALLANT had been given opportunity to examine the appendix in two hundred operative cases and had found seven strawberry seeds in one, while none of the rest contained more than a fecal concretion in the form of a foreign body.

Notes on a Series of One Hundred Consecutive Cases of Appendicitis.—DR. ROBERT T. MORRIS sent the paper, which was read by the secretary, Dr. J. B. Walker. The death rate had been two per cent., the hernia rate zero. Acute appendicitis with abscess, 34; chronic appendicitis with abscess, 4; acute appendicitis without abscess, 12; chronic appendicitis without abscess, 40. The others were cases of tuberculosis and cancer. Females, 24. Of the 38 abscess cases 2 died, one from suppurative nephritis, the other from septic peritonitis. The appendix was removed in all but 5 of the acute cases. One case of fecal fistula had not yet closed. In all the acute cases he followed the general plan of the smallest useful incision. He cleansed the abscess cavity with peroxide of hydrogen and salt solution, and sutured the abdominal walls separately and accurately. In his hands he thought the use of gauze packing and opium would probably have lessened the favorable results. None of his cases without abscess had died or had had post-operative hernia. In two cases the appendix had become twisted upon itself, narrowing the lumen, which was distended with mucus. He had made it a rule on arriving at a diagnosis of appendicitis to operate, no matter what the stage. The appendix was like a cap which might snap and cause an explosion, and nobody could tell in advance just what might happen in a particular case.

Appendicitis and Rheumatism.—DR. BEVERLY ROBINSON said he believed to-day even more strongly than he did about two years ago, when he expressed the opinion for publication, that in many instances the only correct interpretation of appendicitis was the recognition of an underlying rheumatic condition. He did not wish it understood that he was opposed to surgery; he believed that at a certain stage of the dis-

ease it was the only means of saving life. But before that stage had arrived many patients could be cured by anti-rheumatic treatment, just as many cases of tonsillitis responded to such treatment when without it local measures seemed ineffectual. Salicin, salol, salicylic acid, etc., were the efficient remedies in this class of cases. He believed the latest anatomical investigations showed a large amount of lymphoid structure in the cæcum, more especially in the appendix. This pointed to similarity of structure with the tonsils, which were known to reflect the rheumatic tendency. Mild laxatives, not active purgatives, were beneficial. Opium was harmful, not only because it obscured the symptoms, but also because it dried up the secretions. He felt certain that by acting on these suggestions many cases of appendicitis could be checked before the stage of suppuration and sepsis.

DR. GIBSON said Dr. Morris' results, only two deaths in one hundred, none of post-operative hernia, seemed wonderful. He did not think it was due to the method of operating. It looked as though he had had a hundred cases the great majority of which were easy ones. The statement that there had been no case of hernia was remarkable, and it suggested the question whether he spoke of hernia in the same sense that another practitioner might. His method of closing the abdominal wound was not different from that practised by other good surgeons, who, nevertheless, had reported some cases of hernia.

Simple Cases.—THE CHAIRMAN, on analyzing the paper, found that in only thirty-eight cases was there abscess, a few of malignant disease. The remainder of the one hundred cases were practically operations on the non-infected peritoneal cavity, similar to removal of a slightly diseased ovary. It was not so remarkable, therefore, that the death rate had been low. Freedom from hernia might be explained in the same way. The wound could in most of the cases be closed readily by primary suture.

DR. HOWARD LILIENTHAL presented a piece of wood a third of an inch long, of the diameter of a match, which he had found in a fecal concretion within the appendix. The tip of the appendix had been perforated but the wood had not found its way out. Regarding treatment, he thought that when an acute case of appendicitis had been proven to be progressive it should be operated upon. Anti-rheumatic treatment might be tried in chronic cases, but not longer than a few hours in acute ones.

DR. A. L. FISK said the object in operating in appendicitis was to save life, and since to close an abscess cavity here was more dangerous than to allow union by granulation he thought it was not justifiable simply to diminish danger of hernia. Suppose hernia should occur. Good surgeons could now effect radical cure almost invariably, as shown in the practice of Halsted and Abbe. So far as he had been able to learn, there was no more lymphoid tissue in the appendix than in the rest of the intestinal tract, so that this argument in favor of the rheumatic theory seemed ill founded. The incision should be large enough to suit the case.

THE CHAIRMAN agreed with Dr. Fisk that the size of the incision should depend upon the circumstances of the case. Often one required the aid of sight as well as of touch for the safety of the patient.

Excision of the Tongue for Malignant Disease by Electro-Surgical Means.—DR. D. H. GOODWILLIE read some general remarks on malignant disease of the tongue and then showed some electrical instruments for removal of the organ. He preferred the electric cautery wire loop and knife to the cold knife, because of less hemorrhage and of destruction by the heat of any stray cancer cells in the path of the instrument. The lingual arteries were tied before excising the tongue. In some cases removal of half the tongue was practised.

Dr. Fisk thought surgeons were becoming more and more convinced of the necessity of thorough removal of malignant disease of the tongue, including the glands, just as was done by the Halsted and Meyer operation on the breast. Statistics showed poorer results from the *écraseur* than from the knife and scissors.

DR. CURTIS thought the objection to the *écraseur*, that it left the glands in place, was well taken. Personally he had not seen a case of cancer of the tongue early enough to prolong life more than a year, even by removing glands along with the tongue. Kocher's operation was much more ideal than the cautery, and the wound left in the mouth healed within a few days.

Gastro-Enterotomy for Carcinoma of the Pylorus.—DR. GEORGE E. BREWER presented a specimen consisting of a part of the stomach and jejunum, showing good union six days after suture anastomosis performed for obstruction of the pylorus by cancer. The man had done well after the operation for six days and then went into collapse and died, presumably of cerebral embolus, for there was an old heart lesion.

Sarcoma of Tibia Following Injury.—DR. A. L. FISK presented a specimen, consisting of the amputated leg of a girl of fifteen, removed the same day by Dr. Abbe for sarcomatous tumor of the upper portion of the tibia. There was no family history of malignant disease, syphilis, or tuberculosis, and no other apparent origin except a trauma some months before.

Dilating Forceps.—DR. JOHN B. WALKER presented a strong forceps, with long handles, blunt blades, removable cone-shaped hood with probe-like handle. The hood permitted easy introduction of the forceps through a vaginal or other opening; the hood could then be lifted off and the opening dilated by the forceps.

Artificial Shoulder Joint.—DR. E. A. BOGUE showed an ingenious artificial upper portion of the humerus and shoulder-joint, fastened by screws to the lower half of the humerus and to the scapula. It had been worn by a patient of Péan's in Paris for two years and a half, the upper end of the humerus having been removed for tuberculous disease. It was then removed, and strangely enough bone re-formed and the man had a useful arm.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 11, 1895.

GEORGE P. BIGGS, M.D., PRESIDENT.

Glioma (?) of the Medulla.—DR. JOSEPH COLLINS presented a specimen removed from a man who had been recently admitted to the City Hospital to the service of Dr. J. E. Kelly. The man was a bricklayer, about thirty-five years of age, who eight months ago had noticed a numbness in the index finger and thumb of the left hand. Shortly after this, this numbness had extended up to the shoulder. Two or three months later a similar sensation had been noticed in the left foot and had gradually extended up to the thigh. He had kept at his work until about four months before his admission, when he had found that his movements had become so unsteady that he could no longer work at bricklaying. He then worked for a short time in a fur factory. He denied having had syphilis and was exceedingly temperate in his habits. He had never had any headache, any disturbance of vision or vomiting; hence the cardinal symptoms of cerebral tumor had not been present. He complained, however, of a peculiar sensation in the left side of the head—a feeling of pressure on that side. There was considerable ataxia of the left arm and leg. Examination showed exaggerated knee jerk on the left side and ankle clonus on that side; some acceleration of the

knee jerk on the right side, but no ankle clonus. There was no loss of muscular sense nor of tactile sense, but there was, strange to say, a universal analgesia involving even the mucous membrane of the pharynx, of the larynx, and probably also of the bladder. There was no difficulty in speech, no apparent difficulty in swallowing, and no affection of the cranial nerves could be made out. His mental condition was excellent. It had been supposed that the universal analgesia was nothing more than an expression of a psychical difficulty; the other symptoms had been supposed to indicate a lesion in the motor tract somewhere beneath the gray matter. As there had been no convulsions, the lesion could not have been in the gray matter. The man died as a result of a rapidly developing pulmonary oedema. On account of this pulmonary oedema and some hebetude it had been thought that there might be an increased distention of the ventricles, and it had been considered advisable, therefore, to make an exploratory opening and pass a needle into the ventricles. A needle had been introduced in various directions but no fluid had been found. At the autopsy the brain had been found practically intact, but on examining its under surface it was found that the medulla was enormously enlarged. On cutting through the medulla it was found that a tumor occupied the centre of the medulla and seemed to have replaced almost all of the medullary tissue, with the exception of a thin shell-like covering. Dr. Van Gieson had carefully examined this tumor and had expressed the opinion that it might be a gliomatosis of the central canal, with resulting infiltration, or possibly a tubercle.

Multiple Tumors of the Cerebrum.—Dr. Collins also presented a brain removed from a little girl who had been in the babies' wards of the Post-Graduate Hospital. The history was that after a protracted diarrhoea the child had passed into a stuporous condition and finally into a cataleptoid state. The child had been examined at Dr. Dana's clinic and a loss of light reflex and accommodation reflex had been found, but this was the only cranial nerve palsy that could be detected. A probable diagnosis had been made of a tumor of the basal ganglia. There was no enlargement of the head, no optic neuritis, nor anything to indicate distention of the ventricles. The condition of hebetude deepened and the child eventually died, apparently from inanition. On the basal surface of the left cerebellar lobe a small, whitish tumor was found, apparently connected only to the pia. It was also found that the head of the caudate nucleus on the right side was the seat of a similar new growth. A third new growth, and the one which had produced the symptoms, was found to involve the anterior and posterior quadrigeminal bodies.

DR. F. S. MANDLEBAUM, referring to the first specimen, asked if the cord had been examined and if any gliomatosis had been found in the cord.

DR. COLLINS said that the cord had been examined and that the tumor seemed to terminate abruptly at the lower part of the medulla. There appeared to be positively no gliosis at the upper termination of the cervical cord.

THE PRESIDENT remarked that the location of the third tumor described in the last case was similar to one recently presented by Dr. Nammack to the New York Neurological Society.

Uterus of a Dog Strangulated in the Inguinal Canal.—DR. F. S. MANDLEBAUM presented a uterus from a small black-and-tan dog about five years old. The dog had had what appeared to be inguinal hernia. The animal had become pregnant and very shortly after this the inguinal tumors had begun to enlarge. The dog died three weeks afterward, with high temperature and symptoms of sepsis. At the autopsy it

was found that both horns of the uterus were prolapsed into the inguinal canal and strangulated there, being held in place by firm adhesions. Both horns were greatly enlarged and on section were found distended with thick and offensive pus. No trace of any embryo could be found. The purulent matter extended down the tubes and into the uterus. The speaker raised the question as to whether the strangulation of the tubes which had prolapsed into the inguinal canal was sufficient to cause this or whether there had been some infection; and if so, what was its source?

A New Clearing Medium.—DR. HENRY POWER said that about a year ago Dr. Piffard had introduced a new clearing medium having the high refractive index of 1625. After some experimentation, the speaker said, he had obtained a very satisfactory clearing medium by mixing isosafrol and mono-bromide of naphthalin in the proportion of one to five. This possessed the same index of refraction as Piffard's medium. It would not mix properly, however, in celloidin, hence it was necessary to pass the specimen into one of the other oils and then into the new clearing medium.

DR. IRA VAN GIESON said that Dr. Piffard's medium could not be used in many fine researches because it faded the aniline stains.

DR. POWER replied that his was not a mounting but a clearing medium. He had allowed eosin and hæmatoxylin specimens to remain for three weeks and no color had been extracted, and he had also kept bacteria stained with fuchsin in Piffard's medium for over six months, without any change whatever.

Portion of Bowel Discharged per Rectum.—DR. F. FERGUSON presented a section of the intestine which had sloughed off and been passed per rectum in a case of intestinal obstruction occurring in a boy of four years.

Mounting the Appendix Vermiformis.—DR. FERGUSON also exhibited a novel and inexpensive method of mounting specimens of the vermiform appendix. The specimens were placed in glass tubes containing the preservative fluid, and these tubes were sealed with beeswax and mounted in an inverted position in circular blocks of wood. The specimens when mounted in this way required little or no support, and the magnifying effect of the ordinary vessels was avoided.

Carbolic-Acid Poisoning.—DR. GEORGE P. BIGGS presented specimens exhibiting the lesions produced by carbolic acid. The specimens had been removed from a woman about twenty-five years of age, who had been found lying in the street and who had died before reaching the hospital. The autopsy showed the characteristic lesions produced by carbolic acid. These were particularly marked in the stomach, duodenum, and upper eighteen inches of the jejunum. The duodenum was congested throughout, but active destruction of the mucous membrane was visible only in the upper portion. There was also found an acute oedema of the glottis. One kidney showed three large cicatrices and the other one such cicatrix. No lesions were found in the vessels or in the heart to explain these, and it was thought probable that they were of specific origin.

A Large Thymus Gland.—Another specimen from the same case was a large thymus gland, weighing forty-eight grams.

Large Biliary Calculus Causing Intestinal Obstruction.—DR. BIGGS also presented a large biliary calculus removed from a male sixty-eight years of age, who had been admitted to the New York Hospital complaining of vomiting and hiccough which had persisted for five days. The abdomen was very much distended. The urine contained a trace of albumin and large numbers of hyaline casts. For two days attempts were made to evacuate the bowels by cathartics

and high enemata, but without success. It was then decided to operate for the intestinal obstruction. A median incision was made in the lower part of the abdomen and a foreign body was found in the lower portion of the ileum which had produced complete obstruction of the intestine. The bowel was hurriedly incised longitudinally and on removal the foreign body proved to be a biliary calculus. It was pyramidal in shape, measured three and one-half by three centimetres, and weighed twenty-three grams. This peculiar shape indicated that the calculus had been formed in the gall bladder. The operation lasted twenty-five minutes. The man died the following day. At the autopsy the body was found extremely emaciated. The incision into the bowel was found to have been into the lower portion of the ileum. There was no leakage whatever at this point. The peritoneum was normal. The intestine above the point from which the calculus had been removed was still greatly distended and the bowel below this point still considerably collapsed. The gall bladder was surrounded by old adhesions which bound it to the liver and duodenum. The lungs were slightly emphysematous and were congested in their posterior portions. The kidneys were small and granular. The stomach was rather small, and the pyloric orifice in the fresh state only just admitted the little finger. There was no induration, however, at the pylorus. On passing the finger through the pylorus it was found that there was a large opening in the middle of the wall of the gall bladder which communicated with the first and second portions of the duodenum. It was through this opening that the calculus had passed into the intestine. On further examination of the intestine the jejunum was found very much congested and hemorrhagic throughout and there were small superficial ulcerations or erosions, which apparently had been produced by the pressure of the calculus in its passage. The contents of the jejunum were reddish-brown, while those of the lower portion of the ileum were of a clay color. A number of small calculi were found in the alimentary canal, which together weighed 2.5 grams.

DR. FERGUSON said that many years ago he had made an autopsy on an eminent clergyman, who had died after having suffered for eight days from intestinal obstruction. No effort had been made to relieve his condition. The autopsy revealed a calculus rather larger than the one just presented. One-sixth of this calculus has passed through the ileo-cæcal valve, but the body of the calculus could not pass beyond this point. In another case, seen about five years later at St. Luke's Hospital, two calculi about three-fourths of an inch in diameter had passed through the adhesions that had been formed between the hepatic flexure of the colon and the gall-bladder. One of these calculi had actually perforated the wall of the cæcum. The speaker also recalled two cases in which the hepatic flexure of the colon had been united to the gall bladder and the opening had been found between the two, yet no calculus had been found. He had seen two other large calculi which had been passed by rectum whose size seemed to preclude their having passed through the ileo-cæcal valve. The only explanation that he could offer was that the calculi had passed through an opening formed between the gall bladder and the hepatic flexure of the colon.

DR. POWER asked if there had been any evidence of exophthalmic goitre in the case in which there had been an enlarged thymus.

DR. BIGGS replied that there had been no previous history obtainable, but the eyes had not appeared prominent and the thyroid had not been enlarged.

The society then went into executive session.

Hair Restorer.—Great cry and little wool.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 8, 1896:

	Cases.	Deaths.
Tuberculosis.....	99	97
Typhoid fever.....	8	5
Scarlet fever.....	149	13
Cerebro-spinal meningitis.....	2	3
Measles.....	432	32
Diphtheria.....	306	35
Small-pox.....	1	0

The Food of American Laborers.—Dr. Moreau de Tours, in comparing American and European statistics of consumption of food, declares that the average French workman consumes less than one-half the amount of meat and nitrogenous food generally of the American, and that even in Great Britain, the most carnivorous of European countries, the individual consumption is less than two-thirds that of the American. In Germany, Austria, Italy, Spain, the consumption of meat is, as compared with the American, in the order named, and is from one-third in Germany to one-tenth in Italy, and in Spain infinitely less. The best-fed class of laborers, says Dr. De Tours, the world ever saw was the Southern negro in slavery times. Each adult received weekly three pounds of bacon or pork, ten pounds of farinaceous food (usually fresh corn meal), and vegetables of every species ad libitum. Each negro, then, says our author, consumed annually one hundred and fifty pounds of meat of a quality superior to that of any European people whatever, being from two to three times superior in point of nutritive value. To-day, while the supply is not so sure by any manner of means as it used to be, the Southern negro lives more luxuriously, not merely than any other laborer, but than the middle classes of any European nation whatever. Compared with like statistics of Asiatic peoples, the figures are absolutely startling.—*The National Druggist*, December, 1895.

Bacteria in Schoolrooms.—In a recent communication to the Hamburg Medical Society, M. Ruete details the results of his bacteriologic examination of the air of schoolrooms. He made use of Hueppe's method and made his investigations at 2:30 o'clock in the afternoons. While these were always made under the same conditions the results were very variable. He found a minimum of 1,500 bacteria to the cubic metre, a maximum of 3,000,000 and a mean of 268,000. Analogous researches gave Hesse an average of only 9,500. Among the bacteria observed the author calls attention (*Bulletin Médical de Paris*) to a motile bacillus which does not develop on agar, but on gelatin plaques gives rise to circular colonies with crenated edges; it can also be cultivated on milk and potato; pure cultures kill mice in twenty-four hours and their blood is rapidly fatal to guinea-pigs. Ruete has been able to extract toxins from the blood of animals thus killed.—*Journal of the American Medical Association*.

Syphilis through Flea Bite.—Jonathan Hutchinson reports a primary lesion of syphilis of unusual origin. An elderly member of the profession presented himself, covered with an evidently syphilitic eruption, which rapidly disappeared under the use of mercury. The only interest about the case was the question as to how the disease had been acquired. The doctor was evidently anxious to give all the information in his

power, but was positive that he had never been exposed to any sexual risk, and, as he had retired from practice, no possibility of infection in that manner existed. He willingly stripped, and a careful examination of his entire surface revealed no trace of lesion whatever on the genitals or at any point, except a dusky spot on one leg which looked like the remains of a boil. This the doctor stated had been due to a small sore, the dates of the appearance and duration of which were found to fit exactly with those of a primary lesion. There had also been some enlargement of the femoral glands. He had never thought of the sore in this connection but remembered most distinctly that it followed a flea bite in an omnibus, and had been caused as he supposed by his scratching the place, though he could not understand why it lasted so long. Mr. Hutchinson concludes that all the evidence tends to show that the disease had probably been communicated from the blood of an infected person through the bite of the insect. It thus appears that even the proverbially trivial flea bite may prove a serious injury at times.—*Medical News.*

Circular of Information Regarding Diphtheria Antitoxin.—The Health Department of New York City desires to direct the attention of physicians to some important modifications and improvements which have been made in the preparations of antitoxic serum which it is now able to furnish for the prevention and treatment of diphtheria.

As the result of some investigations carried on in the bacteriological laboratory of the Health Department, which have greatly perfected the methods of production of diphtheria antitoxin, it has been possible to prepare antitoxic serum of much greater power than that which has previously been in use. The curative value of any preparation of antitoxic serum is, of course, due not to the amount of serum but to the amount of antitoxin which the serum contains, and investigations seem to show that the disagreeable symptoms sometimes occasioned by the use of diphtheria antitoxin are due, not to the antitoxin but to the horse's blood serum in which the antitoxin is present in solution. It naturally follows that more concentrated preparations, in the use of which only small doses are required (2-5 c.c.) will diminish materially the frequency with which the rashes and other symptoms follow the administration of the remedy. The preparations of antitoxin hitherto furnished by the Health Department are known as Nos. One, Two, and Three (Behring's standard), and correspond to Nos. One, Two, and Three of Behring's preparations. No. One contains sixty (60) antitoxin units to each cubic centimetre of the serum, or six hundred (600) units in each vial. No. Two contains one hundred (100) antitoxin units to each cubic centimetre of the serum, or one thousand (1,000) units in each vial. No. Three contains one hundred and fifty (150) antitoxin units to each cubic centimetre, or fifteen hundred (1,500) units in each vial. The Health Department is now able to furnish much more concentrated preparations than No. One and No. Two, and has, therefore, decided to discontinue the preparation and use of these weaker serums. Hereafter diphtheria antitoxin will be furnished in the following grades and amounts:

Grade No. 3. Vials contain 10 cubic centimetres, 150 antitoxin units (Behring's standard) to each cubic centimetre, or 1,500 units, \$1.50.

Grade No. 3a. Vials contain 5 cubic centimetres, 150 antitoxin units (Behring's standard) to each cubic centimetre, or 750 units, \$0.75.

Grade No. 4. Vials contain 5 cubic centimetres, 200 antitoxin units (Behring's standard) to each cubic centimetre, or 1,000 units, \$1.25.

Grade No. 5. Vials contain 5 cubic centimetres,

300 antitoxin units (Behring's standard) to each cubic centimetre, or 1,500 units, \$2.00.

Grade No. 6. Vials contain 5 cubic centimetres, 400 antitoxin units (Behring's standard) to each cubic centimetre, or 2,000 units, \$3.00.

It is at once apparent that preparations of antitoxic serum which contain a large amount of antitoxin to each cubic centimetre are more desirable than those containing a smaller amount, as the dose required is proportionately less and the disagreeable symptoms following its use will be relatively less frequent. The highest grade preparations, however, are much more difficult to produce, are necessarily more expensive, and at present, even with approved methods, can be produced only in limited quantities; therefore, the department, as before, furnishes the serum in a number of different strengths at prices as nearly as possible at cost. The average curative dose of diphtheria antitoxin is about one thousand (1,000) units, but for very severe cases or croup cases, or those in which the serum is not administered until the third day or later, fifteen hundred (1,500) or two thousand (2,000) units are often required, and sometimes the dose must be repeated, so that altogether from four to six thousand units may be required in a single case. Full directions as to the use of the serum accompany each vial. The new preparations of antitoxic serum will be gladly furnished, as heretofore, without charge to all public hospitals, dispensaries, and charitable institutions in New York City on application, and it can be obtained free by physicians at most of the depots established for the supply of diphtheria culture tubes, for use among those persons who are too poor to pay for the remedy. In such cases the physician in attendance is required to fill out a blank, to be obtained at each of the stations, giving particulars in regard to the case and the ultimate result of treatment. Medical Inspectors of the Health Department will also be sent on application to administer antitoxin to any case of diphtheria, under the supervision of the attending physician. The Health Department desires to encourage the use of antitoxin serum for the prevention of diphtheria, as the experience with its use for this purpose has been most satisfactory. From one hundred (100) to three hundred (300) units, according to age, are required to confer immunity. The immunity thus produced ordinarily lasts for a period of at least four weeks. With the new and strongest preparations of antitoxic serum only very small quantities of serum (from six to fifteen minims) are necessary for the production of immunity.

(Signed) GEO. B. FOWLER, M.D.,
Commissioner of Health.

Approved by the Board of Health at a meeting held February 11, 1896.

CHARLES G. WILSON, *President.*
EMMONS CLARK, *Secretary.*

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

FORMULAIRE DES MÉDICATIONS NOUVELLES. Par le Dr. H. Gillet. 12mo, 252 pages. Illustrated. J. B. Baillière et Fils, Paris.

COLOR-VISION AND COLOR-BLINDNESS. A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. Illustrated. Octavo, 110 pages. Cloth, \$1.00 net. The F. A. Davis Co., Philadelphia.

THE MEDICAL MUSE, GRAVE AND GAY. By John F. B. Lillard. L. E. Booth, New York.

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Original Articles.

THE TREATMENT OF HYPERPYREXIA (HIGH FEVER) IN CHILDREN, WITH SOME ILLUSTRATIVE CASES.

By LOUIS FISCHER, M.D.,

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In the *Post-Graduate* of July, 1893, will be found a paper entitled "The Treatment of Hyperpyrexia in Pneumonia of Children," which was read by me before the Clinical Society of the New York Post-Graduate School, January, 1893. My observations were based on a series of cases which had been attended by me from time to time, but more particularly on two distinct cases occurring in the babies' wards of the Post-Graduate Hospital. The depressing (cardiac) effects of all antipyretics are so well known that most practitioners who use them do so very cautiously. In some instances, where antipyrin has been combined with either camphor or musk, it was in order to overcome this depressant action. It is for this reason, and especially for the well-known cyanosis that occurs in the use of antifebrin, that I have been led to do away with the antipyretic treatment by the aniline drugs in children. Several thousand children seen by me during the course of years at the German Poliklinik have convinced me that we do not require an antipyretic drug excepting in very rare instances, for, on considering the real cause of hyperpyrexia, we look to treating the cause rather than its effect, which in reality is the fever. It is a well-known fact that children can bear higher temperatures better by far than adults. Besides, a prolonged fever in children is a daily occurrence. The slightest irritation of the stomach or of the intestines or of the bronchial mucous membrane, the slightest infection in the tonsil or pharynx or in a lung, will give rise to very high temperatures. It is therefore of the utmost importance to make a diagnosis and then to treat the disease and not its symptom, which in most instances is fever.

There are, however, exceptions to this rule, and while some children can stand a temperature of from 103° to 104° F., and, as in an acute gastritis, you will sometimes find a temperature of 105° F. and even higher, there are times when fever must be reduced and a threatened convulsion aborted. There is hardly a physician who has not been called to see a child in the midst of a convulsion ending fatally, and with a temperature of 105° F., that might not have been saved had the proper treatment been instituted prior to the convulsive attack. It is in these cases that we stop to think whether it is advisable to treat first the most dangerous symptom, which is the high fever, or rather the cause of the trouble and to remove that if possible. So, for example, when we find the well-known septic gastritis, due to an overloaded stomach, it can be best treated by an ordinary warm saline irrigation, and we can, by removing the offending cause, reduce the temperature at times from 105° F. to an almost normal condition within from half an hour to

a whole day, by a simple thorough cleansing of the alimentary tract. This can be done when the stomach is affected and where we have direct access to the seat of the disease.

But if a temperature of 105° F. is caused by a consolidated lung, the treatment instituted must be different. Here, as stated in the previous sentence, we have not direct access to the lung, as we had above to the stomach, and therefore we must determine by reasoning what sort of treatment to institute. Henoch, in his edition of 1890, page 385, speaks of the treatment of pneumonia and of the depressing action of antipyrin and antifebrin not only on the general nervous system, but more especially on the heart, and as antipyretics act but a short time, *the danger lies in the constant repeating of each dose and its adding to the already existing cardiac weakness*; therefore Henoch strongly advises the use of cold applications externally, and recommends the hydropathic treatment accordingly. Baginsky, in 1892, gives a similar report, and so we find in Unger's "Diseases of Children," 1890, on page 193, an endorsement of the previous treatment. In Pepper's "System of Medicine," Alfred L. Loomis in "The Treatment of Croupous Pneumonia," page 349, speaks of the value of the full-length bath if the temperature rises above 103° F. Dr. S. Baruch, of this city, is most enthusiastic as to the treatment of most diseases by hydrotherapy, owing to this depressing effect of antipyretics on the heart. I have, therefore, basing my course on the statements of so many clinical observers and on my own experience, relied until a very short time ago upon the antipyretic treatment of a gradually cooled bath.

In looking over our very recent literature we find, in the *Louisville Medical Monthly* for November, 1895, an article entitled: "Cyanotic Symptoms after Local Applications of Acetanilid," by Charles Sauter, M.D. He treated a child that had a slight eczematous eruption on the neck, and after using some acetanilid locally cyanosis appeared. The doctor states that he found the child blue, breathing heavily, and showing such other symptoms of distress, that he thought it advisable to discontinue the powder.

In the *Berliner klinische Wochenschrift*, No. 46, November 18, 1895, is an article, "Aus der inneren Abteilung des städtischen Krankenhauses am Friedrichshain in Berlin, Phenacetin Vergiftung mit tödlichem Ausgang," by Prof. Dr. G. Krönig. In this very elaborate paper, which the author read before the Verein für innere Medizin for that year, he relates in detail his experience with a patient, seventeen years of age, whose lips were blue, pulse on the radialis small and intermittent, respiration 32, and presenting a series of other symptoms, in which, after a careful examination of the blood to determine the percentage of hæmoglobin and, besides, the blood corpuscles, he found a distinct "erythrolyse." The clinical history is interesting, because the patient received five phenacetin powders, each containing one gram (fifteen grains); no more than two powders were to have been given. The assistant noticed a peculiar pallor of the patient soon after the drug was taken. The urine was chocolate colored; the body had a yellowish color-

tion; and a cyanotic condition of the lips, ears, hands, and feet appeared. The diagnosis of phenacetin poisoning was made.

In conclusion the author states that Hinsberg and Kast found that in experiments on dogs, two to three hours after phenacetin had been given, the respiration was interfered with, there was sleeplessness, vomiting, and a blueness of the mucous membrane of the mouth. A spectroscopic examination showed the presence of methæmoglobin.

Experiments on healthy, not feverish, people prove that after taking one gram of phenacetin, headache, dizziness, trembling of the limbs, and interference with locomotion are produced.

Dr. von Jaksch found, in experiments on children, intense cyanosis, profuse diaphoresis, and frequently symptoms of collapse, where a dose of but one to two decigrams (one and a half to three grains) of phenacetin had been given. He believes phenacetin to be more dangerous than antifebrin.

In the literature of this subject a great many eruptions are reported resembling an urticarious exanthema, as also irritation and dryness in the throat, and the digestive track shows symptoms of pyalism, eructation, vomiting, and diarrhœa.

Cattani found a toxic hæmaturia and nephritis, where a dose of six grams (ninety grains) phenacetin pro die had been given.

Prof. A. Frankel, in the discussion of this paper mentioned that he had seen serious effects following the taking of one-half gram (seven and one-half grains) of phenacetin. A seventeen-year-old actress died after taking one gram (fifteen grains) of phenacetin.

Professor Fürbringer spoke of the necessity of giving very small doses. Dr. Hans Aronson mentioned the fact that in a series of experiments performed by him in 1889 under Ehrlich's supervision with phenacetin and its derivatives serious symptoms manifested themselves.

Professor Gerhardt mentioned the fact that he used phenacetin, antifebrin, antipyrin, and phenocoll in articular rheumatism, and found severe symptoms and collapse. The only drug that the author thought had any moderating effect was lactophenin in doses of one-fourth gram (four grains).

There is considerable literature relative to the serious incidental and after effects which sometimes accompany or follow the remedial action of acetanilid, otherwise known as antifebrin. The substance is not to be recommended for external application as an antiseptic.

In Helbing's "Modern Materia Medica" will be found an interesting discussion on antipyrin. However, on page 9, the author states (I will use his own words):

"It may be mentioned that the latest observations of the action of antipyrin have led to the expression of the opinion by several authorities that it has a marked and in some instances dangerous action on the heart, producing lowering of blood pressure, malaise, and collapse, according to Drache. To this action must be ascribed the fact that antipyrin, which was used almost as a specific against influenza during the earlier epidemics, was almost abandoned during the later. Against the copious perspiration that frequently accompanies the action of antipyrin, atropine or agarcin is given, either at the same time as the remedy, or shortly before it, according to Von Noorden. In certain cases it seems that the antipyrin has a tendency to cause nausea and sickness, if taken internally."

During the last few years a number of headache powders have been introduced, which are taken by the public without discrimination. They contain mostly acetanilid, its very low price being an inducement to manufacturers of nostra to employ it extensively in their preparation.

According to Helbing's "Materia Medica," a number of American antipyretics, such as antikamnia, phenolid, exodyne, etc., are all mechanical mixtures containing acetanilid, and though we do not deny their value, the physician prescribing such remedies is not aware of the porportion of acetanilid contained therein.

A remedy having the powerful physiological effects of acetanilid should certainly not be employed without the advice of a physician. In Germany, for instance, migrainin, phenacetin, antipyrin, and antifebrin (acetanilid) cannot be obtained without a prescription.

According to the *Times and Register* of November 23, 1895, the new antipyretic ammonol consists of acetanilid and ammonium carbonate.

In the *Allgemeine Medicinische Central-Zeitung*, Nos. 60 to 62, 1895, will be found a report on a new antipyretic and analgesic called apolysin, which had been submitted by Dr. F. von Heyden, successor in Radebeul to Prof. M. Von Nencki in the St. Petersburg Institute for Experimental Medicine, as well as to Drs. Leo von Nencki and Jos. von Jaworski of Warsaw. A series of forty-two cases in which the drug has been used gives very gratifying results. It may be proper to state that apolysin is a yellow-white crystalline powder of a slightly sour taste, not so sour as citric acid, soluble in the proportion of one in fifty-five in cold water, exceedingly soluble in every proportion in hot water, and melting at a temperature of 161.6° F. It is also very soluble in alcohol and in cold glycerin. In concentrated sulphuric acid it is soluble without adding color to the solution. In concentrated nitric acid apolysin is also soluble and the solution on being warmed turns a light orange color. An apolysin solution in concentrated sulphuric acid, in the proportion of one decigram of apolysin to one cubic centimetre of acid, gives, on heating with ten volumes of distilled water, a ruby-red color when crystals of chromic acid are added to it. When apolysin is heated on a small platinum sheet, it burns without leaving any ash, which proves that it contains no mineral ingredients. On the addition of a silver nitrate solution, a watery solution of apolysin does not give a precipitate. With sulphate of ammonia it does not give a precipitate, which also proves the absence of metals. As the chemical constitution of apolysin is analogous with phenacetin, it is believed that this substance is also similar in its pharmaco-dynamic action. We know a great many remedies, which have been examined chemically and clinically, and prove a similarity, as do the two preceding substances; so, for example, chloroform and chloral, ethylene chloride and ethylidene chloride, which are closely related chemically, show also similar pharmaco-dynamic actions. Apomorphine and methyl morphine, both derivatives of morphine, show the same therapeutic healing actions, although different from morphine.

Prof. M. von Nencki has proved in one of his papers "The Influence of the Carboxyl Group (COH₂) upon the Toxic Action of Certain Bodies of the Aromatic Series," and also the dependence of the pharmaco-dynamic action upon their chemical constitution.

Benzol and its derivatives, naphthalin, phenol and its derivatives, aniline, pyridin, chinolin, act more poisonously on our bodies than do benzoic acid, naphthalin carbonate, pyridin carbonate, chinolin carbonate, etc. Besides, von Nencki proved the so-called dependency law of a number of antipyretic and analgesic actions of a great many bodies which are used in medicine to-day, as for example, acetanilid (antifebrin), phenacetin, antipyrin, etc.

Recently G. von Treupel in the *Deutsche medicinische Wochenschrift*, No. 14, 1895, gives the result of the action of para-amido-phenol and para-acetamido-phenol when introduced into the veins. The dose of

one to two grams per kilogram of body weight produces quickly clonic and tonic convulsions, difficulty of respiration, and paralysis of certain motor centres, but does not affect the reflexes. In the dose of half a gram to a kilogram of body weight in a dog these two substances produce somnolence, weakness in the hind legs, cyanosis, and vomiting. The salivary secretion is increased and in the blood methæmoglobin is produced. When introduced into the human organism para-amido-phenol, as also para-acetamido-phenol, in doses of half a gram, reduces the temperature between 3.6° and 5.4° F., the reduction being accompanied by a chilly sensation, and at times by vomiting and also tinnitus aurium. When in the para-amido-phenol group we substitute alkyls in place of the hydrogen of the hydroxyl group, such as methyl, ethyl, propyl, we retain the antithermic properties of the mother substance, whereas the toxic constituent is decreased. Of all antipyretics the methyl group possesses the maximum properties, while the smallest toxicity is found in the similar bodies of the ethyl group. By substituting for the hydrogen in the amide group an alkyl of the para-acetamido-phenol group we produce substances which act strongly antipyretic and narcotic. The highest narcotic action is found in the methyl group, which diminishes with the increase of the alkyl group; the least toxic are those found in the ethyl group.

All the previously mentioned bodies are split up in the animal body and yield para-amido-phenol or para-acetamido-phenol. When, however, we substitute in the para-amido-phenol one hydrogen atom of the amide group (NH_2) by ethyl, the resulting body is liberated and possesses neither antithermic nor analgesic properties. The antithermic action of the phenacetin derivatives depends upon the liberation of para-amido-phenol or para-acetamido-phenol, whereas the narcotic effect is produced by the splitting up of the substances contained in the alkyl group. As disagreeable symptoms sometimes accompany the quick splitting up of these substances, it has been customary to prohibit giving them on a stomach containing only free hydrochloric acid which has not been neutralized by the introduction of food.

In conformity therewith it has been found:

1. That apolysin is not poisonous.
2. That it is split up in the human organism into para-amido-phenol and para-phenetidin, ethyl, and citric acid, which, as is well-known, are oxidized into carbonic acid and water.
3. That para-amido-phenol and para-phenetidin, *i.e.*, the group in which one hydrogen atom of the amides (NH_2) is substituted by citric acid, produces lower temperature, whereas the ethyl has the analgesic action.
4. That the substances are found in the urine either as glycuron combinations or as sulphate salts, which can be proved by chemical examination.

In the *Centralblatt für Bacteriologie und Parasitenkunde*, No. 19, 1895, will be found an interesting article entitled: "Ueber das Verhalten des Apolysins gegenüber dem Typhus Bacillus," by Bezirksarzt Dr. W. Hesse, of Dresden. In this are presented a series of experiments carefully conducted with a view to determining the value of apolysin as compared with drugs like phenacetin, lactophenin, etc., besides their action on the typhoid bacillus.

In the *Centralblatt für innere Medizin*, November 9, 1895, also will be found an interesting article entitled: "Ueber Apolysin und Citrophen nebst Bemerkungen über die praktische Verwendung von Phenetidin-derivaten," by Dr. H. Hildebrandt, of Elberfeld. A series of experiments on white mice and dogs was made, in order to determine the relative toxicity of citrophen as compared with apolysin. The author concludes by saying that apolysin is a much quicker an-

tipyretic and analgesic than phenacetin, and praises its great solubility. Used in subcutaneous injections it was found to be far less poisonous than phenacetin; eight centigrams (one and one-fourth grains) of apolysin were found to be quite easily tolerated in white mice without producing any after-effects, whereas three centigrams (two-fifths grain) were sufficient to show a phenetidin reaction when phenacetin was injected.

Another paper by Dr. A. Seifert has also appeared in the *Deutsche medicinische Wochenschrift*, No. 44, 1895, in which this author distinctly says that apolysin is free from every toxic effect.

In order that I might test the value of this new drug, a series of cases was taken of children suffering from high fever in various diseases. For example, cases of pneumonia (cerebral) and typhoid fever, rheumatism, measles, and others were taken.

Some of these children belonged to the Messiah Home; by far the greater number were from the children's department of the German Poliklinik. Let me illustrate a few typical cases:

CASE I.—C. M., fourteen years of age, November 8th, came to the German Poliklinik with the history of having had a fever during nine days preceding. Pains were present in the whole body, more particularly the limbs, with intense headache and thirst; there was vomiting at times and diarrhoea. The color of the stools varied from yellow to green; they were semi-solid, foul smelling. The patient had no appetite, slept heavily, and could not see well.

Physical examination: Small, lenticular spots, disappearing under pressure; a typical roseola on the abdomen and scattered over the thorax. There was an enlarged spleen. The lungs, heart, and liver were normal. The tongue was quite brownish-white. Some sordes on the teeth. The pupils of the eyes appeared to be normal.

Diagnosis of gastritis typhosa was made. D. Krobke at my direction washed the stomach with a gastric irrigator, and gave apolysin, 0.3 gram ($4\frac{1}{2}$ grains), every hour. Temperature was 105° F. in the mouth, pulse 146, respiration normal. The examination was conducted in the presence of Dr. Joel, Dr. Groehl, and Dr. McConville.

November 9th.—There was a typical exanthema, temperature 104° F.; the temperature fell two degrees after giving ten grains of apolysin.

November 10th.—There were typical green stools; headache had been greatly relieved by the apolysin. There was no effect on either heart or pulse; the latter was regular and full, with no intermittence. The largest dose given was 0.5 gram ($7\frac{1}{2}$ grains), twelve powders in twelve hours, without any evil result.

November 11th.—The temperature was 102° F., and continued at 102° F. for the next eight days, the lowest temperature in the morning being 100° F., the highest in the evening being $102\frac{1}{2}^{\circ}$ F. The disease ran its regular course; the boy recovered, and is at present (beginning of December) taking iron for its tonic effect.

CASE II.—F. W., four years of age, was seen on October 31st, with the history of having been five days ill; could not walk; cried when the arms and legs were touched; was very feverish and thirsty. An examination of the body showed swelling of the joints, knee, elbow, shoulder, and ankle, on one side of the body (right); the temperature was 104.4° F.; there was shortness of breath, and on examination of the heart a loud blowing murmur was heard in front at the apex, transmitted to the side and heard behind a distinct mitral regurgitation. The diagnosis of rheumatism and endocarditis was made.

October 31st.—Temperature, 104.4° F.; apolysin, 0.3 gram, was given, and the temperature fell three degrees within two and a half hours.

November 1st.—Temperature, 103.4° F.; gave 0.3 gram (4½ grains) of apolysin; the temperature fell in two hours to 101.4° F.; ordered one powder every three hours.

November 2d.—Temperature, 102.8° F. at 11 A.M.; 0.3 gram (4½ grains) of apolysin was given and the temperature fell 2.4° F. and remained at 100.4° F. until the following day. I continued giving 0.3 gram (4½ grains) apolysin every three hours until the pains in the joints and the swelling subsided.

November 3d.—Temperature, 100.4° F.; November 4th, 100.2° F.; November 6th, 100.5° F.; November 7th, 100.6° F.; November 8th, 100.4° F.; November 9th, 99.4° F.

Although apolysin was given for ten days, there was no bad symptom that I could attribute to the effect of the drug; there was no diaphoresis, no cyanosis, nor any gastric effect.

CASE III.—Mary G—, seven years of age; had had a cough for three days, with a fever, pain on breathing, and insomnia; temperature, 105.6° F.; pulse, 148; respiration, 68.

Status præsens: Cough simulating pertussis; no expectorations.

Physical examination: Dulness on left side anteriorly, and posteriorly complete consolidation and bronchial breathing; on the left side increased vocal fremitus. Diagnosis: croupous pneumonia.

At 11 A.M. and after I gave 0.25 gram (3¾ grains) of apolysin every hour for three successive doses and then ordered a discontinuance of this drug for three hours; the temperature at 5 P.M., or about three hours after the last dose, was 102.4° F. I ordered a mixture of carbonate of ammonia every hour in doses of one teaspoonful; at 9 P.M. the temperature rose to 103.3° F. and did not go higher during the night. On November 2d, the following morning, at eleven o'clock the temperature was 103.2° F., pulse 138, respiration 62. The same physical signs were present on auscultation, percussion, and palpation; cough was about the same. The child appeared brighter. I again ordered apolysin, 0.2 gram (3 grains), for two doses, at intervals of two hours. At 5:15 P.M. the temperature was 102.8° F., pulse 134, respiration 59. The physical signs were unaltered and cough very severe. I gave carbonate of ammonia during the night.

Next morning, November 3d, at ten o'clock the temperature was 101.4° F., pulse 128, respiration 48. The physical signs were improved, and there was less cough. At 6 P.M. the temperature was 99.3° F., pulse 120, respiration 34.

November 4th, 11 A.M., temperature 99° F., and at five o'clock normal; the temperature had been taken in the rectum.

CASE IV.—G. W—, six years of age, was seen at 1:30 P.M. He had vomiting, fever, and thirst, and the body had a rash which looked like an erythema. The question of exposure to scarlet fever was answered in the negative. Temperature was 105.2° F., pulse 140, respiration 29. There was no cough; the bowels were quite free, urine normal. No history of gastric fever was given.

I gave apolysin, 0.3 gram (4½ grains), every four hours. The temperature at 6 P.M. fell to 101.4° F. I discontinued apolysin, and at 10 P.M. the temperature rose to 103.3° F. The diagnosis of acute gastritis was made. The following morning there was no eruption, but there were pains in the body. The vomiting had ceased, and I gave one grain of calomel every three hours to cleanse the alimentary tract. The temperature was then 99.4° F. The child felt bright on the following morning, the temperature was normal, and appetite had returned.

CASE V.—Z—, twenty-seven months old, was seen at the dispensary November 22d. The child

had bronchial breathing in right lobe, cough, and was very restless. Temperature, 105.8° F. Diagnosis: lobar pneumonia. Apolysin, 0.3 gram (4½ grains), was given every hour for four doses. The child was seen the same afternoon by Dr. Kobike. The temperature sank to 103.2° F.; he continued apolysin, however, every two hours.

The following morning, November 23d, the child's temperature was 103.2° F.; apolysin was ordered until four o'clock every two hours, 0.3 gram (4½ grains). At 6:15 the child was seen by Dr. Kobike, who found the temperature 100.2° F. Ordered a discontinuance of the apolysin.

November 24th, at 12 noon, the temperature was 99° F. The child made a rapid recovery.

CASE VI.—Frank U—, four years four months of age, was seen November 21st. He had coughed about two days, and had fever, irritability, anorexia, and thirst; his temperature was 105.2° F. There was consolidation of the left lung, dullness on percussion, and bronchial breathing.

Diagnosis: lobar pneumonia. The case was seen at the Children's Department of the German Poliklinik and was sent home to be attended to at the house.

The child was seen the same afternoon and given an expectorant mixture (*mistura glycyrrhizæ compos.*) and an antipyretic bath ordered, consisting of mersing the child's body into warm water with a cooling of the bath from 95° to 70° F., leaving the child in the bath about ten minutes. An icebag on the head was ordered. The temperature in the evening was 106.2° F. I saw the case the same evening and ordered apolysin, 0.2 gram (3 grains), every hour.

November 22d.—Temperature, 104.4° F. at 10 A.M. Apolysin was continued, 0.2 gram (3 grains), every two hours. There were symptoms of general malaise, constipation, anorexia, and intense thirst. At five o'clock the same evening the temperature rose to 106.4° F. There was marked delirium and restlessness, and the child moaned. I ordered liquor magnesiæ citratis in order to quench the child's thirst and also to act as a laxative.

November 23d.—There was a consolidation on the left side of the lung and also on the right side. Temperature, 99° F. The bowels had moved quite freely. I gave apolysin, twenty-two powders in all. The dose was increased from 0.2 gram (3 grains) to 0.3 gram (4½ grains) every hour. As the temperature was 99° F., I ordered a discontinuance of the drug. Dr. Kobike saw the child at 6 P.M. and reported to me that the temperature had risen to 107.2° F. I immediately ordered apolysin, 0.3 gram (4½ grains), every hour for the night. The child slept somewhat. I ordered an ice bag on the head and saw the child.

November 24th.—The temperature in the morning, at eleven o'clock, was 101.4° F. There were sonorous râles on the right side, the left side was clear. Consolidation was manifest on the lower lobe of the right side, with anorexia and brown dry tongue. The child had had one green stool. The urine was scanty, and there were distinct evidences of a typhoid pneumonia, with marked delirium, subsultus tendinum, and sordes on the teeth. Temperature at 6:30 P.M., taken by Dr. Kobike, was 106.2° F. I saw the case two hours later and found a temperature of 107.4° F.; I ordered an antipyretic bath every two hours, besides apolysin, 0.3 gram (4½ grains), every two hours; later I ordered, on one hour a bath and on the other hour apolysin, with ice bag on the head. The temperature fell to 103.8° F. at 3 A.M.

November 25th.—At 10 A.M. an examination of the child showed bronchial breathing and friction sounds, and the pupils did not react to the light; there were still evidences of a typhoid condition—a brown

tongue and intense thirst. The bowels had moved; the urine was scanty. There was slight delirium; the temperature at 10 A.M. was 99.8° F. I ordered a discontinuation of the apolysin and then gave an expectorant, besides a liquid enema. The temperature at 2 P.M. was 105° F.; at 6 P.M., 106.4° F.; pulse, 140; respiration, 38. At 9 P.M. the temperature was 105° F., and at 10 P.M. 103.8° F., which was the lowest temperature of the night.

November 26th.—The temperature had risen to 105.4° F. at 10 A.M.; pulse, 148; respiration, 64. The chemical examination showed an excess of phosphates and an enormous amount of uric-acid crystals. There was no albumin, no blood, and no pus. There was still the same comatose condition, with delirium, complete consolidation of both lungs, and a double pneumonia. Diagnosis: pneumonia cerebri. At 2 P.M. the temperature, taken by Dr. Kobike, was 104.4° F.; at 6 P.M. the temperature, taken by myself with Dr. Kobike, was 106° F.

November 27th.—During the night the temperature, taken by a trained nurse, had remained between 104° and 105° F.; pulse, 146; respiration, 64. There was still photophobia, the consolidation in both the lungs was still plain, and there was cough. The pupils were enormously dilated. Sordes were apparent on the teeth. The child was comatose most of the time, and nourishment by mouth could not be given. He had no desire to drink, and we could resort only to nutrient enemata. Since the night before we had been resorting to egg emulsion and, besides concentrated liquid foods, a somatose emulsion. The ice bag was on the head continuously. The urine was examined twice for the presence of the sulpho-diazo-benzol reaction of Professor Ehrlich, and responded very plainly, so that the diagnosis of typhoid by the examination of the urine was easily corroborated.

November 28th.—The temperature had fallen to 102° F., the physical signs were clearing up, consciousness was returning, and the child suddenly craved drink and liquid food. The cough had become very loose, and expectoration quite copious. There was at times a tendency to vomit after frequent attacks of cough. The bowels were extremely loose, and the child presented the condition of convalescence.

November 29th.—Temperature, 99° F. at 10 A.M., and 100.4° F. at 6 P.M. The typhoid symptoms were disappearing. The child had commenced to retain food, and the nutrient enemata were discontinued. The urine was more abundant, the expression healthier. Convalescence continued, and the case was discharged cured December 24th. The child had become considerably emaciated since the commencement of treatment.

CASE VII.—J. H.—, twenty-eight years of age, had been infected with measles about two weeks previously from a child in the same house. When I saw him, he had been coughing and sneezing, and had conjunctivitis catarrhalis and bronchitis—in fact, the usual symptoms of morbilli. The temperature was 104° F. in the mouth, and there was a slight eruption on the face and neck.

On the following day (December 18th) I saw him with Dr. Kobike, and found a typical exanthematous eruption, extending all over the body; temperature, 104° F.; pulse, 140; respirations slightly accelerated. The appearance was typical of bronchitis and measles. For the relief of the high temperature and the excessive thirst I gave one dose of fifteen grains of apolysin, followed in an hour by a second—in all thirty grains. He was so much improved that in the evening of the same day, when he had headache again and thirst, he of his own desire took two more of the same powders in the same manner.

Besides a slight diaphoresis following the thirty

grains of apolysin, nothing was complained of by him. The course of his measles and bronchitis was normal, and after five days the temperature became entirely normal and the patient was discharged as cured.

On December 15th his brother, who, at the time of my first visit, was perfectly well and normal, now had a fever, a chill, intense pains in the limbs, sleeplessness, constant headache, thirst, sneezing, coughing, and a disagreeable feeling. The symptoms of measles being so clear, I advised a placebo, and put him to bed, shading his eyes from the strong sunlight and ordering cooling drinks.

On the following day there was intense headache. The temperature, 105° F., later went to 106° F. on the same day, accompanied by muttering delirium, thirst, and an intense eruption which appeared scarlatinous rather than morbillous; there were intense pulmonary congestion and dyspnoea, but no apparent consolidation.

The percussion note and auscultation were normal, the breathing vesicular on one side, with a few râles, sonorous and sibilant, on the other. During the height of the disease, while the temperature was between 105° and 106° F., I gave apolysin without any apparent effect. The dose was fifteen grains. When the temperature was 106° F., I gave thirty grains at one dose, followed by a second dose of thirty grains in an hour. This was followed, as in the previous cases, by a slight reaction, consisting in perspiration, and then the temperature fell from 106° to 101° F. The temperature did not rise beyond 102° F. on the following day, although no apolysin was given. The eruption of measles continued to cover the body, and at the time of writing the patient was still under treatment for a mild bronchitis, there being besides the evidences of the desquamation of the skin consequent to a severe form of measles. He was convalescing, and, beyond liquid diet, received no stimulation whatsoever nor any diaphoretics, which we are sometimes in the habit of giving.

The largest dose of apolysin given by me to an adult has been sixty grains, or four grammes. It is plain, therefore, that enormous doses of this drug may be given with safety, and the tolerance of my patients for this new drug has been surprising; not only does it not influence the heart's action, but I have yet to see a case in which the pulse was either slowed or made worse in character, or in which there has been anything but a slight reaction, consisting of a diaphoresis, with no uncomfortable symptoms whatever. Nor have I ever noticed a symptom of nausea, which is so common, not to speak of the dangerous symptoms of cyanosis, which I have found to accompany the use of all antipyretics heretofore.

It is plain, therefore, that a maximum dose must be a very large one, and I must leave it to the judgment of more competent observers to state what the limit of this drug shall be, for I have given an adult within twelve hours 360 grains, or rather, to be more specific, twelve powders containing two grams each, one powder every hour. In the cases of children, in which we frequently have these high temperatures, followed by convulsions, we are sometimes at a loss to know what to do. In my limited experience I have found that while some children of one year can receive and tolerate five grains of this new drug, other children will tolerate ten or even fifteen grains every two or three hours, the quantity and frequency depending on the urgency of the case and the reduction of the fever, or on the manifestation of some reaction, such as a profuse perspiration all over the body, which has satisfied me to discontinue the drug.

CASE VIII.—G. S.—, five years of age, was seen by me on November 12th. The mother told me the boy had been feverish, very thirsty, slightly consti-

pated, and restless the previous night. The child appeared drowsy and had no appetite. A slight cough was also noticed. A careful examination revealed a few rhonchi scattered through the lungs. The heart was normal. There was no exanthema, but the skin was dry and hot; the liver, spleen, and stomach were as near normal as possible. Some tympanites were manifest, but there was no special tenderness. The child urinated freely; the urine was examined, and but for a slight excess of urates and phosphates showed no abnormality. The eyes appeared normal. The tongue was coated with whitish fur, and the papillæ of the tongue were enlarged. The pharynx and tonsils were very red; no membrane was visible. He had not complained of pain on swallowing; there was no expectoration. Temperature in the rectum was 104° F.; pulse, 146; respiration, 43; no dyspnoea. The child was so obstinate that it required the combined strength of two adults to hold him while forcing his mouth open to inspect his throat. So owing to the obstinacy of my little patient I ordered apolysin in suppositories to be inserted in the rectum, giving the following dose:

R Apolysin..... 3 ij.
Olei theobromæ..... 3 ij.
M. ft. suppositor. l. a. No. xij. Sig. Use one suppository every two hours.

It is advisable to have the suppositories cone-shaped and lubricated with glycerin or vaseline before introducing them. Push them gently into the anus and hold the buttocks for a few moments, laying the child over the lap with its face downward. Always put the suppositories in a cool place when not in use, to guard against their melting. In giving this drug per rectum I invariably use double the usual dose per mouth.

To sum up, then, I would formulate the following rule: We may begin to give a child of one year five grains of apolysin, to be repeated every two or three hours, the intervals depending on the urgency for reduction of hyperpyrexia. If there is no distinct effect noticeable from the five-grain dose after three doses, it is perfectly safe to give doses of ten grains each every two hours until the fever has been reduced.

I have also frequently combined apolysin with calomel, and lately have combined it with the compound powder of jalap in the following manner:

R Apolysin..... gr. lx.
Calomel..... gr. vi.
Sacch. alb..... gr. lx.
M. ft. chart. No. xij. Sig. One powder every two hours for a child one year old.

Apolysin is applicable for the reduction of high temperatures in any and all affections in which antipyretics are required.

My best results were obtained by giving the powders before meals, although some authors advise giving them after meals.

To children five grains for the first year and one grain more for each additional year may be given with some sugar every two hours or even hourly until fever has been reduced sufficiently to satisfy the physician of the removal of the liability to convulsions.

With some children it is preferable to give apolysin per rectum, owing to the difficulties of giving them medicines. In giving drugs per rectum I follow the usual rule of doubling the dose per mouth, and give a child one year old ten grains of apolysin in a suppository, as may be required. When using rectal medication I invariably advise the precaution of a cleansing enema of one pint of glycerin, soap water, or castile-soap water injected quite high in the rectum or into the colon.

Not one single case showed disagreeable effects from this drug, and it was very well tolerated by weak

stomachs, such, for example, as those of children who have been brought up on almost a starvation diet, with bad hygienic surroundings, with alcoholic parents, and in some instances in our ordinary tenement houses.

In all thirty-eight cases were experimented with, eight of which I here report. Several are still under treatment and observation. One highly instructive case of double lobar pneumonia occurring in the child of a physician I am not at liberty to report. The one point which was noted in the latter case was the ease with which fever could be reduced, without even the pulse showing any alteration in frequency or rhythm, and without reaction directly attributable to the drug.

In not one single instance did I notice a subnormal temperature. Copious perspiration was frequently found when large doses of apolysin had been taken.

In several cases, notably one, children took ten grains every hour for twelve hours or one hundred and twenty grains in all. I took especial pains to notice that not a single eruption ever followed large doses of apolysin.

R Apolysin,
Sacch. alb.....āā gr. lx.
Pulv. jalap. comp..... gr. xxx.
M. ft. chart. No. xij. Sig. One powder every two hours.

For ordinary catarrhal gastritis attended with high fever and with sluggishness of the bowels, I have found that these powders reduced the temperature, besides stimulating peristalsis, and evacuated the infected material from the stomach and bowel.

What I have previously said, however, in regard to washing the stomach by gentle irrigation and flushing the bowel after reducing the temperature, should be well borne in mind.

That this drug can be given with impunity before or after meals I have frequently tested, but it seemed to me that the best results were obtained by giving the drug before meals.

Apolysin can be combined with sodium bicarbonate by giving equal doses of each, and the most convenient plan for giving it has been in the form of tablets containing seven and one-half grains of apolysin and two grains of sodium bicarbonate.

I do not, however, for a moment undervalue the great importance of dietetic treatment in the diseases of children, yet it must be borne in mind that frequently symptomatic treatment has to be instituted when the causes are unknown and the reduction of a high temperature by a drug that is not a cardiac depressant is one of the greatest boons to mankind.

I would repeat the statement made in the beginning of my paper, that in using this drug I have discarded all antipyretics, because I have never seen the reduction of temperature accomplished by any one of them without the system suffering from a general depression caused by weakening of the heart and subsequent derangements.

It is plain from what I have reported in the treatment of a severe form of acute articular rheumatism that apolysin can hold its own in the treatment of acute specific diseases in which quinine and antipyrin have been so often given, without, however, making the body suffer from the consequent heart depression.

It is therefore one of the most valued additions to the materia medica in the treatment of that most dreaded disease, "la grippe."

In infancy it will prove one of the most valuable drugs if given in large doses, and herein lies its safety, because owing to its chemical constitution it has no cumulative effect, as has digitalis for example.

In a case reported by me in this paper I gave 360 grains of apolysin without having the patient suffer any depressed feeling; on the contrary, the more he took of the drug, the brighter and better he felt.

I do not wish to close this paper without giving my

good old friend cold water its proper place in the materia medica, as an additional factor in reducing temperatures, and while I am extremely enthusiastic concerning the brilliant result obtained by me in the treatment of fevers with apolysin, there are instances when a cold bath in addition to the use of apolysin will aid this new drug in the performance of its noble duty.

187 SECOND AVENUE.

INQUIRIES RELATING TO THE COMPARATIVE VALUE OF EXPECTORANTS AND COUGH REMEDIES.¹

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THE following report is based on a series of clinical investigations made by the author during the year 1895 and in 1896 up to January 25th. The object of these inquiries was to test individually and separately, and without reference to the researches of others, a number of the principal therapeutic agents in use at the present day for the relief of cough. In addition the author begs to report his experience with several drugs concerning the value of which in this direction little is so far known. A list of the agents employed, together with the results obtained, is shown in the subjoined table.

REMEDIES TESTED.	RESULTS OBTAINED.				Remarks.
	Total Cases.	Success.	Partial Success.	Failure.	
Aconite.....	12	..	1	11	Case of cardiac hypertrophy.
Ammon. bromide..	18	..	12	6	Unselected cases.
Ammon. carbonate.	40	10	15	15	" "
Ammon. chloride..	60	25	20	15	" "
Antimony.....	24	8	12	4	" "
Apomorphine.....	22	8	12	2	Adults of good physique.
Chloroform.....	12	2	6	4	Mild bronchial coughs.
Codeine.....	16	..	16	..	Unselected cases.
Creosote.....	30	6	24	..	Phthisis or suspected phthisis.
Glycerin.....	12	..	5	7	Unselected cases.
Glycyrrhiza.....	20	..	20	..	" "
Hoffman's anodyne.	10	..	5	5	Cases of bronchitis accompanied by asthma, emphysema, or cardiac palpitation.
Hydrocyanic acid..	24	..	16	8	Unselected cases.
Ipecac.....	30	5	20	5	" "
Opiates { p a regoric morphine.	15	3	10	2	" "
Phenacetin.....	30	8	20	2	" "
Potassium bromide.	10	..	..	10	" "
Potassium iodide..	37	..	15	21	" "
Squill.....	20	..	16	10	" "
Sodium chloride...	12	..	8	4	All mild cases of bronchitis or tracheitis.
Terebene.....	20	2	14	14	Unselected cases.
Terpin hydrate....	15	..	3	2	" "
Tolu.....	15	2	10	3	" "
Wild cherry.....	10	..	4	6	" "

As a number of old remedies are included, some of the results are simply corroboratory of what is already known; this fact, however, is no disparagement of their correctness nor can it be said to impair their value as a contribution to our knowledge. The author is well aware of the following important disadvantage in investigating the value of cough medicines, viz., the testimony is almost wholly of a subjective character, i.e., it is based upon information derived from ques-

tioning the persons affected. Objective examinations of the chest are of some value in securing the desired evidence, but we cannot know whether a cough is ameliorated, unimproved, or intensified except from what the patient tells us. This objection, however, holds good through the whole domain of clinical medicine. We have no other means of acquiring a knowledge of the immediate effects of a majority of our internal remedies. It may be said that these investigations were entered into without prejudice or bias, the author having no point to prove, no theory to defend. The remedies were administered in each case for a sufficient length of time to fully estimate their value. If the object sought was obtained—that is, if the cough was made loose and easy or was entirely arrested—the case was noted in the table as “successful.” If the patient improved to a moderate degree the case was indorsed as “partially successful.” If no improvement occurred it was entered as a “failure.” It is probable that the proportion of successful cases is considerably curtailed by the failure of some of the patients to report after recovery. When only moderate success or failure resulted in any given case after sufficient trial, the medicine was changed. For this reason the sum of the tests made is considerably greater than the total number of persons under observation. With a few exceptions unselected cases were used in testing the remedies—the symptom of cough being the only criterion. Each drug was employed in a neutral combination—liquids and soluble solids being given with a little simple syrup and water, while insoluble remedies were prescribed with a few grains of powdered sugar.

We will now proceed to analyze these results, taking the drugs used in their alphabetical order. It may be stated that in summing up his conclusions with certain of these remedies the author holds in mind his experience with them during a period of thirteen years in dispensary and private practice.

Aconite.—This remedy was employed in twelve cases of ordinary unselected bronchial cough. The tincture of the root was chosen and was administered in doses ranging from one to four drops in a drachm of sweetened water every two or three hours. The preparation showed no influence whatever over the symptom of cough, except in one case complicated by, and apparently due to, cardiac hypertrophy, in which some amelioration was expressed by the patient. The drug has apparently no value in the coughs of ordinary bronchitis.

Ammonium Bromide was tested in eighteen cases, with a result of twelve somewhat benefited and six failures. None of them was cured. The expectorant properties of this remedy must be exceedingly slight. It is of no use in the common coughs of bronchitis and phthisis beyond promoting sleep and somewhat allaying bronchial irritation. Its range of application in the treatment of coughs is very limited, although in the author's experience it is more reliable than either the bromide of potassium or of sodium. It was found necessary to give the remedy in doses of not less than ten grains every four hours in order to recognize any benefit from its use.

Ammonium Carbonate.—This salt was tried in forty unselected cases of cough with the following results: Success in ten cases, partial success in fifteen, and failure in fifteen. The carbonate of ammonium is not nearly so good an expectorant as the muriate. Indeed it may well be doubted whether this salt promotes to any appreciable extent the secretion of the broncho-pulmonary mucous membrane. However, it is a powerful cardiac and respiratory stimulant, and is of unquestioned value in certain conditions. In the teasing, distressing coughs of pulmonary congestion due to mitral disease, in the weak and fruitless

¹ Read by title before the Medical Society of the State of New York, January 30, 1896.

knee jerk on the right side, but no ankle clonus. There was no loss of muscular sense nor of tactile sense, but there was, strange to say, a universal analgesia involving even the mucous membrane of the pharynx, of the larynx, and probably also of the bladder. There was no difficulty in speech, no apparent difficulty in swallowing, and no affection of the cranial nerves could be made out. His mental condition was excellent. It had been supposed that the universal analgesia was nothing more than an expression of a psychical difficulty; the other symptoms had been supposed to indicate a lesion in the motor tract somewhere beneath the gray matter. As there had been no convulsions, the lesion could not have been in the gray matter. The man died as a result of a rapidly developing pulmonary oedema. On account of this pulmonary oedema and some hebetude it had been thought that there might be an increased distention of the ventricles, and it had been considered advisable, therefore, to make an exploratory opening and pass a needle into the ventricles. A needle had been introduced in various directions but no fluid had been found. At the autopsy the brain had been found practically intact, but on examining its under surface it was found that the medulla was enormously enlarged. On cutting through the medulla it was found that a tumor occupied the centre of the medulla and seemed to have replaced almost all of the medullary tissue, with the exception of a thin shell-like covering. Dr. Van Gieson had carefully examined this tumor and had expressed the opinion that it might be a gliomatosis of the central canal, with resulting infiltration, or possibly a tubercle.

Multiple Tumors of the Cerebrum.—Dr. Collins also presented a brain removed from a little girl who had been in the babies' wards of the Post-Graduate Hospital. The history was that after a protracted diarrhoea the child had passed into a stuporous condition and finally into a cataleptoid state. The child had been examined at Dr. Dana's clinic and a loss of light reflex and accommodation reflex had been found, but this was the only cranial nerve palsy that could be detected. A probable diagnosis had been made of a tumor of the basal ganglia. There was no enlargement of the head, no optic neuritis, nor anything to indicate distention of the ventricles. The condition of hebetude deepened and the child eventually died, apparently from inanition. On the basal surface of the left cerebellar lobe a small, whitish tumor was found, apparently connected only to the pia. It was also found that the head of the caudate nucleus on the right side was the seat of a similar new growth. A third new growth, and the one which had produced the symptoms, was found to involve the anterior and posterior quadrigeminal bodies.

DR. F. S. MANDLEBAUM, referring to the first specimen, asked if the cord had been examined and if any gliomatosis had been found in the cord.

DR. COLLINS said that the cord had been examined and that the tumor seemed to terminate abruptly at the lower part of the medulla. There appeared to be positively no gliosis at the upper termination of the cervical cord.

THE PRESIDENT remarked that the location of the third tumor described in the last case was similar to one recently presented by Dr. Nammack to the New York Neurological Society.

Uterus of a Dog Strangulated in the Inguinal Canal.—DR. F. S. MANDLEBAUM presented a uterus from a small black-and-tan dog about five years old. The dog had had what appeared to be inguinal hernia. The animal had become pregnant and very shortly after this the inguinal tumors had begun to enlarge. The dog died three weeks afterward, with high temperature and symptoms of sepsis. At the autopsy it

was found that both horns of the uterus were prolapsed into the inguinal canal and strangulated there, being held in place by firm adhesions. Both horns were greatly enlarged and on section were found distended with thick and offensive pus. No trace of any embryo could be found. The purulent matter extended down the tubes and into the uterus. The speaker raised the question as to whether the strangulation of the tubes which had prolapsed into the inguinal canal was sufficient to cause this or whether there had been some infection; and if so, what was its source?

A New Clearing Medium.—DR. HENRY POWER said that about a year ago Dr. Piffard had introduced a new clearing medium having the high refractive index of 1625. After some experimentation, the speaker said, he had obtained a very satisfactory clearing medium by mixing isosafrol and mono-bromide of naphthalin in the proportion of one to five. This possessed the same index of refraction as Piffard's medium. It would not mix properly, however, in celloidin, hence it was necessary to pass the specimen into one of the other oils and then into the new clearing medium.

DR. IRA VAN GIESON said that Dr. Piffard's medium could not be used in many fine researches because it faded the aniline stains.

DR. POWER replied that his was not a mounting but a clearing medium. He had allowed eosin and hæmatoxylin specimens to remain for three weeks and no color had been extracted, and he had also kept bacteria stained with fuchsin in Piffard's medium for over six months, without any change whatever.

Portion of Bowel Discharged per Rectum.—DR. F. FERGUSON presented a section of the intestine which had sloughed off and been passed per rectum in a case of intestinal obstruction occurring in a boy of four years.

Mounting the Appendix Vermiformis.—DR. FERGUSON also exhibited a novel and inexpensive method of mounting specimens of the vermiform appendix. The specimens were placed in glass tubes containing the preservative fluid, and these tubes were sealed with beeswax and mounted in an inverted position in circular blocks of wood. The specimens when mounted in this way required little or no support, and the magnifying effect of the ordinary vessels was avoided.

Carbolic-Acid Poisoning.—DR. GEORGE P. BIGGS presented specimens exhibiting the lesions produced by carbolic acid. The specimens had been removed from a woman about twenty-five years of age, who had been found lying in the street and who had died before reaching the hospital. The autopsy showed the characteristic lesions produced by carbolic acid. These were particularly marked in the stomach, duodenum, and upper eighteen inches of the jejunum. The duodenum was congested throughout, but active destruction of the mucous membrane was visible only in the upper portion. There was also found an acute oedema of the glottis. One kidney showed three large cicatrices and the other one such cicatrix. No lesions were found in the vessels or in the heart to explain these, and it was thought probable that they were of specific origin.

A Large Thymus Gland.—Another specimen from the same case was a large thymus gland, weighing forty-eight grams.

Large Biliary Calculus Causing Intestinal Obstruction.—DR. Biggs also presented a large biliary calculus removed from a male sixty-eight years of age, who had been admitted to the New York Hospital complaining of vomiting and hiccough which had persisted for five days. The abdomen was very much distended. The urine contained a trace of albumin and large numbers of hyaline casts. For two days attempts were made to evacuate the bowels by cathartics

and high enemata, but without success. It was then decided to operate for the intestinal obstruction. A median incision was made in the lower part of the abdomen and a foreign body was found in the lower portion of the ileum which had produced complete obstruction of the intestine. The bowel was hurriedly incised longitudinally and on removal the foreign body proved to be a biliary calculus. It was pyramidal in shape, measured three and one-half by three centimetres, and weighed twenty-three grams. This peculiar shape indicated that the calculus had been formed in the gall bladder. The operation lasted twenty-five minutes. The man died the following day. At the autopsy the body was found extremely emaciated. The incision into the bowel was found to have been into the lower portion of the ileum. There was no leakage whatever at this point. The peritoneum was normal. The intestine above the point from which the calculus had been removed was still greatly distended and the bowel below this point still considerably collapsed. The gall bladder was surrounded by old adhesions which bound it to the liver and duodenum. The lungs were slightly emphysematous and were congested in their posterior portions. The kidneys were small and granular. The stomach was rather small, and the pyloric orifice in the fresh state only just admitted the little finger. There was no induration, however, at the pylorus. On passing the finger through the pylorus it was found that there was a large opening in the middle of the wall of the gall bladder which communicated with the first and second portions of the duodenum. It was through this opening that the calculus had passed into the intestine. On further examination of the intestine the jejunum was found very much congested and hemorrhagic throughout and there were small superficial ulcerations or erosions, which apparently had been produced by the pressure of the calculus in its passage. The contents of the jejunum were reddish-brown, while those of the lower portion of the ileum were of a clay color. A number of small calculi were found in the alimentary canal, which together weighed 2.5 grams.

DR. FERGUSON said that many years ago he had made an autopsy on an eminent clergyman, who had died after having suffered for eight days from intestinal obstruction. No effort had been made to relieve his condition. The autopsy revealed a calculus rather larger than the one just presented. One-sixth of this calculus has passed through the ileo-cæcal valve, but the body of the calculus could not pass beyond this point. In another case, seen about five years later at St. Luke's Hospital, two calculi about three-fourths of an inch in diameter had passed through the adhesions that had been formed between the hepatic flexure of the colon and the gall-bladder. One of these calculi had actually perforated the wall of the cæcum. The speaker also recalled two cases in which the hepatic flexure of the colon had been united to the gall bladder and the opening had been found between the two, yet no calculus had been found. He had seen two other large calculi which had been passed by rectum whose size seemed to preclude their having passed through the ileo-cæcal valve. The only explanation that he could offer was that the calculi had passed through an opening formed between the gall bladder and the hepatic flexure of the colon.

DR. POWER asked if there had been any evidence of exophthalmic goitre in the case in which there had been an enlarged thymus.

DR. BRIGGS replied that there had been no previous history obtainable, but the eyes had not appeared prominent and the thyroid had not been enlarged.

The society then went into executive session.

Hair Restorer.—Great cry and little wool.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 8, 1896:

	Cases.	Deaths.
Tuberculosis.....	99	97
Typhoid fever.....	8	5
Scarlet fever.....	149	13
Cerebro-spinal meningitis.....	2	3
Measles.....	432	32
Diphtheria.....	306	35
Small-pox.....	1	0

The Food of American Laborers.—Dr. Moreau de Tours, in comparing American and European statistics of consumption of food, declares that the average French workman consumes less than one-half the amount of meat and nitrogenous food generally of the American, and that even in Great Britain, the most carnivorous of European countries, the individual consumption is less than two-thirds that of the American. In Germany, Austria, Italy, Spain, the consumption of meat is, as compared with the American, in the order named, and is from one-third, in Germany to one-tenth in Italy, and in Spain infinitely less. The best-fed class of laborers, says Dr. De Tours, the world ever saw was the Southern negro in slavery times. Each adult received weekly three pounds of bacon or pork, ten pounds of farinaceous food (usually fresh corn meal), and vegetables of every species ad libitum. Each negro, then, says our author, consumed annually one hundred and fifty pounds of meat of a quality superior to that of any European people whatever, being from two to three times superior in point of nutritive value. To-day, while the supply is not so sure by any manner of means as it used to be, the Southern negro lives more luxuriously, not merely than any other laborer, but than the middle classes of any European nation whatever. Compared with like statistics of Asiatic peoples, the figures are absolutely startling.—*The National Druggist*, December, 1895.

Bacteria in Schoolrooms.—In a recent communication to the Hamburg Medical Society, M. Ruete details the results of his bacteriologic examination of the air of schoolrooms. He made use of Hueppe's method and made his investigations at 2:30 o'clock in the afternoons. While these were always made under the same conditions the results were very variable. He found a minimum of 1,500 bacteria to the cubic metre, a maximum of 3,000,000 and a mean of 268,000. Analogous researches gave Hesse an average of only 9,500. Among the bacteria observed the author calls attention (*Bulletin Médical de Paris*) to a motile bacillus which does not develop on agar, but on gelatin plaques gives rise to circular colonies with crenated edges; it can also be cultivated on milk and potato; pure cultures kill mice in twenty-four hours and their blood is rapidly fatal to guinea-pigs. Ruete has been able to extract toxins from the blood of animals thus killed.—*Journal of the American Medical Association*.

Syphilis through Flea Bite.—Jonathan Hutchinson reports a primary lesion of syphilis of unusual origin. An elderly member of the profession presented himself, covered with an evidently syphilitic eruption, which rapidly disappeared under the use of mercury. The only interest about the case was the question as to how the disease had been acquired. The doctor was evidently anxious to give all the information in his

comparatively useless in acute bronchitis. Its best effects are seen in chronic bronchial troubles, including fetid bronchitis and bronchiectasis, and in advanced phthisis. It seems to promote bronchial secretion to a moderate degree, improves the character of the expectoration, and diminishes the frequency of the cough.

Terpin Hydrate was tested in fifteen cases in doses ranging from two to four grains (three grains being the average quantity) four to six times a day. It seemed to produce some relief in three cases, while in twelve no benefit whatever was perceptible. No expectorant effects were observed in any case. The author's observations lead him to the conclusion that terpin hydrate may be safely excluded from the list of cough remedies.

Tolu.—The syrup of tolu was used experimentally in fifteen cases in doses of twenty drops to one drachm. Two cases were successful, ten partially successful, while three were failures. Tolu is a mild, stimulating expectorant. In addition to its intrinsic value, the grateful taste of the syrup makes it a most valuable vehicle for the administration of more powerful remedies.

Wild Cherry.—The syrup of wild cherry was tested in ten cases in doses of one-half to one drachm every three or four hours. Four cases were benefited by it, while six received no improvement. It is the opinion of the author that wild-cherry syrup possesses less value as a cough remedy than the syrup of tolu, although it has some compensatory virtues as a tonic. In broncho-pulmonary therapeutics it may be regarded simply as a vehicle of occasional service in the administration of other cough medicines.

The author lays no claim to originality in the observation that few cough remedies possess any great value when given alone. The best results are achieved by a scientific combination of two or more remedies, having due regard for their chemical compatibility, their physiological actions, and their applicability in individual cases. The following formulas have been thoroughly tested by the writer in hospital and private practice, and may be trusted to render good service in properly selected cases:

1. For irritative coughs:

℞ Phenacetin..... gr. xx.-xl.
Ext. glycyrrhizæ..... gr. xx.
Sacch. albi..... ʒ ij.

Fiat pulvis, in chartulas xx. dividendus. S. One to be taken at one, two, or three hour intervals.

2. For same of more obstinate character:

℞ Phenacetin..... gr. i.
Ext. glycyrrhizæ..... gr. xx.
Codeinæ sulphatis..... gr. ij.-gr. iv.
Sacch. albi..... ʒ ij.

Fiat pulvis, in chartulas xx. dividendus. S. One to be taken every two, three, or four hours.

3. When an expectorant effect is desired:

℞ Extracti glycyrrhizæ..... gr. xx.
Phenacetin..... gr. xx.-xl.
Ammonii muriatis..... ʒ i.-ij.
Sacch. albi..... ʒ ij.

M. et in chart. xx. div. S. One powder to be taken in a little water every two, three, or four hours.

4. A good stimulating expectorant for adults:

℞ Apomorph. hydrochloratis..... gr. i.
Syr. ipecacuanhæ..... fl. ʒ ij.
Syr. tolutani..... fl. ʒ i.
Aquæ dest..... q.s. ad fl. ʒ iij.

Ft. mist. S. A teaspoonful five times daily at four-hour intervals. Shake well before using. Prepare freshly as required and keep in a dark-colored bottle.

5. A good stimulating expectorant for every-day bronchial and phthisical coughs:

℞ Ammonii muriatis..... ʒ ij.
Tincturæ opii camphoratae,
Spiritus chloroformi,
Syr. ipecacuanhæ..... āā fl. ʒ ij.
Syr. prun. virginianæ..... q.s. ad fl. ʒ iij.

M. S. A teaspoonful every three or four hours. Shake well before using.

6. For weak and fruitless coughs with loss of bronchial power:

℞ Ammon. carbonatis..... ʒ i.-ij.
Tinct. tolutani..... fl. ʒ ij.
Syr. senegæ,
Spiritus vini gallici,
Syr. simplicis..... āā fl. ʒ iv.
Aquæ destillatæ..... q.s. ad fl. ʒ iij.

Ft. mist. S. A teaspoonful in a little water every two, three, or four hours.

7. For asthmatic and emphysematous coughs:

℞ Spiritus ætheris compositi..... fl. ʒ iv.
Potassii iodidi,
Ammon. muriatis..... āā ʒ ij.
Codeinæ sulphatis..... gr. ij.
Syr. tolutani..... fl. ʒ iv.
Aquæ des..... q.s. ad fl. ʒ iij.

M. S. A teaspoonful every two, three, or four hours.

8. For recurring bronchitis or winter cough:

℞ Terebene..... fl. ʒ vi.
Ol. eucalypt..... fl. ʒ ij.

M. S. Ten to fifteen drops on a little sugar every three, or four hours.

In conclusion the author begs to state that his studies relating to cough remedies are still in progress, and he hopes within a few months to present a further report which will include some clinical observations on a number of recently prepared expectorant preparations.

36 EAST TWENTY-NINTH STREET, NEW YORK.

SOME POSTURAL EXPEDIENTS IN OBSTETRICS AND MEDICINE.

By THOMAS R. EVANS, M.D.,

MT. CARBON, W. VA.

THIS paper is not put forward as one of unusual originality but is offered to recall a few old methods of treatment, some of which seem to have been forgotten and others to be unknown in certain quarters.

There are many deaths from asphyxia neonatorum because of the neglect to carry out the old injunction to "lay them on their right side because it is right." This wise and obvious precaution was taught seventy-five years ago in Philadelphia, then the Athens of the obstetric science. But so far as I know it is not now either taught in the schools or mentioned in our otherwise excellent books. By such posture the valve of the foramen ovale, which valve is not mentioned in my edition of Gray's "Anatomy," is closed by gravitation, thereby materially assisting hydrostatic pressure in preventing a continuance of antenatal circulation.

Posture could have but little if any effect upon a patent ductus arteriosus, but if respiration is once established the function of the duct ceases. At birth its calibre is much diminished, while that of the pulmonary arteries is much increased. Just before the duct reaches the aorta it springs from the junction of the pulmonary arteries. The chances are doubled and then a thousandfold multiplied that the venous blood will be pumped and aspirated at right angles into the empty vessels of the lungs and not thrown against and into the full and powerful aortic current by the duct. Fluids always flow into the channels of least resistance. By remembering the right-side posture the many needless and fussy details enjoined in the circumstances can be dispensed with, some of which details seem curious.

In one case after the usual methods had been un-

successfully tried for ten minutes, without design but fortunately, the child was placed upon its right side, and "rhythmical traction made on its tongue." "Hardly half a minute elapsed after beginning the traction before the child gave an inspiration" and was safe. The tongue is often an instrument of abuse and is itself sometimes abused. Has it ever been proved that by pulling on it the epiglottis is lifted?

Analogous in work over children in danger from death from an open foramen ovale was the work with patients narcotized with opium. This is given on faith—that so far as physical methods are necessary to the restoration of a patient under opium, it is said that an occasional whisper in his ear will suffice.

A late writer elaborated the theory that by inversion in cases of suspended animation in the new-born the vital flame may be rekindled. Almost any position is safer for the new-born than the dorsal. Inversion in the pale form of asphyxia is physiological, for it compels the liver to give up some of its superabundant and purest blood to the brain. Asphyxia may come on a baby while lying on its back two or three days after birth, as has been shown by Dr. J. D. Bissell, and it may prove fatal unless its position is changed.

The symptoms in this case were the classical ones of cyanosis neonatorum. Between the times of inversion the child was several times placed in the horizontal position, presumably upon its back; the respiration was so embarrassed that the horizontal position was abandoned for six hours, and the infant was saved.

Stertor from apoplexy and in other conditions is diminished, if not stopped, by turning the person on his side.

In constipation defecation is much facilitated by the assumption of the canine attitude in the same act. Dogs are usually constipated, and sometimes are subject to itching but not to bleeding piles. The upright or but slightly prone attitude of civilized man in the act of defecation greatly aggravates if it does not cause certain rectal diseases. The ease of defecation in the attitude approaching that of the four-legged is another of the many points in Darwinism.

Had not obstetrical postures been nationalized women would have somewhat briefer labors and the perineum would be less often injured. Woman is the only animal ever made to give birth upon the back. But for the bugbear of perineal rupture the obstetrical chair of the ancients would be a sensible convenience.

In so-called adherent placenta, when the patient has rested and is not in danger of syncope, to make her sit upon a bidet and bring her powers into play is frequently to cause the expulsion of the placenta, without the pain and maybe the injury of the Credé method and without the danger of infection from the hand in the old method.

Elevation of the hips in enuresis is well known.

Dr. Hunter McGuire told the writer that the next time a case was presented to him for tracheotomy for a foreign body he would first try the relaxing effect of chloroform together with inversion. This seems hopeful, for often after the patient is chloroformed and the incision is made he coughs because of the slight irritation of the atmosphere admitted through the incision, and the foreign body lodges in the mouth. I have never seen ether given before tracheotomy, but it lacks the element of the great relaxation caused by chloroform and is otherwise unsuited, if not contraindicated for the trial of this experiment. In the case of a cockle-burr or a vulnerating body ether might render matters worse by provoking excessive cough and the guidance of the patient's sensibilities would be lost.

Creosote by the Rectum.—Use in suppositories only diluted creosote.—KUGLER.

PERMANGANATE OF POTASSIUM IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By H. B. GARNER, M.D., AND J. B. LEESON, M.D.,
TRAVERSE CITY, MICH.

DURING the past five months we have employed this drug with most gratifying results in five cases of pulmonary tuberculosis.

In July, 1895, we commenced treating Mrs. R—, a phthisical woman, thirty-five years of age; she had a troublesome cough with free expectoration and a constant temperature ranging from 100° to 103° F. The sputum was loaded with tubercle bacilli and she was so reduced in health and strength that only with difficulty could she get from the depot to our office, a distance of fifteen rods.

We put her on the cod-liver oil and creosote treatment for several days, but no improvement could be observed. The patient continued very weak and feverish, coughing and perspiring freely at night. During the latter part of July we put her on one-grain doses of permanganate of potassium before breakfast, tablespoonful of wine of cod-liver oil one hour after meals, and ten grains of salicylic acid before retiring.

For the first two days the drug caused nausea and vomiting, but after that it was readily tolerated and within eight days marked improvement was observed. The patient has now made a perfect recovery, is free from cough, expectoration, and fever, and weighs more than she has before in ten years.

In September Mr. B—, a phthisical man of thirty-seven years of age, came to us for treatment. In making a careful examination we found that he had a cavity in the left lung, constant cough, temperature 103° F., and he complained of feeling chilly. He was much emaciated and so weak that he got about with great difficulty. We put him on the potassium-permanganate treatment and within four days the patient began to improve, and at the end of three weeks he had only occasional fever and coughed but little. Five weeks after his first call at our office he was able to go to work and felt stronger than he had for months. Unfortunately this patient moved away from the city and we have lost sight of him.

The 1st of August Mr. M—, nineteen years of age, came to our office for consultation. Upon thorough examination we found dulness at the right apex, respirations shallow and 35 per minute, temperature 102° F., pulse 100 per minute; he was much debilitated, had been having night sweats for a month, and had marked anorexia. We put him on the permanganate of potassium treatment and were much pleased to observe a marked improvement within five days. This patient continued to improve rapidly and at the end of six weeks had made a perfect recovery.

Six weeks ago Mr. L—, a foreigner of forty-five years of age, consulted us relative to his condition. He stated that he had been treated for nearly a year but that he was steadily growing weaker. He complained of feeling chilly in the morning, and we found that he had a constant temperature ranging from 100° to 103° F., marked anorexia, and a constant cough with free, glairy expectoration.

He was much emaciated and very pallid in appearance. We put him on the permanganate of potassium treatment and at the expiration of four days observed improvement; two weeks from the time he commenced treatment his appetite was good, his temperature normal, and he was gaining rapidly in flesh. At present he appears perfectly recovered and has resumed his work.

Dr. Z. H. Evans kindly reports the following case: "Mrs. H—, a married woman of twenty-seven years of age and the mother of three children, the old-

est of whom is three years, was taken ill in April, 1895. She was suffering from irritability of the stomach, severe diarrhoea, marked tenderness of the abdomen, and had constant fever, slight in the morning and varying from 101° to 102° F. in the evening.

"She had marked anasarca and anorexia, was frightfully emaciated, and was discharging from the bowels from a tablespoonful to six ounces of pus and mucus every two hours. She informed me that her maternal grandmother died with pulmonary tuberculosis and that an aunt on her mother's side had died with scirrhus cancer of the breast. This patient had enlargement of cervical and inguinal glands.

"I diagnosed tubercular peritonitis complicated with intestinal tuberculosis and advised an operation, but the patient would not consent to this. I then put the patient on elaterium, calomel, and jalap; these drugs were followed by cod-liver oil, quinine, and iron.

"The patient went from bad to worse, gradually failing every day, and there was nothing to be hoped from the above treatment. Some four weeks ago I was informed by Dr. H. B. Garner of the use of the permanganate of potassium and salicylic acid in the treatment of pulmonary tuberculosis. I at once put this patient on the potassium treatment and was pleased to observe immediate results. The discharges from the bowels commenced to lessen, both in frequency and in amount.

"After the first week there was absence of fever, increase in flesh, and marked improvement in appetite.

"The patient continued to gain steadily, has now fully recovered, and has resumed charge of household duties."

Dr. C. A. Clark, of Williamsburg, Mich., reports the following case:

"Mrs. B——, aged fifty-six, married, mother of six children; family history good. She contracted pulmonary tuberculosis thirteen months ago and has been confined to her bed more or less ever since, unable to do any kind of work. She has had constant cough with free, glairy expectoration loaded with tubercle bacilli, constant temperature ranging from 101° to 104° F., night sweats continuously, anorexia, debility, and emaciation. I used creosote, cod-liver oil and maltine, and every other remedy that I had heard of or seen recommended, but without success, as the patient kept going from bad to worse. Her cough became so distressing that she could not sleep at night; her appetite was entirely gone. I was at my wits' end to know what to do, as I had failed to give my patient any relief and saw her gradually dying before my eyes.

"In conversation with Dr. H. B. Garner about six weeks ago concerning the case, he told me of the success that he and Dr. Leeson had had in the treatment of tuberculosis with the permanganate of potassium and salicylic acid. I determined to try it and forthwith placed her on two grains of permanganate of potassium before breakfast, cod-liver oil after meals, and ten grains of salicylic acid before retiring, with the following result:

"In three days the patient began to feel better, cough was not so troublesome, and appetite was better; in two weeks she had no fever, no night sweats, and expectoration had ceased. She had slight cough, but ate well and had begun to gain in weight. At the expiration of six weeks she was stronger than she had been for five years.

"She says she never felt better in her life, sleeps well every night, has no cough, and weighs ten pounds more than she did a month ago. I still have her on this treatment but have ceased to visit her, as I consider her entirely cured."

At the present time we have several cases on the potassium permanganate and salicylic-acid treatment, all of which are doing well.

Progress of Medical Science.

Camphor for Ether Collapse.—Schilling affirms that hypodermic injections of camphor in larger doses than the text-books advise are beneficial in ether collapse. Half-grain doses are very effective, but the results obtained from one-grain doses are extremely gratifying. The solution should be one part camphor to ten parts olive oil. As the camphor is eliminated within two hours it has no cumulative effect.—*Münch. med. Woch.*

For Sickness Following the Administration of Chloroform.—Lewin finds that a linen cloth steeped in vinegar placed over the face of the patient and allowed to remain for at least three hours will prevent the sickness following the administration of chloroform.—*Rev. de Chir.*, September, 1895.

Serum Therapy.—Schaefer after considerable research discusses this subject, with the following general results: 1. Tuberculosis. Treated with serum obtained from refractory animals by Richet and Héricourt without definite results up to present time. 2. Rabies. Immunization by vaccination gives better results than serum treatment. 3. Pneumonia. Serum from immunized rabbits is difficult to obtain, consequently this treatment has not been used to any great extent. The subject is promising enough to deserve further investigation. 4. Enteric fever. Good results have not been obtained in practice, though laboratory experiments are very promising. This may be due to mixed infections or to length of time between the penetration of poison and the treatment. 5. Typhus. Legerain during an epidemic in Algeria used the serum from patients who had suffered from this disease, with good results. 6. Cholera. Cholera in man is different from that in animals. Nothing definite is known as yet, but Behring announces that he has a curative serum. His researches are not yet published. 7. Syphilis. Sometimes good results have been effected with the serum from dogs and lambs. 8. Streptococcus infection. The serum from animals immunized by vaccination has been employed with good effect in angina, erysipelas, and puerperal fever. 9. Cancer. There are no satisfactory results thus far. 10. Tetanus. This affection is very hard to cure in animals and no conclusive results have been obtained in man. The serum, however, acts as a prophylactic agent against tetanus. 11. Diphtheria. Here it is that the serum treatment has scored its most remarkable triumph. The few accidents that have occurred may be overlooked when we consider the wonderful success that has been attained. Serum treatment has also proved useful in snake bites and it may have a brilliant future.—*Arch. Gén. de Méd.*, August, 1895.

Treatment of Alcoholism by Strychnine Nitrate.—Dr. Breed thinks that we have in nitrate of strychnine a remedy for alcoholism that is safer and at the same time gives as good results as the gold cure, Keeley cure, silver-ash cure, etc. It is a treatment that is no secret and can be used by the profession generally. This drug removes the desire for alcoholic stimulation for, as yet, an undetermined length of time without the least effort on the part of the patient; though of course it cannot oblige a man to abstain if he is determined to continue the use of alcohol. Nitrate of strychnine removes the distress and gnawing at the epigastrium so common upon the withdrawal of alcohol; it tones up the nervous system and allays tremulousness and uncertainty of voluntary motions; it restores the appetite and general physical vigor and is incidentally a good heart tonic. These

latter effects restore hope and self-confidence in the patient, and these in turn aid much in his recovery.—*Med. News*.

Strangulated Hernia.—William Burton De Garmo draws the following conclusions from a study of thirty-nine cases of strangulated hernia: (1) Prompt operation saves complications and life and is neither difficult nor dangerous. (2) Medicines, external applications, and rough handling are dangerous. (3) Morphine masks symptoms but does not stop destructive changes. (4) Hot water saves resection or gives prompt evidence of its necessity. (5) Local symptoms are misleading. (6) Operate on a hernia that has been acutely strangulated for twenty-four hours. (7) In every instance open to the internal ring, and always draw the bowel down far enough to examine the actual point of constriction. (8) Infants seldom require operation. (9) It is not advisable to give cathartics after strangulation and the return of a suspicious bowel.—*Annals of Surgery*, April, 1895.

Cervico-Facial Actinomycosis.—M. Meunier recognizes three periods of this disease: the first characterized by tumefaction and a compact induration of an inflammatory appearance; the second by actinomycotic lesions having the appearance of fungus tumors made up of a large number of miliary abscesses, which give rise to the formation of fistulous tracts; the third by marked cachexia and an encroachment upon the bones of the face. Actinomycosis must be distinguished from exterior lesions produced by dental caries, from adenophlegmonous suppurating periostitis, tuberculous cervical glands, syphilitic lesions, malignant tumors, woody phlegmon, etc. One must search in the pus for yellowish granules from one-quarter to one millimetre in diameter; these granules contain the actinomyces or ray fungus. The author has obtained good results by treating actinomycosis with iodide of potassium, which is unfavorable to the viability of the specific fungus. The duration of treatment varies from six weeks to two months.—*Semaine Médicale*, July 17, 1895.

Sterility.—Graefe gives the following causes of sterility: 1. Anomalies of the hymen or malformations of the genital tract. A very large vagina can also be a cause of sterility, as the sperma flows out immediately after coitus. 2. Vaginismus. 3. Excessive acid reaction of the vaginal mucus, which destroys the power of motion in the spermatozoa. 4. Narrow external or internal os, ante flexion, retroflexion, endometritis, gonorrhœa, especially with involvement of the adnexa, neoplasms. 5. Constitutional diseases, as tuberculosis, syphilis, chlorosis, and obesity.—*Centralblatt für Gynäk.*, No. 49, 1895.

The Oyster Shuckers' Eye Disease.—Oyster shuckers' keratitis is defined by Dr. Randolph in *The Johns Hopkins Hospital Bulletin* as a traumatic keratitis, where the injury is produced by a particle of shell striking the corner of the eye, and imbedding itself in that organ. The extent of the injury does not explain the violent reaction which follows. Baltimore is the greatest oyster market in the country, and the tenth census of the United States shows that there are at least six thousand shuckers in Maryland, most of them being in the shucking-houses of Baltimore. In many of the Northern cities, including New York, Boston, and Portland, oysters are received in great quantities that have been shucked in that city, so that oyster shucking in the north does not exist as a trade to the same extent as in Baltimore. The magnitude of the oyster industry may be said to account for the frequency of the oyster shucker's keratitis there. The reports of the eye hospitals in Balti-

more contain the records of several hundred cases during the last few years, and during the last several months twenty-four cases have been treated at the Baltimore Presbyterian Eye and Ear Hospital.

Friction with Salt for Urticaria.—Dr. Meynet advocates the following simple measure as very effective in allaying the itching that results from urticarial lesions. Moisten the wheals with cold water and rub with kitchen salt for ten or fifteen seconds. A slight burning followed by a pleasant sensation of coolness is felt; then the itching decreases or ceases entirely and the papules usually disappear. Zinc ointment or rice or almond powder may then be applied. When the urticaria is extensive different parts may be treated successively in order to avoid too great irritation. This need not interfere with other treatment, such as dieting, or a purgative if the urticaria be of toxic origin. Lukewarm baths may prove beneficial.—*Revue de Médecine et de Chirurgie*.

Cutaneous Continuity Restored by Epithelial Grafting.—Mangolt offers the following new method of skin grafting. Let a portion of the body, preferably the inner or outer surface of the forearm, be shaved and disinfected; then make the skin tense and scrape carefully down to the papillary layer with a sharp razor held at right angles to the surface. The blood and epithelium thus removed are transferred to the wound which has been prepared to receive it. Slight pressure and a protective dressing complete the operation. A graft thus applied shows signs of its presence in the course of a week and in three weeks' time a new layer of epithelium usually forms.—*Deutsche medicinische Wochenschrift*, 1895, No. 48.

Dilatation of the Uterus not a Conservative Operation.—Dr. Fournel not only condemns "mutilating" operations, such as removal of the uterine appendages, without due deliberation, but maintains that dilatation of the uterus is in no sense conservative. In mild cases of perimetritis with little or no pain, according to comments made on his observations by the *British Medical Journal*, dilatation has merely a negative effect and deludes the operator, who fancies that it is the cause of ultimate recovery. In very severe and acute cases nobody thinks of dilatation. In cases of distinct suppuration, surgical—that is, truly surgical—treatment is demanded at once. Expectant treatment in these instances is unsurgical, dilatation even more so. Dilatation itself often involves sterility, not rarely death, and very frequently aggravation of the perimetric inflammation which it is supposed to cure. Diagnosis of perimetritis is by no means easy, while experience abundantly proves that very bad cases recover without loss of function. True surgery teaches us to preserve all that can be preserved. The whole of the internal organs must be saved if possible. If not, fecundity must be preserved; in other words, we must not be over dogmatic about removing the appendages on both sides. Should the case be desperate, the hopelessly diseased structures, and nothing besides, must be removed in order to preserve life and health.

Influence of High Altitudes on the Blood.—Drs. Gebhard, Fraenkel, and Grawitz have shown that there is a notable increase in the proportion of the number of corpuscles in the blood in persons who go from a low to a high altitude. This increase takes place in from twenty-four to thirty-six hours. It is possible that this fact may be one of the reasons for the beneficial effects of high altitude in cases of pulmonary tuberculosis. The increase in the red corpuscles is attributed to the desiccating effects of a high atmosphere.—*Modern Medicine*.

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VALUE OF FAMILY HISTORY AND PERSONAL CONDITION IN ESTIMATING A LIABILITY TO CONSUMPTION.¹

WHEN Garibaldi first came to England there was some talk of his marrying a wealthy widow devoted to his cause; objection was made that he had a wife already. "Oh," said Beresford Hope, "we'll get Gladstone to explain her away."

As we know, anything may be proved or explained away by statistics; some one has said they don't even lie truthfully. If the reader has any preconceived ideas, founded on scientific or clinical observation, on family history as a predisposing cause to phthisis, we advise him, especially if he happens to be an examiner for a life insurance company, in justice to the applicant who may come before him, to pass over this contribution.

We say this in all seriousness, for from a long experience we are convinced that the applicant for insurance is not given half a chance. It is a very serious matter for a person to be declined for life insurance, but in nine cases out of ten it is the company who receives the consideration.

This, speaking broadly, is right, but too many life-insurance examiners, especially in the provinces, see only through the eyes of the "medical department"; they are abject subjects of the "divinity which hedges the medical director," hundreds, perhaps thousands, of miles away, and great injustice is done in very many cases. It is the writer's sincere conviction, founded upon a personal experience with medical examiners for our three great companies all over Europe and America, that they have little or no latitude given them; they are little enough encouraged to take a broad view of their duties, Heaven knows, and it is absolutely wrong to send out such a misleading report as the one before us. The examined as well as the company have rights. Some one said, "God is good, and the devil isn't bad, either." The companies might remember this in dealing with those unfortunate applicants who are supposed to be tainted with phthisis.

In the report before us, the tables are made up from figures taken in an extraordinary way (see page 4).

"The material used for this report consists of

22,085 cases, being the entire mortality during the fifteen years from 1879 to 1893. . . . From this material all the cases were selected which gave any record of consumption in the family. The number of such cases was 1,994. A class of cases with 'tainted record' was thus made. . . . The class thus separated might be compared with the 'total remaining,' but for satisfactory reasons it is preferable to employ only an approximately equal number of cases. This has been done by taking all the deaths which occurred in the beginning, middle, or end of the whole period, namely, 1879, 1886, and *part*¹ of 1893, amounting to 2,706 cases."

Why the cases occurring in 1879, 1886, and part of 1893 should be taken, any more than those of any other two years and part of a third, we fail to understand. Why 2,706 rather than 2,101 or 1,200, which is as approximately near 1,994 as is 2,706 or, indeed, any other number, may we ask?

We know that the death rate in the great companies varies very little from year to year, but there is absolutely no ground for supposing that the number of persons dying of phthisis, to wit, 333 (see Table I., page 5 of report), in this series of 2,706 untainted people should not be greatly increased or diminished in the same number of untainted cases arbitrarily selected from any other two years and part of a third.

In other words, there is no reason why these figures should have been taken and less why they should have been used as a basis of comparison.

However, as these figures have been selected as a basis of comparison, let us see what the conclusions are which are drawn from them.

Table No. 3, page 10, shows "the proportionate mortality from consumption and other causes among those with tainted record and arranged according to degree of taint and age at insurance."

Here Dr. Marsh's statistics show that where the father had died of phthisis the percentage of death from the same was 20.7, but where the mother had died it was 15.5; and that this percentage was greater for all ages up to fifty and over, except for the years of life between thirty and thirty-nine, when it was practically the same. These conclusions are absolutely contradicted by scientific facts and medical experience.

It is known that tuberculosis in the father is of infinitely less importance than in the mother. Osler² says in this connection: "There is no evidence that a tuberculous father can directly transmit the disease and experimental evidence is also negative." On the other hand, "We know that maternal is much more common than paternal inheritance." Furthermore, Dr. Marsh has no proof that those who did die of tuberculosis inherited it from the father or mother. Dr. Hilton Fagge very justly remarks, "It is impossible to draw the line between hereditary and accidental tuberculosis." All of which goes to invalidate this conclusion.

In six generations, from 1783 to 1887, the transmission is almost constant through the mother.

¹ Report to the president of the Mutual Life Insurance Company, by E. G. Marsh, M.D., Medical Director.

² The italics are ours.

³ "Practice of Medicine," Second Edition, New York, 1895.

Another deduction from Table 3: "On one point, however, the evidence is *conclusive* [the italics are ours], namely, that the death of a brother or a sister is of equal significance with that of a parent."

Practical experience also teaches us that this conclusion is as far from fact as possible. The death of a brother or sister does not prove a necessary predisposition if the parents are healthy. Where it does happen it is probably accidental, and in former years, more especially before the infection of tuberculosis was recognized, was caused by the intimate relation and constant association of one sick child with others in the same family; a condition of things which is happily becoming less every year.

We cannot show more clearly the utter falsity of the conclusions drawn from such statistics as these than to quote—it needs no comment—the conclusion on page 12, to wit: "The subdivision showing a record of 'a parent and brother or sister dead of phthisis,' gives the very smallest percentage of consumption of any class with tainted family record, equal in fact to the general class with no taint."

There is a saving clause in the text *à propos* of this, however, to the effect that "the number of cases in this subdivision is not large, . . . but I believe that special care in selection . . . has had a decided influence in effecting favorable results." If nothing else could bring about such figures, then why draw any conclusions from them?

From the figures of Table 2 "it would appear that the importance which has been attached to a family record of consumption is not modified by the age of the applicant," etc. This is a statement made also by the Equitable Life. But here again the want of anything like a complete family history in a life-insurance paper tends to invalidate this conclusion.

It is not, after all, the age of the applicant at the time of insurance on which we should base his predisposition, but, leaving out the question of weight, his age at the time of his mother's illness and death from phthisis; and in rare instances on his age at the time of his father's illness and death; as, for instance, when there is a distinct and constant taint on the father's side.

We have quoted at length from this report, for it seems to us it is a very serious matter to send out such misleading and unscientific work on such an important and vital subject as tuberculosis.

We hate to think of the gross injustice that will be done and the suffering inflicted on widows and orphans where the bread winner has been "turned down," because of a partial or strict adherence to such utterly false conclusions.

Apart from these particular statistics we very much question the worth of any statistics as to the comparative mortality of tuberculosis or the value of family history in estimating a liability to phthisis, drawn from life insurance examination papers. In the first place, any man of experience as an examiner for life insurance knows how very many persons are ignorant, really or with malice, of the cause of death of parents and brothers or sisters, and that a history of phthisis, more than of any other disease, is denied. And this is

done with impunity in the majority of instances, for it is rarely possible to see the death certificates.

In the writer's experience it is the one thing which many men will lie about; they know or fear it may mean rejection. And so we have the cause of a death really due to consumption put down as due to pneumonia in the majority of instances, and to Heaven knows what else in others.

Furthermore, many cases of incipient phthisis are to-day recognized early and by proper treatment cured, which, up to a few years ago and certainly much later than the year 1878, with which year the cases in the report begin, would have gone on to premature death.

Again, in a life insurance paper the simple statement is made, "died of consumption." Whether it is acute tuberculosis of the lung or fibroid phthisis, a very different thing; whether inherited or accidental, as a wife being infected from a husband, a husband from a wife, a sister from constant nursing of one of the family, etc., and a thousand and one other considerations, is not stated, all of which goes to invalidate any conclusions which may be drawn from the answers made in a life insurance paper.

Finally, with reference to the paper before us, the conclusion in the latter part of the same, that "persons who are under the standard or average of weight are much more liable to consumption than those above this standard," is more in keeping with acknowledged facts, but this fact was so well known that it did not need these statistics to confirm it.

We can only hope, in justice to those who most need assurance, that the medical examiner of the Mutual Life or of any other company will not heed any of the conclusions of this report; they are, as we have said, false, misleading, unscientific.

We are told not to put our faith in princes; there were no statistics in those days.

TYPHOID FEVER IN THE DISTRICT OF COLUMBIA.

THIS extremely important contribution is the result of a special investigation by Dr. George M. Kober. The well-known fact that for many years malarial diseases and typhoid were extremely prevalent in Washington is greatly emphasized in the report before us. It shows conclusively that typhoid fever has increased with approximate uniformity in the District of Columbia during the past twelve years. Five hundred cases distributed over different parts of the city were investigated, and the important fact was developed that the disease is more prevalent in the suburbs and in the northeast, in proportion to the population, than in any other part of the city. In seeking to account for the cause of the fever in the suburbs of Washington we find that 115 cases occurred in 110 houses supplied with methods for the disposal of the excreta as follows: Water closet in house or yard, 18; water closet connected with cesspool, 2; box privies, 86; surface privies, 3; no privy, 1.

Of the 115 cases, 92 were consumers of well water, 18 of Potomac water, 4 of cistern water, and 1 of

spring water. Dr. Kober says that what is true of the suburbs now was, under like circumstances, true of other parts of this city in earlier years; that, before the existence of sewers in the district, there were box privies, many of which are still in use even when leaky or full to overflowing, and before the era of box privies there were sinks and cesspools, all of which would go to account for the soil pollution and constant large mortality from typhoid which has existed for so many years in Washington and which has naturally increased as the city grew. Soil pollution and contaminated water, the doctor says, are the most potent factors in the cause of this disease in the suburbs of Washington.

This report also deals with the city of Washington itself, and the typhoid fever is found to be pretty equally distributed except in the northwest, the best part of the city. The report devotes much space to the relation between the water of the Potomac and the prevalence of typhoid fever in the district, and in this connection Dr. Kober says: "While the Potomac water compares very favorably as regards purity with that of other rivers, there is much reason for believing that it is not at all times free from danger," and quotes Dr. Billings as saying that "at certain times of the year the river water is so loaded with sediment as to be unfit for bathing as well as for drinking purposes. And it is probable—although not proven—that it at times contains organisms or substances capable of producing diarrhœa in persons not accustomed to its use, and the typhoid bacillus is not absolutely excluded from it, although it has never been actually found in it."

In this connection, however, Dr. Kober calls attention to the fact that, though the specific germs of typhoid fever have never been demonstrated in Potomac water, it is equally true that they were not demonstrated in a well in the suburbs of Washington which had infected eleven persons and in which only the colon bacillus was found. Finally, he thinks that all should be warned against drinking the Potomac water at any time of the year and that much of the immunity from typhoid fever in the northwest section is due to the use of domestic filters and sterilization of the water. This report seems to justify the following conclusions:

1st. Typhoid fever has increased with almost uninterrupted uniformity in the district during the past twelve years, indicating the persistence of local causes.

2d. Typhoid fever is more prevalent in the suburbs and in unsanitary portions of the district, indicating the encouraging fact that the causes are largely preventable.

3d. The rate of typhoid fever cases in certain parts of the city, like the northwest, is no greater than in some of the most healthy American cities.

4th. The majority of persons attacked were consumers of well water, much of which was found contaminated and none above suspicion.

5th. A large percentage of the cases occurred in houses supplied with box privies, which, apart from being an important cause of soil pollution, are be-

lieved to be otherwise instrumental in the dissemination of germs, chiefly through the agency of flies.

6th. While the Potomac water compares favorably with that of other rivers as regards purity, no water supply from streams once polluted can be considered safe for drinking purposes without filtration or sterilization.

Dr. Kober makes the following recommendations, which are of great interest and importance:

1st. The immediate closing of every well in the district wherever a better water supply can be obtained.

2d. The early completion and extension of all necessary sewers within the city limits, and the enforcement of the law to make sewer connections.

3d. The abandonment of all box privies within the city limits and the enactment of more stringent laws for the prevention of soil pollution, together with a rigid, frequent, and systematic inspection of all box privies in the suburbs.

4th. The improvement of the Potomac water by means of filtering-basins, and the extension of this water supply to the suburbs at the earliest moment practicable.

5th. Such measures as may be necessary to improve the sanitary condition in the lower part of the city along the Potomac and the Eastern Branch, looking to the reclamation of stagnant and polluted marshes and the prompt disposal of the sewage.

6th. The enactment of a law requiring notifications to the health officer of all cases of typhoid fever and other infectious diseases in the District of Columbia, together with a rigid enforcement of the building-regulations requiring the cementing of cellars and basements to prevent contamination of the air from polluted subsoils, and the systematic inspection of dairies.

In the mean time, as a preventive measure, he earnestly recommends to the public the thorough disinfection of the excreta from all typhoid-fever patients, and greater care on the part of those connected with the sick, together with the boiling of all water and milk supplied.

SEPTICÆMIA FROM SEWER GAS.

COMMENTING upon the expression of Dr. Jacobi of this city that sewer gas is not nearly so injurious as is generally supposed, and that the various diseases attributed to it are conveyed to the patient in other ways, Dr. A. Lapthorn Smith, of Montreal, says that he has every reason, from his own clinical experience, to think that Dr. Jacobi underestimates the danger of septicæmia from sewer gas. He refers in this connection to the remarkable immunity from puerperal fever at the Preston Retreat in Philadelphia and at the Sloan Maternity in New York, in which institutions there is not a sewer pipe in the building proper. He notes, too, in several outbreaks of diphtheria in Montreal and other cities, the curious fact that the greatest percentage of cases occurred in the houses of the rich, in which many of the rooms were provided with the questionable luxury of permanent marble basins. It seems that in the New York Woman's Hospital there was a high death-rate after cœliotomy

and frequent failure to heal by first intention, until the pavilions were removed from the expensively drained main buildings, when the results immediately began to improve. Dr. Smith states that one of the foremost surgeons in Canada lost his first nine cœliotomies, which were done in a well-drained hospital, and it was not until he operated in a separate building devoid of all plumbing that his results improved. He gives several experiences from his own practice. In a number of operations he had constantly recurring high temperatures in his patients, notwithstanding every possible precaution. Complaint was made to the authorities and it was only after much persuasion that the plumbing was examined, when, with the smoke test, a stream of smoke was seen to emerge from a three-inch hole in the concrete floor of the laundry, and on further investigation it was found that this hole connected directly without any trap with the soil pipe running into the sewer. The defect was remedied, with the result that all wounds healed, as a rule, by first intention, and there was rarely, if ever, any high temperature in the obstetrical ward.

In another case the patient was wealthy and the house in which her confinement took place was provided with the very best sanitary arrangements. The patient for some extraordinary reason—every possible precaution had been taken—was attacked on the fifth day by a chill and rise of temperature, and puerperal fever developed. After careful investigation a crack in the soil pipe of the water closet just above the floor was found from which there was an escape of sewer gas. In view of these and other cases, Dr. Smith is satisfied that there should be an annual testing of the plumbing of hospitals and private houses where women are to be confined or subjected to abdominal surgery, and that all such operations should be performed in pavilions where there is no plumbing whatever. For his own part he says he "would much rather do a cœliotomy in a woodshed or hovel where there was no plumbing of any kind than in the finest hospital operating-room where there was a connection with the sewers of a great city, owing either to a defect in the plumbing or in the siphonage of the trap."

ANTI-VIVISECTION IN CONGRESS.

WE have already referred to the fact that a bill has been introduced into the Senate and House, entitled "A Bill for the Prevention of Cruelty to Animals in the District of Columbia." The bill provides that "no person shall perform on a living animal any experiment calculated to give pain to such animal, except subject to the restrictions hereinafter prescribed." The restrictions imposed by the act are five in number, and are so elaborate that, according to Dr. Busey, who appeared before the committee to oppose the bill, the proposed law would practically prohibit instead of regulate the practice.

An examination of the bill shows that it would quite prevent all experimentation in bacteriology, and would compel the use of an anæsthetic for every hypodermic given to animals. Furthermore, it pro-

vides that the commissioners of the District of Columbia shall appoint agents of the Humane Society who will act as special inspectors, and it is in the presence of some agent of the Humane Society that all the experimental work of the scientific men of the District of Columbia will have to be done. We would not, at any time, oppose the restriction of vivisection if it were needed. But the amount of vivisection in this country is so trivial that it has seemed a waste of legislative and executive energy to attempt special regulation. The cruelties of vivisection, compared to those of sport and the slaughter houses, are as one to millions, and we have always urged the hysterical people who are so frantic over nothing to attend to what is seriously brutal before devoting their time to alleged evils in a work extraordinarily beneficent.

In the present case, the bill for regulating vivisection in the District of Columbia ought to be vigorously opposed by every person who cares for the progress of human knowledge and who has a spark of philanthropic feeling in his breast. The evil that would result if vivisection were entirely abolished is something appalling to contemplate. Let those who do not believe this take a survey of the history of tuberculosis, rabies, antiseptis, and diphtheria in the last ten years.

STATE MEDICAL EXAMINATIONS.

A COMMITTEE of the State Board of Medical Examiners met in this city on the 15th inst., and listened to arguments regarding the question of divided examinations. It seems that the graduates of those New York medical colleges whose courses are graded are not very fresh in the studies of their early years when they get their final diplomas; consequently they object to going before the State Board and being examined upon anatomy, physiology, and chemistry, together with the later studies. The medical students, naturally perhaps, would like to study anatomy a couple of years, pass their examinations in college, then pass them before the State Board, and thus have the whole thing finished and out of their minds. At the meeting of the committee last week Dr. McLane, representing the College of Physicians and Surgeons, and Dr. Daniel Lewis, president of the State Board of Health, spoke in favor of the retention of the present law. Dr. Waite, of the Homœopathic College for Women, and representatives of the Long Island College Hospital and of the University Medical College, spoke in favor of the change. One objection made by those who are opposed to any change was that divided examinations could not easily be made to apply to students who came from foreign countries or from other States. In answer to this, it was proposed that the law be made to apply only to the graduates of medical colleges of this State.

The present law has been working very satisfactorily, and we must express the decided opinion that no change is required or should be made. The medical colleges of the State are showing a petty spirit in their continual protests and attempts at amending the

medical examining laws. They might more profitably spend their energies in trying to teach their students to be better doctors, rather than in fighting for laws which make it easier for their graduates to become licensed. The interests of the State demand that we should have physicians who have been well educated, and are familiar with the fundamental branches of medicine. There is no particular reason why it should admit as medical practitioners men who have forgotten their anatomy, their physiology, and their chemistry. Looking only at the interests of the public and of the profession at large, we think that the present law is a proper one, and makes quite sufficient allowance for the defects in medical training for which some of the medical colleges are responsible. The State medical examinations are not very severe. Let the medical colleges train their students up to the standard required. Their hospital facilities are now ample for the purpose.

News of the Week.

Nevada State Medical Society.—At the semi-annual meeting of the Nevada State Medical Society held at Virginia City, Nev., January 13, 1896, the following officers were elected for the ensuing year: P. T. Phillips, M.D., of Reno, *President*; P. Manson, M.D., of Virginia City, *Vice President*; T. P. McDondald, M.D., of Virginia City, *Secretary-Treasurer*. The next meeting will be held at Reno, Nev., July 13, 1896.

Treatment of Diphtheria in France.—M. Monod, the officer of health to the French Home Office, in a recent report gives the number of deaths from diphtheria in the one hundred and eight large towns (with over twenty thousand inhabitants) of France in the first six months of 1894 and 1895—that is to say, before and after the introduction of the antitoxin treatment. The returns not only denote a very great diminution, but one that is constantly progressing, from fifty-six per cent. in January to seventy-four per cent. in June. The number of deaths from diphtheria in these one hundred and eight towns in the first six months of 1894 was 2,626, and in the same period this year 904.

Admission of Women to German Universities.—The *Hamburgische Correspondent*, speaking of the increasing interest shown in Germany in the question of the rights of women, says: "The women's rights agitation now vigorously going on in England is being watched with the keenest interest in Germany, where also the question is a burning one. As regards the establishment of a German university for women, the well-known Berlin professor of law, Dr. Dernburg, holds that women who have the requisite capacity for academic study have also the right to it, but that it is quite another question whether it would be wise to admit both sexes indiscriminately to the German universities. He thinks it would be better to reserve one of the universities mainly for women—Giessen, for instance, which is beautifully situated in the middle of the empire."

Dr. John De Haven White, one of the earliest of American dentists, who died recently in Philadelphia at the age of eighty-eight years, was left an orphan at the age of seven years and bound out to a farmer, but managed to acquire a fair preliminary education and in 1836 entered the Jefferson College at Philadelphia, studying medicine. At the same time he studied dentistry under Dr. Blankman. In 1852 he established the Pennsylvania College of Dentistry at Philadelphia, the outgrowth of a society which he had been instrumental in forming in 1845. He received the degree of M.D. from Jefferson College and of D.D.S. from several colleges. He also received degrees from foreign universities.

New York Red Cross Institute.—The New York Red Cross Institute was incorporated February 15th. The principal office of the society is to be in New York City, and it is formed to establish a corps of physicians, surgeons, and nurses for attending the sick or wounded of all nations, creeds, and sexes, in time of peace or war, and to supply the association of the American Red Cross with nurses, medical and surgical aid, and assistance. The directors are: Victoria Raymond, C. H. H. Cottrell, Page C. Dennis, A. Monae Lesser, M.D., Bettina A. Hofker, H. G. Steger, M.D., S. E. Barton, C. R. Ellison, M.D., and Robert W. Johnson, all of New York City.

Seeing through Opaque Objects.—Professor Salvioni is reported to have invented an instrument which enables the human eye to see through opaque objects. The instrument consists of a cylinder of cardboard, the inner surface of which is coated with a material that becomes fluorescent under the action of the Roentgen rays. The lens is at one end of the cylinder. The object to be examined with its coverings is placed between a Crooke's tube and the cylinder; on looking into the tube through the lens the observer sees the outline or shadow of the concealed object, which is thrown on the fluorescent interior.

Sale of Brandy Drops an Excise Violation.—Chief Conlin has ordered policemen to visit the candy shops on their posts and instruct the proprietors that they must not sell brandy drops or other confections containing alcohol or intoxicating liquors. Those who persist in selling such confections will be prosecuted for violating the excise laws.

Errata.—In Dr. Beck's article, page 219, under "Prognosis" read: "Experience leads me to conclude that the prognosis of subphrenic abscess, *except those* of malignant origin, such as carcinoma pylori, for instance, depends almost entirely upon early diagnosis." Also *moss* board should be the material used for absorption and not pasteboard.

On page 119, tenth line, Dr. C. Drew's article, the word "light" should read "color."

Surgeon-General H. D. Pickman, of Montana, died January 24th, in Nova Scotia, whither he went for a change of climate.

Urea as a Diuretic in cirrhosis of the liver is recommended by Klemperer.

The Fifteenth Annual Report of the New York State Board of Health has just been published, and it contains a large number of interesting papers and discussions. The sanitary organization of New York State is far behind that of Massachusetts, and the publications of our health board are necessarily much less complete and valuable, but we are glad to notice a gradual improvement. The report refers, among other things, to the epidemic of typhoid fever at Middletown, Conn., caused by eating freshened oysters, and it is recommended that a general prohibition of the freshening of oysters be ordered. If this process is necessary, it is advised that artificial floats be employed for the purpose. The subject of bovine tuberculosis is discussed at much length. The report shows the danger to the health of the people from this cause, owing to the very wide extent of the disease in the State. It is estimated that to destroy all the animals affected would cost nearly one million dollars. We agree with the health board that it would be a wise economy to appropriate this sum, or even a larger one, in order to stamp out bovine tuberculosis and provide such measures as would prevent its future development. The State may profitably spend less money on its capitol or its canals, and more on the organization of its sanitary system. The examination of drugs has been continued by Dr. Tucker, chemist to the board. There have been very few prosecutions of pharmacists who have been found guilty of dispensing impure drugs; hence the facts showing that adulterations do exist have made practically very little difference in the work of the druggists. There have been fifty-three samples of potable water received and analyzed. Many requests have been made for bacteriological examination of waters, but the facilities have not been provided by the State. The chemist asks that such facilities be thus supplied. This, however, should be done only under certain restrictions. It is not the business of the State to do bacteriological and chemical work *gratis* for private individuals or corporations able to pay.

The Orange Memorial Hospital is to have a new pavilion for consumptives, built by Mr. Frederick M. Shepard as a memorial to his son.

The Illinois Supreme Court has decided that physicians cannot be compelled to report upon contagious diseases or render other service to the public without pay.

Investigation of Yellow Fever by Cuban Physicians.—The Spanish government at Havana has appointed a commission to investigate the yellow fever of that island. The commission is composed of medical officers of the army and navy and of prominent physicians of Havana. Bacteriological examinations will be made.

The "X" Rays.—Reports regarding the investigation of the "X" rays and their use in medicine and surgery continue to be published, but no very remarkable results have yet appeared. In Berlin Professor Bergmann performed a minor surgical operation on the hand of a patient for the purpose of removing a shot.

A photograph of the hand by the "X" rays had shown the position of the shot, which had been previously probed for without success. Professor Bergmann stated that there was no likelihood that this form of light ray would ever contribute such benefits to surgery as the discoveries connected with antiseptics had done, and he also cautioned the students against attempting to remove foreign bodies which were not doing any harm.

German Measles is said to be now quite prevalent in certain parts of the city. The total number of cases of measles reported for the week ending February 8th was 432. This number, we understand, includes both the ordinary and the German measles, no distinction being made by the health board between the two. The number of deaths from measles reached a very high figure four years ago, it being 864. The epidemic influence then dropped very rapidly to 393 in the year 1893, but rose again in 1895 and now seems to be increasing.

The Bertillon System.—The use of the Bertillon system for identifying criminals is recommended to the police department of this city, and is likely to be adopted. It certainly ought to be. The old-fashioned method of depending on photographs, certain general facts about height, weight, and complexion, belongs to a much more primitive era than our own. The merit of the Bertillon system has been abundantly tested, both abroad and in some parts of this country. Its value depends upon the practical fixity of the skeleton after the twentieth year of age, the great diversity of dimensions which this skeleton presents, and the facility and precision with which certain dimensions of the skeleton can be measured and recorded.

The Results of the Bacteriological Examinations of 1,000 cases of suspected diphtheria have just been reported in the *British Medical Journal* by Drs. R. T. Hewlett and Harold Nolan. The writers state that the diphtheria bacillus was found in 587 cases, in 409 it was not found, and in 4 cases the organisms were not identified. Thus, in two-fifths of the cases sent in for investigation in London, diphtheria is not found.

A New Treatment for Metrorrhagia is advocated by Henocque and Ardouin. It consists in the application of a mixture of equal parts of salol and antipyrin, using a small tampon of absorbent cotton.

Degeneration.—Dr. D. G. Brinton recently read a paper before the anthropological section of the Academy of Natural Sciences at Philadelphia, in which he endeavored to show that the modern American woman is less capable of child-bearing than the women of the less civilized races, and that anatomical and physiological changes of a degenerative character were at the basis of this.

The Ladies' Home Journal announces that it will no longer receive advertisements of medical preparations. If this is a bid for the doctors' vote, the paper ought to have it.

A Case of Acromegaly improved by treatment with "pineal extract" is reported by Dr. W. J. Hadley in *The Clinical Journal*. Dr. Hadley must have mixed up his glands and written (or used) "pineal" instead of "pituitary."

Anti-Syphilitic Serum is placed on the market by an English firm.

An Acrimonious Debate Over Sugar and other carbohydrates is going on between Dr. Pavy and Dr. Noel Paton. Dr. Pavy believes the liver to be sugar-destroying and that the carbohydrates of the system are made from tissue metabolism. Dr. Paton, who denies this, is behind in his vocabulary of obfuscation but somewhat ahead in his science.

The After-History of the First Case of Myxœdema, Treated by Thyroid Extract.—In the *British Medical Journal* of February 8th Dr. George R. Murray, who first instituted the treatment of myxœdema by thyroid feeding, gives a further report of his first case. The patient was a woman aged forty-six, who had had myxœdema for four or five years. Treatment was begun in 1891 and has been continued ever since. The patient is still perfectly well.

The Medical Times and Register, which has undergone various vicissitudes, is now a bi-weekly and appears in a new and improved dress.

Golfer's Arm.—Mr. Fred. Edge, F.R.C.S., writes to the *British Medical Journal*: "After playing double my usual rounds at golf on December 31st, I awoke next morning with great pain in my shoulder and arm. This has gradually improved but still persists, and seems entirely confined to the musculo-spiral nerve. There are painful points where the nerve pierces the external intermuscular septum and the fascia about the elbow, and numbness with tingling in the dorsum of the thumb and first finger, not of the second. Having met with another case which has persisted for ten months and finding that it entirely spoils one's enjoyment of golf, it has seemed worth while bringing the subject to your notice. It appears to be due to the repeated sudden and whip-like contractions of the triceps bruising the musculo-spiral nerve, and I think it arises when the tone of the muscle is defective, and consequently the change from rest to contraction is more marked. Very graduated exercise and fresh air with gentle friction of the arm relieves the condition permanently."

An Epidemic of Influenza is prevailing in Philadelphia. The *Philadelphia Polyclinic* states that in connection with the influenza there develops an insidious form of pneumonia with a strong lethal tendency. This fact has been observed in previous years when the epidemic was prevailing.

Against Tall Buildings.—Senator Pavey, of the New York legislature, has introduced a bill providing against the future erection of tall buildings in New York City.

City Hospital.—Dr. Alfred N. Strouse has been appointed attending ophthalmologist to the City Hospital.

The Ringing of Bells.—The Health Commissioner of Brooklyn has sent a communication to the pastors of churches having bells warning them that there is a sanitary ordinance which expressly prohibits the ringing of large bells in such a manner as to become a prejudice or peril to the life or health of any human being. All church authorities and others having control over the ringing of large bells in neighborhoods that are thickly settled are, therefore, requested to prevent bell ringing before 7 A.M., and in localities where complaints of invalids are brought to their notice to restrict the bell-ringing in the daytime to as few strokes as possible.

The Question of the Increase of Intemperance.—At regular intervals we are told that intemperance and the consumption of alcohol in various forms are increasing, and then come statements which assert the direct opposite. Recently Mr. Whyte, of the United Kingdom Alliance has issued a letter, in which he states that laborers lose 10.9 per cent. of their numbers from drunkenness or alcoholism; artisans, 13.1 per cent.; the independent classes, 20.4 per cent.; the mercantile, 13.8 per cent., and the tradesmen, 16.9 per cent. He infers from this that sobriety is not increasing, as has been stated, in the middle and upper classes, but rather the contrary, and that the working classes really suffer less from alcoholism than the better educated. Mr. Whyte's figures are based upon a study of 4,200 cases collected by an investigating committee.

Plagiarizing Again.—We had supposed that American authors were rising above the moral plane which prompted them to appropriate the writings of others, and that the medical profession especially had kept themselves clear from this disgrace; but the *Medical Press and Circular* of February 5th, published in London, contains the following:

"As evidence of the dishonesty to which English authors are subject, we need only mention the case of a 'System of Surgery by American Authors,' recently issued. On receipt of the first volume in this country the American system of surgery was discovered to be most pronounced in its absence, and English authors had been so plagiarized that the sale was prohibited in Great Britain and the volumes had to be promptly returned to the home of their birth. Of course, this might have been a mere coincidence, and the American authors might not have known of the existence of the English works, but they will, perhaps, pardon our suggesting that it would have been more straightforward had they issued the work as an American system (not in surgery); we should have understood it here."

Besides the American "System of Surgery," published by Lea Brothers & Co., of Philadelphia, we learn that Nancrede's "Essentials of Anatomy," published by Saunders, also of Philadelphia, and Leonard's "Vest-Pocket Anatomist," published by the author in Detroit, are open to the same criticism, and the sale of the three books has been stopped in England. It would seem that the course of both authors and publishers in these cases demands an explanation.

A World's Congress of Medico-Climatology will be held in San Antonio, Tex., beginning February 20, 1896, and continuing for three days. This meeting is to be called a "national meeting." The international meeting of the congress is to be held every fifth year.

Revised Edition of the History of the War.—A committee appointed by the Indiana State Medical Society has drafted a series of resolutions appealing to Congress for the authorization of the publication of a revised edition of the "Medical and Surgical History of the War." It is stated that the first edition was limited in number and that very few Southern physicians received copies.

Medical Legislation in Ohio.—The Mosgrove-Kimmel bill providing for the regulation of the practice of medicine in Ohio has passed the house of Representatives by a large majority.

Insanity and Murder.—The Supreme Court of the United States has just handed down a decision which is of much importance in cases involving a question of the insanity of murderers. The court has reversed the decision of the inferior court and lays down the principle that the burden of proof of guilt rests in all criminal cases upon the prosecution; in other words, the prosecuting attorney, in cases where the claim of insanity is put up, must prove that the accused is not insane.

Chloroform and Oxygen.—The use of oxygen in combination with chloroform in anæsthesia originated, according to the *British Medical Journal*, with Neudörfer and was in vogue in Vienna about ten years ago. Bertel, in a communication to the St. Petersburg Medical Society, asserted that more rapid and successful anæsthesia followed its use. A number of other Russian surgeons have employed it. The European surgeons, however, apparently have used chloroform in connection with the oxygen.

A Sure Cure for Alcoholism.—We prefix the foregoing head to this item with a full consciousness of the significance and interest which such a title will excite. There is, however, no doubt that a sure cure for alcoholism exists, and it is now being used and exploited at much length by Dr. E. Marandon de Montyel. Dr. Montyel's cure for alcoholism is total abstinence from alcohol! He has collected 12,067 cases of drunkards, of which 5,550 were cured, and they were cured by not being allowed to drink.

The University Medical Magazine, while not opposing the use of Greek as an international scientific language, thinks Latin would be the better medium. Almost every educated person has studied some Latin and usually more than he has Greek. Its use would not require a separate font of type, because the characters in the Latin and English alphabets are similar. "Latin," it adds, "was the scientific language of the world for nearly seventeen hundred years, and it is less than two centuries since it ceased to be the common language of science." The Latin language allows of clear, terse, exact statements, technical terms can be easily manufactured from it, and new compounds de-

vised whenever needed. In other words, the language can be made elastic enough to suit the common purpose. In order to make the Latin colloquial it must be taught in the schools by persons who are able to speak the tongue.

The Academy of Medicine of Cincinnati on January 20th passed a resolution to the effect that all members of the academy be requested not to enter into verbal or written contract or agreement with any lodge, club, society, or organization, to render professional service to the members of such lodge, society, or club, or to the wives and families of the members thereof. This resolution is aimed at a growing tendency to form syndicates, societies, and institutions by which people can be treated wholesale at low rates. There has, no doubt, been developed a great deal of abuse by reason of this practice, and while the position taken by the Cincinnati Academy is rather radical, it will, we believe, serve a useful purpose in calling attention to the evil of cheap clubs and cheap provident associations.

Public Bathing Facilities for Brookline.—The town of Brookline, Mass., on January 30th appropriated \$40,000 for the purpose of furnishing free public bathing facilities to its residents.—*Boston Medical and Surgical Journal*.

Precautions Against Rabies.—In view of the notice recently published by the State Board of Health of Massachusetts that rabies was present in certain cities and towns about Boston, including Somerville, the Somerville board of health has published the following regulation:

"No dog shall be permitted to go at large in the city unless securely muzzled with a proper-fitting wire muzzle. Dogs shall remain so muzzled for a period of ninety days dating from January 23d. No person shall during the continuance of this order permit any dog owned by him, or which is in his possession or control, to go at large within the limits of Somerville unless the dog is at all times securely muzzled."

The punishment for disobeying a rule or regulation of the board of health is a fine not exceeding \$500 or imprisonment for a term not exceeding one year.—*Boston Medical and Surgical Journal*.

The New York State Lunacy Commission.—Aside from the special features of the report, something may be said in regard to the defence of the general policy of the commission as stated at the beginning of the volume. It seems to be exercising the functions of a board of control, together with those of advisory medical and medico-legal supervision, and the tendency would seem to be ultimately to supplant and abolish the local boards of management. The combination, in a close board of only three members, of the business control with the other and higher functions of a lunacy commission is an experiment that has not heretofore been a brilliant success, and there is a danger, in our opinion, of an undue predominance of a "business" spirit over the higher professional and scientific one. The ideals of the two are not in the same line, and while the former is per-

haps the one most readily appreciated by the mass of the public, the latter is that which should be the aim of a body that is to have their fullest confidence. The tithing of mint, anise, and cumin tends sometimes to a neglect of the weightier matters of the law. Of course everything will depend upon those who are to carry out the objects of the lunacy commission. Upon their scientific spirit and judicial fairness, their correct judgment and strict sense of propriety and honor, as well as upon their absolute integrity, everything really depends. It is to be hoped that these points are duly appreciated by the New York Lunacy Commission in the difficult and complicated task they have assumed.—*American Journal of Insanity*.

The Forthcoming International Periodical Congress of Gynecology and Obstetrics.—The second session of this congress is to be held at Geneva, Switzerland, in the first week of September. In the section for gynecology the following is the official programme: (1) "Treatment of Pelvic Suppurations"—Reporters: Dr. Bouilly, of Paris; Dr. Kelly, of Baltimore; Dr. Zweifel, of Leipsic. (2) "Surgical Treatment of Uterine Retro-Deviations"—Reporters: Dr. Küstner, of Breslau; Dr. Pozzi, of Paris; Dr. Polk, of New York. (3) "What Method of Closing the Abdomen Presents the Best Guarantee against Abscesses, Eventrations, and Hernias?"—Reporters: Dr. Granville-Bantock, of London; Dr. La Torre, of Rome. In the Section for obstetrics: (1) "Relative Frequency and Most Common Forms of Pelvic Contractions in Different Races, Groups of Countries, or Continents"—Reporters: Dr. Fancourt Barnes, of London; Dr. Dohrn, of Königsberg; Dr. Fochier, of Lyons; Dr. Kufferath, of Brussels; Dr. Jentzer, of Geneva; Dr. Lusk, of New York; Dr. Rein, of St. Petersburg; Dr. Pawlick, of Prague; Dr. Pastalozza, of Pavia; Dr. Traub, of Leyden. (2) "Treatment of Eclampsia"—Reporters: Dr. Charles, of Brussels; Dr. Charpentier, of Paris; Dr. Halbertsma, of Utrecht; Dr. Loehlein, of Giessen; Dr. Mangiagalli, of Milan and Pavia; Dr. Parvin, of Philadelphia; Dr. Smyly, of Dublin.

The Massachusetts Hospital for Dipsomaniacs and Inebriates sends out its fourth annual report, which presents a striking contrast to the reports of the Keeley cures as regards temperateness of statements concerning patients treated. There were, for example, during the year 1894-95, 121 patients discharged from the hospital. The condition of 106 of these is reported upon; of these, 27 are reported as doing well or abstinent, 10 as improved or drinking less, 22 as unimproved or drinking as much as ever, while 47 had returned to the hospital. This shows that the percentage of those that are spoken of as "doing well," which would be ordinarily reported "cured," is about twenty-five per cent., and this may be taken as a fair estimate of the results of hospital treatment for dipsomaniacs and inebriates. A further table is given, showing the apparent habits of persons who had been out of the institution for one year. A total of 121 persons is reported upon, and of these twenty-six per cent. are reported "doing well," and eleven

per cent. improved. As to those who relapse and return to the hospital, we are told that the relapse usually occurs within two years from the time of leaving the institution and that the tendency to relapse seems to decrease with time. The trustees report that the question of compulsory confinement of dipsomaniacs in institutions is being more actively agitated and advocated every year. There is as yet no law in any European country which makes the confinement of inebriates compulsory, but such laws are being recommended, and in Austria, England, and France the trend of opinion seems to be increasingly in favor of them.

Risks of Anæsthesia.—According to the *Medical Press*, sixty-one deaths have occurred during the administration of anæsthetics in the United Kingdom in the past year. Fifty-two of these have been due to chloroform.

Through the Activity of the Decimal Association, a committee of the House of Commons has made a report advising the adoption of the metric system in England, and it further advises that after a lapse of two years the metric system be rendered compulsory by act of parliament. A similar resolution in favor of the metric system has been referred to a committee of the House of Representatives at Washington.

The Woman Doctor Could Not Come.—It was at the time when, in Baltimore at least, the woman doctor had just appeared upon the scene, and *à propos* of woman's usefulness and her limitations in this new field the late Dr. W. C. Van Bibbert told this story: Awakened late one night by a ring at his bell, he called down the speaking-tube to know who it was. "It's I, doctor, Mr. ——. I want you to come at once to my wife. She is in labor." "Yes, but I don't attend your family. Why don't you go for your own physician?" And back came the reply: "I did, doctor; but she's about to be confined herself."

Congenital Erosion of Cervix Uteri.—At the stated meeting of the College of Physicians, Philadelphia, held on February 5th, Dr. Charles B. Penrose read a paper entitled "Congenital Erosion and Split of the Cervix Uteri," in which he pointed out the occasional existence in virgins and sterile women of conditions that might arouse a suspicion of previous pregnancy and delivery. The lesions had previously been studied by Leopold and Fischel in infants. Dr. Penrose reported several cases in women in whom the existence of prior pregnancy and delivery was excluded. The matter has obviously important medico-legal significance and is eminently deserving of further investigation.

Surgical Injury to Ureter.—Dr. J. M. Baldy at the same meeting read a "Report of a Case of Surgical Injury to the Ureter," in which, in operating for the removal of a cystic tumor from the abdominal cavity, one of the ureters was divided, continuity being restored by drawing the proximal extremity of the ureter through an incision into the bladder and attaching it by suture

to this viscus. Dr. Penrose referred to a similar case in which, in the course of an operation for the removal of malignant disease of the uterus, a ureter was intentionally divided, functional relations being re-established much in the same manner as that described. Drs. B. F. Baer and E. P. Davis read a joint paper on "Coelio-Hysterectomy for Impossible Labor, with Intrapelvic Subperitoneal Treatment of the Stump," Dr. Baer dealing with the "Technique of the Operation" and Dr. Davis with the "Choice of Operation." Dr. P. H. Pye-Smith, of London, was elected to associate fellowship.

Wanted to Levy on the Baby.—A colored midwife called on a Gallatin, Tenn., physician, last week, and said she had "stayed all night with a woman in labor, and the promised fee had not been paid." She wished to know if she had a legal right to take the baby away from its mother and keep it until the bill was forthcoming. The doctor admired her forethought and thought the theory an ingenious one, but practically it would be a dangerous precedent, as such a custom might become a law, in which case every doctor's home would soon be an orphan asylum.

French Gallantry.—The physicians of Montreuil, near Paris, refuse to give their services to the municipal dispensary because a woman has been appointed to serve in it one day in the week. Their grievance is aggravated by her being paid, while their services are given free.

Music and Bald-Headedness.—The *Boston Medical and Surgical Journal* calls attention to the fact, which it says is demonstrated by an English statistician, that music has a wonderful influence on the growth of the hair. This statistician has discovered baldness to be prevalent in twelve per cent. of composers, which is about the average for people in general. Instrumental performers, however, almost always retain their hair up to an advanced period of life. Players on the piano and violin have particularly good heads of hair, and the aggressive example of Paderewski at once comes into one's mind in support of this assertion. On the other hand, brass instruments have a fatal influence on the growth of the hair, notably the cornet, French horn, and trombone. The baldness which prevails among members of regimental bands has been given the name of "trumpet baldness." Our contemporary does not venture to explain this curious phenomenon, but simply quotes these facts. If well established no doubt they will give a tremendous impetus to the use of the piano and violin. Doctors, it adds, are the baldest of all professional men, the percentage being thirty.

Died from Taking His Own Medicine.—We predict a large number of more or less wise and satirical observations in connection with the tragic death of Mr. John Robinson, a practitioner living in Yorkshire, England. Mr. Robinson had a patient for whom he prescribed what he believed to be a simple remedy. The patient took a dose and returned, saying that it made him ill and refusing to take more. Thereupon Mr. Robinson put up another bottle and the patient

went away, but returned the next day with the same story. The doctor then told him that the medicine was something that he prescribed often, that it was quite harmless, and that he himself would be willing to take the contents of a whole bottle at once. He called for some water, poured out a large dose of the mixture, and swallowed it—and in two hours was dead. It is supposed that tincture of aconite took the place of what the doctor thought was tincture of ginger.

The Female Medical Students in India have been presented with a hotel which is to be used as a residence for them during term time. One of the Indian officials has given 25,000 rupees to the fund for its support.

The Dangers of an Eclipse.—A German paper published recently a curious official proclamation printed at Ehrenbreitstein on the Rhine on July 22, 1748, warning the populace against the dangers from the impending eclipse of the sun, and giving directions to keep wells covered and not allow cattle to go to pasture on the day of the eclipse because of the poison which would then fall from the sky.

A School of Medicine in Odessa.—The city of Odessa has voted an appropriation of nearly half a million dollars for the establishment of a medical faculty in connection with the university of that city.

Obituary.

JOHN HOWARD RIPLEY, M.D.,

NEW YORK.

It is with an inexpressible sadness of heart that we are called upon to record the death of our old friend and hospital colleague, Dr. John H. Ripley. Taken away in the prime of his great usefulness and in the full fruition of high professional accomplishments, his great loss will be keenly appreciated by the large number of medical associates who were accustomed to counsel with him in times of great emergency and to value his matured opinions in the division of weighty responsibilities. He occupied a peculiar and distinctive position in the medical history of New York, in that he exemplified a leading type of the old-fashioned, all-around medical practitioner, who was at home in every sick-room and whose broad views of pathological laws could be readily and effectually applied to the most difficult and most obscure cases in the widest range of general medicine and in the rapidly progressive practice of operative surgery. A close and diligent student, with well-trained habits for systematic work, his thoroughness in the examination of cases was an object of admiration with all the professional men who so eagerly sought his advice and who so implicitly relied upon his judgment. His well-earned reputation in this line brought him in frequent consultation with leading specialists, and his opinion, often stubbornly maintained in the face of heavy odds, frequently won for him the victory over his opponents. While ever ready to accept new views and follow the advances in the different lines of progressive investigation, there was always a balance of judicious conservatism that made him a safe adviser and an efficient helper. Few could grasp more readily and effectually the salient points of a case, and none could impress them more directly upon the student at the bedside. His numerous hospital pupils

gratefully testify to his marked ability in this direction and willingly accord to him the high distinction of a model clinical instructor. It was this particular faculty that eventually gained for him a large consultation practice, not only in this city but throughout wide districts of the surrounding country. It was during one of his later consultation visits to Hartford that he was seized with the first symptoms of grippe, which finally ended in the complication causing his death. He was on his return journey in the cars, when he was seized with dizziness followed by a chill and with much difficulty succeeded in reaching his home. With characteristic pluck he made light of his ailment, and, notwithstanding the depressing effects of the attack, he bravely kept at his work until at the end of three weeks he was forced by the advice of his medical friends to seek recuperation in the warmer climate of Florida. Three weeks ago he started for Orma in that State, and then for the first time gave himself to the long-neglected care of his health. The change was beneficial for a short time only. On February 14th a rheumatic complication showed itself, attended with frequently recurrent chills. Endocarditis supervened; his heart, already crippled with double valvular disease, being unequal to the extra strain, he passed away quietly on the evening of February 15th. His last hours were made peaceful by the presence of his loving wife, whose companionship was a condition of his absence from home. The remainder of his family consists of a son and two daughters.

Dr. Ripley was born in South Coventry, Conn., on May 16, 1837. After a preliminary high-school education in Westfield, a neighboring town, he came to New York in 1861 and entered the medical department of the University of the City of New York. Before finishing his course he entered the army and remained in the service until the close of the war, when he returned to this city and was graduated in the class of 1866. He began practice at once, and soon took a high place among the then younger professional men of his class.

He soon became closely identified with hospital work, which was uninterruptedly carried on for twenty-five years. At the time of his death he was the visiting physician of St. Francis Hospital and honorary consulting physician to the Charity Hospital, which position was given to him in recognition of his effective services. He was also connected as consulting physician with St. Joseph's Hospital and the Hospital for the Ruptured and Crippled. He was a large contributor to the medical literature of the day, both on medical and surgical subjects. The most notable of his articles contributed to the *MEDICAL RECORD* were: "Scarlatinal Nephritis and its Complications," "The Treatment of Croup by Tracheotomy," "Tracheotomy in Bronchocele," "Operative Removal of Drainage Tubes from the Pleural Cavity," and "Noma Following Intermittent Fever." He was at one time clinical professor of the diseases of children in the medical department of the University of the City of New York and in the New York Polyclinic, both of which professorships he resigned because of the demands which his private practice made on his time.

He was also a member of the Medical Society of the County of New York, of the New York Academy of Medicine, of the New York Pathological Society, in whose proceedings he took a very active part; of the Society for the Relief of Widows and Orphans of Medical Men, and of the Physicians' Mutual Aid Association.

The funeral services were held on Tuesday evening at his late residence, 605 Lexington Avenue, and the remains were taken the day following to Westfield,

Conn., to be buried in the family cemetery. And thus, alas! brother, farewell.

At a special meeting of the Medical Board of St. Francis Hospital, New York, the following resolutions were adopted:

"Whereas, It becomes our painful duty to announce the death of Dr. John Howard Ripley, attending physician to the St. Francis Hospital, New York, and late president of its medical board, therefore be it

"Resolved, That the medical board desires to place on record its due appreciation of his long and valuable services to this institution, faithfully and cheerfully rendered for nearly a quarter of a century.

"Resolved, That from his first connection with this hospital he was an ever-willing servant of its best interests, an ardent promoter of its highest aims, and an active participator in all its charitable benefactions.

"Resolved, That his untiring zeal in the performance of his arduous and responsible duties, his wisely conservative judgment, his painstaking accuracy of observation, and his ever available and profound knowledge of clinical phenomena were qualities which commanded the highest respect of his associates and stimulated the emulation of all who share the results of his unselfish labors.

"Resolved, That the remembrance of his manly disposition, his frank manner, his energetic spirit, and his scholarly attainments will ever serve as a cherished lesson from the well-ordered life of a dutiful worker, an indefatigable investigator, and a model physician.

"GEORGE F. SHRADY, M.D., *President*.

"GEORGE M. EDEBOHLS, M.D., *Secretary*."

ALEXANDER S. HUNTER, M.D.,

NEW YORK.

DR. ALEXANDER S. HUNTER died at his home at Spuyten Duyvil on February 14th. Dr. Hunter had practically retired from active work during the last few years, but previous to that he was one of the conspicuous physicians in the city. He was particularly active in the Academy of Medicine as chairman of the section on obstetrics, and for a long time he made that section the leading one in the academy. As president of the County Medical Society he was a most alert and efficient officer.

Dr. Hunter was born at Conesville, N. Y., September 23, 1839. He was graduated from the Albany Normal School, and after teaching for a while he studied civil engineering. He then went to Great Barrington, Mass., where he became professor of mathematics in the Sedgwick Institute.

Then he came to this city and entered the New York University Medical College, from which he was graduated in 1863. He had practised his profession in this city ever since. His work in later years was chiefly obstetrical and gynecological, and in these departments he was very successful.

He was elected president in 1890 of the New York County Medical Society, and was the first president who was reelected to succeed himself since the organization in 1807. He was chairman in 1891 and 1892 of the committee on admission of the Academy of Medicine. For six years he was chairman of the obstetric section of the Academy of Medicine. He was also a member of the New York State Medical Society. For six years past he practised chiefly as consulting physician.

Dr. Hunter was a man of high character, well-trained mind, and an energetic and indefatigable worker. He did a great deal toward the organization of scientific and practical work of the profession, and his death is a loss which will be widely felt.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

AFRICAN FEVERS—DISSEMINATION OF THE DIPHTHERIA BACILLUS—PROPOSAL FOR A CENTRAL HOSPITAL BOARD—A BALNEOLOGICAL SOCIETY—SIR F. LEIGHTON.

LONDON, January 31, 1896.

THE death of Prince Henry of Battenberg has brought into prominence the subject of African fevers. Not that there was anything unusual in his case, but his prominent position and the bereavement in the royal family excites the sympathy of all classes of the public, who naturally seek to allay their curiosity by acquiring some information from their doctors. I have had to advise a number of persons who were proceeding to Africa as to the precautions they should observe and to consider the detailed records and charts of many cases, not a few unhappily fatal, so that I retain no little interest in the subject. Our losses in Ashantee have been trivial compared with those of France in Madagascar and this we owe to the admirable arrangements of the medical department for the expedition. Before the discovery of the malarial parasite the use of quinine was well known both as a remedy and a prophylactic, and so far as treatment and prevention go no advance has followed that discovery. Recent experience has indeed added something to our knowledge of the prevalence and virulence of malaria over various large tracts of Africa and brought the more intense forms of these diseases into line with those of southern Europe. The milder attacks which occur in the elevated districts become more dangerous as we descend to the coast or into the valleys, and on the West Coast itself the utmost severity is attained in several localities, while here and there the middle type may prevail in even what appear unhealthy coast towns. Like many others who have studied the subject, I am strongly impressed with the value of quinine as a prophylactic and repudiate the notion that the drug is injurious if continued for considerable periods in doses sufficient to keep the disease at bay. Of course proper diet and the avoidance of alcohol, excessive fatigue, and exposure to the tropical sun are important, but with reasonable care and regular doses of quinine I have known long, fatiguing marches undertaken without casualties. I have also known men thus guided to live for years in Africa with little inconvenience, though they have witnessed the deaths of many of their companions. Probably not a little depends on the constitution, for, though no European can reckon on escape, some seem to become quickly acclimatized, while others apparently as healthy and even more robust become early victims, and that too while living under precisely the same conditions and in the same localities and the same houses. We are to have a discussion on the subject at our premier society on the 11th prox.

Drs. Kanthack and Stephens have confirmed the observations of Wright and Stokes, of Booton, that the escape of the diphtheria bacillus into the circulation and organs is not uncommon, at least in fatal cases.

The interesting researches of Dr. Sidney Martin seemed to point the other way and it was too commonly assumed that the bacillus only developed in the false membrane, and the presence of poisonous albumoses in the viscera was supposed to be due to a ferment liberated by the bacillus escaping and converting the proteids into these toxic products. Drs. Kanthack and Stephens in a paper before the Pathological Society report that they found the bacillus in the viscera and especially in the spleen in fatal cases

with laryngeal complications. The pneumonia so common in diphtheria is therefore probably not of pyo-coccal origin, as is frequently assumed, but due to the bacillus which these observers have found in the lungs. It is easy enough to see that there are various ways by which the bacilli may reach the viscera in which they have been found, and now it is shown that they may be widely disseminated the fact explains certain obscure points, while it is really what might have been expected from the usual behavior of bacilli.

A central hospital board for London is a favorite idea with many and Colonel Montifore advocated it last week at the Charity Organization Society. When the large and opposing interests are considered, it is doubtful whether a really impartial board could be formed, certainly not under the auspices of the Charity Organization Society, which, though it may have done some good, has the name of perpetually interfering or trying to interfere with those charities which decline its assistance. It is easy to imagine that in a perfect state of society much could be gained by a central committee, but as we are the Hospital Sunday Fund exhibits some of our defects in a rather pronounced way. It has come to be worked by the opponents of special hospitals and at times there is an aggravating display of fierce opposition by men who were appointed to be impartial. It might be the same with any other central board, so that the smaller institutions are hardly likely to fall into such another trap. They have been cajoled into giving up some of their own collections and the result has been anything but pleasant to their supporters.

We have now a Balneological Society to add to our long list. I wish it success. It has opened with fair prospects and many doctors at our spas have joined, as well as a few general physicians in London and the provinces. I miss, however, from the first list of officers some names intimately associated with the subject. They should at least have been sought as honorary members in preference to those who have done nothing more in this way than to send a few patients to our health resorts.

The death of Lord Leighton, better known as Sir Frederick Leighton, the genial president of the Royal Academy, has excited much interest, as to the public it naturally appeared sudden. It was known, however, to many that he had for several years been affected with disease of the heart and since 1894 attacks of angina pectoris had occurred. It was an attack of this kind that terminated fatally last Saturday. The distinguished artist retained his consciousness to the last, and it is said that on the last night of his life he dictated a letter for publication expressing his thanks for the numerous congratulations he had received on his elevation to the peerage.

OUR BERLIN LETTER.

(From our Special Correspondent.)

ROENTGEN'S DISCOVERY—INFLUENCE OF BICYCLING ON HEALTH—THYROID-GLAND TREATMENT—AMEBIC ENTERITIS.

BERLIN, February 8, 1896.

THE new year has brought us, shortly before the end of the century, something that may truly be called *fin-de-siècle*. All Berlin, scientific and lay, is under the spell of the discovery of the Würzburg professor of physics, Roentgen. The wonderful discovery has been demonstrated at every meeting of our two largest medical societies, the Berliner medicinische Gesellschaft and the Verein für Innere Medicin. Both physicians and public have conceived high hopes that some advantage to suffering humanity will accrue from it. How far these hopes are illusory the future

only will show. The famous discoverer himself, who was recently summoned to give a demonstration in the presence of the Emperor, is somewhat pessimistic and believes that there is danger that its value as an aid to medical and surgical diagnosis may be greatly overestimated.

As so often happens, accident was really the father of this invention. While Roentgen was experimenting with a Crook's tube covered with black pasteboard, he suddenly saw a letter which had been written with barium and platinum cyanide on paper become fluorescent. In following up this to him new phenomenon he found that from the cathode of the tube which had been made luminous by a strong current rays proceeded which made certain bodies, such as barium or iron cyanide, mica, calcareous spar, rock salt, and glass, fluorescent. These rays, which are invisible to the human eye, passed through solid substances, such as pasteboard, gutta-percha, and thick books of a thousand pages, with hardly a diminution of intensity, and only bodies of great specific gravity, such as lead, were impenetrable to the rays. He found that in general the thickness of these bodies was a measure of their penetrability. These rays, which Roentgen has provisionally called "X" rays, are not decomposed by prisms, nor refracted by lenses, nor absorbed by powdered substances, nor deflected by the magnet. In this they are distinguished from the already known cathodal rays of Lenard, which have less penetrating power and are deflected by magnets, and especially from the ultraviolet rays. Roentgen, however, believes that the "X" rays are generated by the cathodal rays in the glass wall of the discharging apparatus, and that they represent the long-sought-for longitudinal oscillations in the ether. Now the property of these rays of exerting a chemical action upon the silver salts through the occasioning of fluorescence in the glass or gelatin layer of dry plates, together with their power of penetrating solid bodies, has produced most wonderful phenomena, pictures from a world of enchantment. A most striking picture is that of the hand of a living person [reproduced in the MEDICAL RECORD of February 15th.—ED.]. This hand was placed against the wooden slide of a plate holder and both were enveloped in an opaque covering. The "X" rays were now developed in a Crook's tube enclosed in a cardboard cylinder, and these rays passed through all the obstacles and made a negative picture on the plate. In the positive picture the soft parts of the hand appeared as a light shadow, while the bones and a ring on one of the fingers stood out in dark, sharply outlined figures. The practical value of the discovery as a diagnostic aid was shown in one case by the demonstration of a splinter of glass near one of the bones. Sanitätsrat Jastrowitz, Dr. Neuhaus, and others exploited the discovery by means of lectures and demonstrations before the medical societies, while the curiosity of the general public was gratified by lectures given by the director of the department of physics of the Institut Urania. Further details of this epoch-making discovery, especially as it concerns practical medicine, will be given in the next letter.

Another important matter, and one that concerns Americans also, has been the subject of a lively discussion in the medical world here. At the instigation of Professor Leyden, Dr. Martin Mendelsohn recently instituted a scientific investigation concerning the effect upon the human organism of bicycling. Germany, and especially Berlin, as Leyden remarked in the discussion of this subject, is far behind other countries, America in particular, as regards the use of the wheel, and for this reason the question is new and of great interest to our medical men. The speaker was in favor on the whole of a more general cultiva-

tion of this sport, and recommended it especially for those of sedentary employment, whose work requires prolonged sitting or standing. He uttered a warning, however, against overexertion, to which almost every rider was inclined by his ambition to excel others. A wheelman who had ridden six hundred and seventy-three kilometres (four hundred and thirty miles) in twenty-four hours had lost about thirteen pounds in weight. Metabolism is very remarkably increased. The speaker thought the dangers of cycling were especially in its influence upon the heart and lungs. A pulse of two hundred and fifty to the minute has frequently been noted, and cases of sudden death after a very hard ride have several times been reported when the heart was already fatty degenerated. Cardiac troubles, especially dilatation of the right ventricle and irritable heart, are often induced by cycling, yet in many diseases a very favorable influence has been observed. Those who took part in the discussion, and among them were many of the best known among Berlin physicians, did not agree on all points with the reader of the paper. They spoke with special disapproval of the crouching position of the "scorcher," which was asserted to be the cause of phthisis which frequently develops in cyclers. They held that rowing was the best sport, as in that all the muscle-groups were brought into play, and there was no inhalation of injurious dust. Fürbringer compared cycling to hill-climbing, and said that, arguing from his own experience (for he had once, in spite of being already very spare, lost five pounds in a walking-tour among the hills), he could not recommend cycling as a sport, and he would condemn it altogether in any case of heart or lung trouble of whatever nature. Leyden said that wheeling as a convenience and wheeling as a sport ought to be discussed separately. All were unanimous that the wheel was an economizer of time. He had found in travelling that the wheel was used both by laborers and by the members of the highest classes, especially in Copenhagen, where professors even rode to their lecture halls on wheels. He would recommend the use of the bicycle to nervous persons as a means of strengthening their character and their nerves. Placzek took a very decided stand in favor of wheeling. He himself is a wheelman, and he characterized the bicycle as "the best means for reducing the chronic cerebral congestion of brain workers; the best means for awakening in those who have become unaccustomed to bodily exercise an inclination to work through the practice of this form of activity, which quickens both soul and body; the best means, when one would shake the dust of the great city from his feet, of seeking that inner communion with nature which has become almost a thing unknown to the modern man."

A greater unanimity existed in a discussion concerning thyroid-gland treatment. All the speakers, Ewald, Mendel, Senator, agreed with the reader of the paper, Dr. Stabel, that the course of Graves' disease was unfavorably influenced by thyroid extract. In simple goitre, as well as in myxoedema, good results were obtained. A new light on this subject had been thrown by the discovery by Baumann of thyroiodine, an iodine-containing organic substance. Ewald demonstrated the presence of this body in thyroid tablets. This discovery shows that the old treatment of goitre by iodine was a rational one. The speaker uttered a warning against the misuse of these tablets, the sale of which was unfortunately not regulated by law.

Not only the science of therapeutics, as in this case, but also that of diagnosis has recently been enriched by advances in the direction of a greater knowledge of intestinal diseases. Boas called attention to a little-known form of enteritis caused by the presence of the

amœba. This parasite has up to this time been found once only in endemic dysentery, but Boas has had the opportunity of observing it in two additional cases. A characteristic feature of this so-called amœba-dysentery is the constant presence of the amœba in the pea-soup-like, strongly alkaline stools, the property of these amœbas in common with other monads of changing their form, and the obstinate resistance of the disease to almost every plan of treatment. The amœbas in these cases, contrary to what has been observed by Loesch in tropical dysentery, were not infectious for cats, and also enclosed no red blood corpuscles in their substance. They appeared under three forms—the cystic, the resting, and the moving; they varied between 15 and 35 μ in size, and remained alive for from eight to ten hours. In all the examinations the stools were placed at once in the thermostat and the matter was examined on a warmed object glass. Boas also found amœba-like objects in cases of diarrhœa artificially produced by Carlsbad salts, but he doubted their identity with the genuine amœba. He believed that the amœbæ were pathogenic in his cases and not accidental, and he urged all investigators to search for these bodies in all suspicious cases of obstinate diarrhœa.

SHOULD OUR HOSPITALS EXTEND THEIR FACILITIES FOR OPERATING TO SURGEONS GENERALLY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Under the above title an article from the pen of Henry S. Stark, M.D., of New York, appears in the *MEDICAL RECORD* of January 25, 1896, deploring the fact that the physicians of that city are compelled from lack of facilities to refer most of their operative cases to medical men connected with some hospital. He places a question mark after the title and proceeds to argue in the affirmative.

The question has already been answered in the affirmative in Chicago and a statement of the condition of affairs here may be of interest, if not of assistance, to our New York brethren.

Up to the year 1886 the hospitals of Chicago were all close corporations, and no one could treat a case of disease or operate in them unless he was a member of the staff. The writer, seeing that a large proportion of his legitimate fees went into the pockets of others because he was not allowed hospital facilities, provided himself with portable operating and instrument tables, gowns, towels, sterilizers, basins, pitchers, irrigators, etc., so that he might turn any ordinary room into a complete operating-room. By means of these he performed his first fifteen abdominal sections at the private residences of his patients, besides numerous operations for lacerated perineum and uterine cervix, carcinoma of the breast, hemorrhoids, etc., but the necessity of preparing all dressings, sterilizing gowns, towels, etc., himself, besides any number of extra visits at all hours of the night and day to do what in a hospital is done by the interne, rendered the profit small, since the fees had to be the same as some hospital attendant would charge. The results, however, were fully as good as he afterward obtained in hospital practice, his twelfth abdominal section being his first fatal case.

In 1884 the Lakeside Hospital was organized by two Chicago physicians to be devoted to rectal work. In time it was seen that it could not succeed financially and about 1887 the doors were thrown open to members of the regular profession, and they were allowed to treat and operate on their private patients at a cost of from \$15.00 per week upward, according to the accommodations, whether in a ward or in a pri-

vate room, with an extra charge of \$5.00 for dressings and furnishings and for administering anæsthetics. A great number of our medical men availed themselves of this privilege and kept under their own care patients they had before been compelled to refer to some one with a hospital appointment.

In 1893 the Chicago Hospital was organized by seventeen medical men to provide a place where they could give their private patients the nursing and other advantages of a hospital at the usual rates. To assist in paying its expenses they offered these same advantages to other members of the regular profession at a cost of from \$15.00 to \$25.00 per week, according to the room occupied, with an extra charge of \$5.00 for use of the operating-room, but which extra charge was never enforced. This hospital became popular with the profession from the first and its beds were almost always filled.

In 1894 the Englewood Hospital was organized and from the start offered to the general profession the use of its ward beds for \$10.00 per week and of its private rooms for \$15.00, reserving its charity work, etc., for the regular staff. About this time Provident Hospital (colored) offered its facilities to the profession—ward cases \$7.00, private rooms \$9.00 per week, cases of abdominal section \$9.00 in the ward and \$12.00 in private rooms. The example was contagious and to-day there are about a dozen private hospitals in Chicago open to the general medical profession at from \$7.00 per week up, and no medical man whose patient can pay that sum need refer him to a general hospital for operation or treatment.

So popular has the movement been that about a year ago Lakeside Hospital was compelled to add one-third to its capacity. In 1895 Chicago Hospital built a large modern building with three operating-rooms, increasing its number of beds fourfold. Englewood Hospital during February will add to its capacity nearly one-third and during the summer Provident Hospital will build a new and much larger building. What has been the effect? Our general hospitals have been depleted of their patients and from financial stress are compelled to enter into competition with the private hospitals for the patronage of the general medical profession. The Presbyterian Hospital, an adjunct of Rush Medical College, offers its private rooms at \$15.00 per week to any regular physician and he can have entire control of his patient.

Mercy Hospital, which has a contract that runs several years yet to allow no one save a member of the staff appointed by the Northwestern University Medical College to care for a patient there, now offers its private rooms to the profession at from \$15.00 to \$20.00 per week. In fact, so great is their financial stress I am reliably informed that one of the officials recently said that "notwithstanding the contract the devil could put his patients in there if only he paid their board." St. Luke's Hospital (Episcopal) has recently doubled its staff to gain the additional influence in procuring patients, and has recently issued a circular calling attention to its private rooms at from \$12.00 to \$30.00 per week, saying, "Private pay patients will make their own arrangements with such member or members of the attending staff as they may desire." It also directs particular attention to the following:

"By recent action of the medical board and the board of trustees, physicians not officially connected with the hospital may now be permitted to treat their own patients in our private rooms."

The movement has now become so great that the time is close at hand when financial stress will compel Chicago hospitals to open not only their private rooms but also their wards to the regular profession.

What has been done in Chicago may be done in New York or in any large city. If a few of the private

hospitals will open their doors to the general profession and give their patients the care and nursing they receive in general hospitals at the same price, the general hospitals will soon be compelled to open first their private rooms and afterward their wards to the general medical profession.

A. L. CORY, M.D.,
Gynecologist to Englewood Hospital, Surgeon L. S. &
M. S. Ry.

4101 STATE STREET, CHICAGO.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article in last week's MEDICAL RECORD by Dr. Henry S. Stark I read with very great interest, as I am sure every one who is acquainted with hospital matters must do. Dr. Stark treats the matter only from the position of the general practitioner. There is another side to this matter that affects the general public. The admission to the wards of the hospital of the general practitioner and a consequent closer relationship between this class of physicians and the hospital authorities will cause to a great extent a cessation of the pauperizing mentioned by Dr. Stark. Of course it is a matter of public knowledge that many go to hospitals who would not do so if it were known who they were, for they would be as much ashamed to ask medical alms as any other sort.

If then we can have this change in hospital management proposed by Dr. Stark, by a system of coöperation with the Charity Organization Society the treating at hospitals without pay of those abundantly able to pay will be very much lessened. At the dispensaries also blanks should be kept ready for each new patient to fill (or furnish information for another to fill), stating name and address and former medical attendant. Temporary relief should be given without waiting for a reply. A satisfactory response from the family physician should be forthcoming before further medical aid is given, or, if there be no family physician, the Charity Organization Society could and would investigate as to the financial ability of the patient. To ask this organization to investigate all comers would be to ask of them an impossibility, but, lightened as the task would be by the responses of the family physician, this organization could report such cases as were referred to it at a trifling expense.

The pay cases in the hospitals that would result from this system would many times reimburse them. The city would be benefited in that citizens no longer would be made paupers by first receiving medical charity. Few recognize how alarming this matter really is, and how directly the hospitals, by giving free treatment to those well able to pay, are responsible for many of those persons ultimately becoming paupers.

To sum up, then, by this plan the city would be benefited. The hospitals would be benefited. The patients would themselves be benefited in that they are made better citizens. The general body of physicians would be benefited in two ways—the fees which should properly go to the general practitioner would go to him, and there would be engendered a better feeling in the profession.

All this, and no one would be actually hurt. Only the visiting physician and surgeon would be affected and he would not really be harmed. His position would still be what it now is but he would have less work to do gratuitously.

W. WASHBURN, M.D.

21 EAST TWENTY-FIRST STREET.
January 5, 1896.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Stark's suggestions are correct and just; they have been followed here for many years. We have the Pius Hospital in charge of the Franciscan

Sisters. It is a private pay hospital, with all the modern improvements. There is no medical or surgical staff connected with it. The sisters receive patients; the patient pays for board, room, and nurse, and has to select and employ his own doctor, and pay for his own medicine. The sisters will not recommend nor favor any doctor. Any patient sent to this hospital is well taken care of. Prescriptions are sent to any drugstore desired by the patient or physician.

If the patient requires an operation the sisters charge \$5.00 for the use of a well-equipped operating-room, and furnish everything except medical assistance and instruments, the surgeon making his own selections. Whether the patient pays the doctor a fee or not is not the sisters' business; all they do is to take care of the doctors' patients.

And then there is the Woman's Medical College Hospital; they have a medical staff and a house surgeon, it is true, but the hospital is open to all. Any physician can send his patient there, rich or poor, and treat him or her himself; the operating-room is at the disposal of any surgeon who wishes to make use of the advantages offered, viz.: For the sum of \$5.00 everything necessary is furnished for a certain operation, including the instruments, ligatures, dressings, etc.; the surgeon selects or brings his own assistants; and not a soul interferes unless requested. The same or similar opportunities are offered at the Baptist Hospital and the Baptist Sanitarium. We hope that all the other hospitals will soon adopt a like plan for their own benefit.

In conclusion I will say that the exclusion of the profession in general seems to me not so much the fault of the directors of a hospital as it is due to the ego of the medical staff connected with the hospital. Our plan as outlined above, works well here and we have no complaint to make.

EDWARD BORCK, M.D.

ST. LOUIS, MO.

BLOOD EXAMINATIONS AND THE DIAGNOSIS OF MALARIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial regarding the value of blood examination as diagnostic of malaria has led me to give experience which may be of interest to some. The East Indian surgeon, Lieutenant-Colonel E. Lawrie, M.B., is one among many who do not believe in the plasmodium of malaria; and the reason of unbelief is, probably, that until the organism has been seen and becomes familiar it is very hard to find in the blood.

Some years ago (1890) in Vienna, I was discussing the matter with my instructors in pathology—Drs. Kolisko and Paltauf, of the medical department of the university. They were very skeptical, said that the plasmodium had never been found in Vienna although it had been eagerly searched for, and were rather inclined to smile at the claims I made in the matter. Paltauf said that to settle the question he would take me to see the next case of malaria he could find, and it would be a test case to decide whether Vienna malaria showed plasmodia in the blood. I assented to the proposition. A long time after that he came to me and said that a colleague of his, a young man who had been sent to Persia by the government on some scientific expedition, had there contracted malaria which had shown itself on his return to Vienna, and that the gentleman was at present suffering from quotidian ague and was under his charge. "Now," he said, "we will take our microscopes and go over and get some of his blood before his chill, which is to be at about one o'clock to-day." I agreed to go, and armed with two great microscopes we broke

into the unhappy man's presence and demanded blood. He was extremely pallid and tremulous and the tips of his fingers were cyanotic, which appearances were probably caused as much by the fear of our intentions as by the malarial poison. I am quite sure he thought that we were as likely to take a quart of blood as a drop, for he handed himself meekly over to us and said, with a heroic air, that he was ready to offer himself upon the altar of science; whereupon we each secured a minute quantity of blood and quickly began the great international microscopic race, in which I felt proud to wear the colors of my country. At the start, Paltauf led off by getting his preparation ready and in place rather ahead of me, and he was confident that if there was anything in that blood he would find it first. But he lost, for in about half a minute I found a beautiful specimen of the intracorpuseular pigmented body, the common form—in other words, won the race by several corpuseular lengths. In a few seconds after Paltauf saw my discovery and what it was like, he had no difficulty in finding many similar ones in his preparation. I took my captive up to the laboratory, where it remained on exhibition for many hours, and a great many assistants and students came up to view the interesting appearance. After that, Nothnagel and Kohler on several occasions demonstrated in their clinical lectures the presence of the organism in the blood of their malarial cases.

It is to be sincerely hoped that no one on reading this narrative will accuse me of vainglory, because there are no microscopists in the world more skilful than the Vienna men in general and Dr. Paltauf in particular, but in this case I had the overwhelming advantage of knowing what the object for which I was searching was like, although I was the merest tyro in the art of handling the microscope.

Many make the mistake of searching with an oil-immersion. This, for obvious reasons, should never be done. The plain lens of moderately high power should be used, and when the object is found it can be fixed under the oil-immersion and studied.

Dr. Paltauf then resurrected a microscopic preparation some twenty or thirty years old, made from the brain of a man who had died comatose from a congestive chill in the Krankenhaus. And there, most beautiful to behold, were the capillaries of the brain filled with the pigmented bodies, exquisitely distinct even after that lapse of time. And this appearance was originally supposed to be simply a deposit of pigment from broken-down corpuscles.

The only contribution in the way of anything new that I can add to the subject can be told in a few words. When I was resident physician at Blockley Hospital, in the obstetric department, a negro woman was admitted suffering from quotidian (?) attacks. Examining her blood, I found after laborious search a very active flagellate organism and one crescent, a rather singular combination. A day or two afterward she gave birth to a baby, which for several days was feverish and unwell. Examining the child's blood on the third day after birth, I found an enormous pigmented body, the particles in most lively motion. Dr. F. W. Talley, of Philadelphia, examined the specimens with me. Under calomel and quinine, both mother and child speedily recovered. But the above observation tends to confirm the belief held by people in malarious regions that the child may suffer with intrauterine malaria, as evidenced by supposed paroxysms of ague in utero.

It is probable from what I narrate, that Lieutenant-Colonel E. Lawrie, M.B., may be neither prejudiced, ignorant, nor incompetent. But his strenuous opposition to the plasmodium of malaria in the teeth of the assertion of Laveran, Osler, and other high authorities would indicate a confidence in himself as against the

world and a reckless tendency to court weighty and unreasonable responsibility, a personal peculiarity that is not altogether unknown, but hitherto has fortunately been rarely chronicled in the annals of medical science.

Had Lieutenant-Colonel E. Lawrie, M.B., simply announced to the world that he had searched in many cases and had not been able to find the organism, his statement would have been admirably succinct and clear, and would have been a most excellent example of extreme honesty and candor. But actually to form an opinion and argue for his belief with only his negative experience as proof shows a tendency to be easily led astray that is, to say the least, mournful and embarrassing.

The principle at the core of Colonel Lawrie's work, however, is exceedingly good, viz., the control of "circular" reasoning, which form of reasoning is being used daily as most excellent logic in many medical matters. A most startling example of it is shown in the diphtheria-bacillus craze.

A diphtheria bacillus called the Klebs-Loeffler bacillus is found, which is said to be characteristic of true diphtheria. But true diphtheria is not unerringly recognizable.

If it is recognizable, why is it that every one has to submit doubtful cases to the bacteriological test, which test, *mirabile dictu*, is held to be conclusive? Is it not plain that the very evidence that is accepted derives its power as reliable evidence from very insufficient sources? In other words, a bacillus that is found in some doubtful cases is used as a logical lever to put many other cases, not a whit more doubtful, off the list of true cases of the disease.

In malaria, however, we have a specific remedy which helps us in our diagnostic reasoning. The cure of malaria by quinine is of as much diagnostic significance as is the cure of syphilis by mercury and the iodides.

When cinchonism is induced the plasmodia diminish and disappear.

But the most ardent believers in the plasmodium do not make absurd claims similar to those of the diphtheria enthusiasts, viz., that the absence of the malarial organism proves that the case is not one of malaria. On the contrary, it may be said, then, either that the protozoa (?) are so scarce that they cannot be found, or that the disease under examination may not be malaria.

S. P. PRESTON, A.B., M.D.

LYNCHBURG, VA., February 12, 1896.

EARLY RISING AND INSANITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Referring to your interesting leader on early rising and insanity, which appeared in your issue of December 28th last, I should like to be permitted to add that Cervantes also observed the connection between the two. Thus he writes in the first chapter of his life of Don Quixote: "The master himself was nigh fifty years of age, of a hale and strong complexion, lean-bodied, and thin-faced—an early riser and a lover of hunting." And again: "In fine he gave himself up so wholly to the reading of romances that a-nights he would pore on until it was day, and a-days he would read on until it was night; and thus by sleeping little and reading much the moisture of his brain was exhausted to that degree that at last he lost the use of his reason."

A recent writer, Sir William Fraser, Bart. (*Hic et Ubique*, 1893, p. 15), also makes some judicious remarks on the subject. Speaking of the great English lexicographer, he says: "It seems strange that Dr.

Johnson, self-accuser as he was apt to be, should not have known his so-called idleness to be absolutely obligatory. He reproaches himself for taking too much sleep; and appears not to have reflected that he owed his vast and vigorous intellect in some degree to the repose which he gave it; such a mind as his must have got out of gear had he not given it frequent and constant rest. The absurd idea that a prolonged sleep indicates a feeble mind is directly the contrary of the truth. An active intellect must require much repose."

Turning to Boswell's "Life of Johnson," we find some interesting medical opinions on sleep. "Johnson observed that 'a man should take a sufficient quantity of sleep, which Dr. Mead says is between seven and nine hours.' I told him that Dr. Cullen said to me that a man should not take more sleep than he can take at once. Johnson: 'This rule, sir, cannot hold in all cases; for many people have their sleep broken by sickness; and surely Cullen would not have a man to get up after having slept but an hour. Such a regimen would soon end in a long sleep.' Dr. Taylor (that is, the Rev. Dr. Taylor) remarked, I think very justly, that 'a man who does not feel an inclination to sleep at the ordinary times, instead of being stronger than other people, must not be well; for a man in health has all the natural inclinations to eat, drink, and sleep in a strong degree.'"

To conclude, the lines on "Early Rising" by one of your American poets, John Godfrey Saxe, are very much to the point:

"God bless the man who first invented sleep!"
So Sancho Panza said, and so say I;
And bless him also that he didn't keep
His great discovery to himself; nor try
To make it—as the lucky fellow might—
A close monopoly by patent right!

"Yes—bless the man who first invented sleep
(I really can't avoid the iteration);
But blast the man, with curses loud and deep,
Whate'er the rascal's name, or age, or station,
Who first invented, and went 'round advising,
That artificial cut-off—Early Rising!

"I like the lad, who, when his father thought
To clip his morning nap by hackneyed phrase
Of vagrant worm by early songster caught,
Cried, 'Served him right!—it's not at all surprising;
The worm was punish'd, sir, for early rising!"

I remain, sir, yours faithfully,
GEORGE PERNET, B.A., M.R.C.S. Eng., L.R.C.P. Lond.
UPPER GLOSTER PLACE, LONDON, N. W. (ENGLAND).

ANTISEPSIS IN TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article by Cyrus Edson, M.D., of New York, in a recent issue of the MEDICAL RECORD announcing his discovery of a new cure for consumption naturally suggests a few objections. It is nothing new to say that to saturate the body with an antiseptic fluid would require a quantity which, as Dr. Edson has it, would be "overwhelmingly toxic." The amount of blood in man is about one-thirteenth part of the body weight, which means ten pounds of blood for a person weighing one hundred and twenty pounds, consequently one-half ounce of a germicide would have to be injected into the blood, and this quantity must be maintained in spite of rapid excretion.

Trudeau in 1893 and Cornet succeeded in rendering guinea-pigs partially immune against tubercle infection, the former by antitubercular inoculation, the latter by injection of creosote.

Admit, however, the possibility of surcharging the blood with an antiseptic. Early in the development

of the disease the blood-vessels of the affected centre are destroyed, rendering it impossible for the medicated blood to reach the tuberculous part. An extension of the disease may for a time be prevented, the antiseptic blood stream reaching to the margin of the diseased area. But how destroy the bacilli within the tubercle? They multiply despite all antiseptics, and when there occurs a breaking down of the tuberculous walls an invasion of the bacilli to all parts of the body is the result.

Now is it possible to saturate the body sufficiently to cause instant destruction of the bacilli when released? As the living cells in the body constitute our greatest factor in resisting the attack of these micro-organisms, how will these cells endure the toxic action of the germicide? Admitting that the vitality of the germs would be lowered, would there not be a simultaneous decrease in the vitality of these protecting cells, not alone at the tuberculous lesion but throughout the body?

Pursuing such treatment is in direct opposition to and not assisting nature, as Dr. Edson asserts, and reminds one of the old practice of bleeding a patient who, suffering from fever, requires every spark of vitality to resist the disease.

JOSEPH MUIR, M.D.

34 WEST THIRTY-THIRD STREET.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was very much interested by Dr. Cyrus Edson's article entitled "A Rational Treatment for Phthisis Pulmonalis, together with Some Notes on a New Remedial Solution," published in the MEDICAL RECORD of February 8th.

Dr. Edson may or may not have invented a valuable new remedy, but I submit that the theory on which his would-be facts are based is fallacious. Because phenol, which can be found in traces in healthy urine, is greatly increased in the same excretion under certain pathological conditions, the doctor concludes that this increase is "one of Nature's many devices to cure the underlying condition—to destroy the germ infection." That is certainly not a very substantial theory. It would be, at least, just as reasonable to conclude that the increased elaboration of phenol in disease is due to faulty metabolism, and that instead of serving a useful purpose it helps to poison the system.

According to Dr. Edson's theory it would be rational to conclude that the presence of sugar is curative in diabetes. There are traces of sugar in normal urine, hence its great increase in diabetes must mean that nature elaborates it as a curative agent against the disease!

F. W. KOEHLER, M.D.

1001 FOURTH AVENUE, LOUISVILLE, KY.

ACETYLENE GAS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your article on acetylene gas in the issue of February 1st, you say that so far as you have learned the only serious objection to it is that it is extremely poisonous. I would add to this its explosive nature. A merchant of our town had manufactured some acetylene, intending to use the light in his store window. He had the gas in the cellar, and one day having occasion to go below for some goods lighted a match to see his way better; and though several feet away from the gas tank, an explosion occurred which shook things up lively. A piece of iron struck our enterprising friend in the face, breaking his nose and causing injuries which nearly proved fatal.

F. G. LEGGE, M.D.

ALLEN, MICH., February 3, 1896.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

GENITO-URINARY SECTION.

W. K. OTIS, M.D., CHAIRMAN.

Suprapubic Cystotomy for Stone.—DR. JAMES R. HAYDEN presented a stone weighing three hundred and sixty grains, removed from the bladder by suprapubic section. The points of interest were the absence of any marked symptoms and the shape of the stone, tapering to two points, which apparently had occupied the vesical opening of the two ureters, although, as the chairman said later, this was hardly probable.

DR. BANGS and DR. ERDMANN recalled cases of large stones, doubtless in the bladder for a considerable period, which had given rise to only very light symptoms until somebody practised careless catheterization and set up severe cystitis.

Double Tuberculous Epididymitis.—DR. IRWIN H. HANCE presented a man, thirty years of age, with double tuberculous epididymitis. There was no family history of tuberculosis, but his wife had had tuberculosis a year and a half or longer. No venereal disease was shown. There had been frequent micturition with irritable bladder for over a year, but the general health was unimpaired; during the last four weeks there had been slight pains over the bladder and dull pain in the right testicle, which was tender; a week later the left testicle was more painful and swollen, with slight hydrocele and enlarged inguinal glands. No very definite signs could be discovered in the chest. There was flocculent deposit in the lower portion of the urine, a large number of pus cells, some coarse epithelium, and half a dozen tubercle bacilli. The tuberculous epididymitis was probably secondary to some undiscovered focus, perhaps in the seminal vesicles or the prostate. It was often difficult to find tubercle bacilli in the urine. To determine their presence inoculation tests might be made on guinea-pigs by injecting fluid from the epididymis or hydrocele if present, but the quantity of hydrocele fluid injected might have to be considerable before giving positive results. Dr. Hance mentioned some cases of tuberculous epididymitis showing improvement by the climate at the Adirondack Sanitarium.

DR. GIBSON raised the question whether a sea voyage was advisable in tuberculosis.

DR. BANGS replied that he had found a high, dry atmosphere best for most patients, but it was well to learn of the patients themselves in what climate they had felt best.

DR. W. K. OTIS had found that his patients did badly in sea air, whether on shore or on water.

DR. HANCE believed that long sea voyages were not advisable, as the patient might be seasick or he might be dissatisfied with his surroundings and wish to be ashore. Mental depression always acted unfavorably. Fully one-half of the patients came back after a long sea voyage in not so good condition.

Castration for Enlarged Prostate.—DR. CHARLES B. KELSEY presented half the prostate removed post mortem six weeks after castration in the case of a man, aged sixty-nine, who had had urinary obstruction, cystitis, etc. He would not have performed castration had there not also been hydrocele and hernia. The man lived six weeks; castration had no ill effects, but did not cause any reduction of the prostatic hypertrophy and in no way relieved urinary retention. The prostate weighed forty-five drachms. Minute microscopical examination showed no atrophic

change induced by castration. So far as he knew the only other case in which castration for prostatic enlargement had been followed later, three weeks, by post-mortem and microscopical examination of the prostate had been reported by Griffith, of England, and in that instance it was stated there was marked atrophy.

Nephrectomy Secondary to Nephrotomy.—DR. EUGENE FULLER reported a case of nephrectomy secondary to nephrotomy, the reasons for making the nephrectomy a secondary operation being those given by Israel. The pus sac was thoroughly drained; the kidney was markedly reduced and could be removed through a smaller incision; plastic lymph was thrown out and reduced the amount of absorption following nephrectomy for pyelitis; the condition of the other kidney could be better studied in its bearing upon the propriety of nephrectomy. The case reported was one in which the urinary and other symptoms had been attributed by several physicians to trouble lower than the kidney. Dr. Fuller made an incision in the loin and reached the kidney, which was of the size of a coconut, let out pus, found a small stone in the pelvis of the organ, inserted two drainage tubes packed with gauze, and at the end of two weeks removed the kidney.

No secreting tissue remained; the organ was three-fourths the normal size and was removed in fourteen minutes through the former incision, although the new adhesions caused a little difficulty. The patient made an excellent recovery and the urine was clear.

Some Acute and Chronic Conditions of the Prostate Gland.—DR. L. BOLTON BANGS devoted the larger part of a paper bearing this title to the subject of etiology. In his opinion sexual excitement and abuse in various forms had a great deal to do with the hyperæmia, the functional derangement, and the later hypertrophy of the prostate. Sexual hyperæmia and irritation was seen in the masturbating youth, the engaged young man, the newly married couple, the docile husband whose æsthetic wife repelled intercourse as carnal, the professed libertine. From conversation with many persons of healthy mind he had arrived at the conclusion that for the average man the sexual act should not take place oftener than once a week. Possibly twice in that period might not be injurious, but greater frequency would leave the blood vessels dilated and the prostate in a state of constant hyperæmia, leading to hypertrophy and in the end to obstruction of the urethra. Among the functional derangements caused by sexual excess or irritation and by urethritis were a sensation of burning in the bladder, anus, or perineum; weakness, feeling of impending emission, sensitiveness to exploration, symptoms relating to urination, mental depression.

The treatment was divided into that relating to acute or subacute conditions of the prostate and the chronic condition known as hypertrophy or overgrowth of the organ. In the former, assuming that the person was rightly married, systematic sexual intercourse rather than abstention was to be advised. Pains in the feet, back, itching in the scrotum, etc., were relieved by hot sitz baths, rectal injections, local treatment of urethritis and of the prostate. In using solution of nitrate of silver the object should be to obtain its alterative effect, not the cauterizing effect, 1 to 1,000 being strong enough unless there was a history of gonorrhœa. Massage of the prostate might be useful after irritation had subsided. By this was not meant "stripping" the seminal vesicles, a procedure which was beneficial in the condition for which it was indicated.

The man whose bladder habitually contained residual urine was more likely to become infected than another, and the passage of a catheter in such a person was an important surgical procedure. A method of overcoming

retention which had frequently proven successful in his hands and in the hands of his house surgeons was irrigation of the urethra, while the pelvis was elevated, with boric-acid solution, to be repeated in an hour. If it did not succeed use a catheter. Some withdrew all the urine at once, but Dr. Bangs thought it safer to leave some, taking away a little more at each successive sitting. The educated and well-to-do might get along comfortably with the use of the catheter indefinitely, but the ignorant and poor were more likely to require an operation in the form of drainage of the bladder or prostatectomy. Removal of the prostate was still attended by high mortality, twenty to twenty-five per cent. Having listened to Dr. White's presentation of the subject of double castration, he believed there were cases which could be benefited by that measure, and it deserved our consideration. He had been surprised, however, to learn that the death-rate was as high as seven per cent.

In conclusion, he wished to call attention to the view that prostatic hypertrophy was due to senility. He and others had, however, seen it cause urinary retention as early as the fortieth year, and he believed it began during the active period of sexual life, although facts proving this were difficult to arrive at.

DR. SAMUEL ALEXANDER had been much interested in Dr. Bangs' presentation of this subject, but had not been convinced that sexual hyperæmia was an important cause of prostatic enlargement. One reason for doubt was the fact that sexual over-excitement was so common, quite out of proportion to the number of cases of prostatic enlargement seen in later life. He did not question that it had some influence. Regarding castration, he did not think Dr. White's paper justified our offering it to patients without a large question mark. It was a physiological experiment, and it was not unlikely that the benefit reported had been due to diminished hyperæmia or other cause than atrophy of the prostate.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, February 12, 1896.

THE PRESIDENT, DR. J. C. WILSON, IN THE CHAIR.

Precision in the Technique of Hydrotherapy.—By invitation of the directors DR. SIMON BARUCH, of New York, read a paper on "The Importance of Precision in the Technique of Hydrotherapy." He pointed out that when he made his first plea, seven years ago, for the employment of the Brand bath in the treatment of typhoid fever, not a single voice was raised in his support. A few days later, however, he received an invitation to instruct the medical staff in one of the divisions of Bellevue Hospital in the technique. Encouraged by the gratifying results that have been obtained since that time, Dr. Baruch has been led to employ hydrotherapy not only in acute diseases such as typhoid fever, pneumonia, and the exanthemata, but also in chronic diseases such as tuberculosis, rheumatism, and gout, in which the nutritive tissue-change or hematosis is defective. The virtue of water as a therapeutic agent resides in its flexibility, inasmuch as by a judicious adaptation of temperature, duration, and pressure, it may be applied in conditions of the greatest feebleness and variety.

In the average medical mind the following objections to hydrotherapy at once arise: (1) The difficulty of applying water systematically and with precision, from the lack of facilities and the natural repugnance to water on the part of most persons. (2) The espousal of water as a remedy by empirics and ignorant laymen, who have brought it into disrepute. (3) The utter disregard of exactness of technique. The last is

probably the chief cause of the indifference of the profession, as failure will surely result from inattention to details. It is a too common error to confound all kinds of cold bathing and sponging with the Brand treatment. It has been definitely ascertained that high temperature is not the chief danger to be feared in an attack of typhoid fever. The object of the Brand bath is the support of the nervous system, with a secondary consideration for the temperature. A longer bath at a higher temperature would also reduce the bodily temperature, but it would be lacking in the nervous stimulation. Friction of the body and cold affusion of the head augment the influence of the cold bath, which is appreciable in the improved action of the heart, lungs, and secretory organs. To obtain the ideal result a precise technique must be followed. This consists in beginning the friction baths at 65° F. before the fifth day of the disease and continuing them without fail every three hours night and day when the patient is awake, so long as his temperature reaches 102.5° F. The bathing cannot begin too early and no harm can result should the case prove not to be one of typhoid fever.

The Brand bath may at times serve as a diagnostic guide. Whenever the morning temperature is above 102° F. on the third or fourth day of a febrile disorder and it rises 1° F. or more in the evening, in the absence of a local cause, and a bath at 90° F. with friction for fifteen minutes, repeated in four hours at 80° F. and then 75° F., causes the rectal temperature to fall 2° F. or more, typhoid fever can almost positively be excluded.

In the treatment of pneumonia, and especially the broncho-pneumonia of young children, excellent results have been secured by the use for ten minutes with friction of the tub bath at a temperature of 95° F., gradually reduced to 80° F. during the first bath. Succeeding baths are repeated at intervals of four hours if the temperature reaches 103° F. or more. In the treatment of pneumonia in adults the results from this method and also from the strict Brand bath were unfavorable. The following procedure, however, has proved entirely satisfactory. The patient receives first from ten to twenty grains of calomel, and is carefully sponged with soap and water and dried. Two compresses of three thicknesses of old crash or linen towelling or sheeting are wrung out of water of a temperature of 60° F. and neatly applied to the chest, being covered firmly with a flannel bandage. The application is renewed every hour so long as the temperature ranges between 100° F. and 102° F., and every half-hour if the temperature be higher. Free libations of water are permitted and strychnine is employed hypodermically if the action of the heart is feeble.

The judicious employment of water is also capable of excellent results in the treatment of pulmonary tuberculosis. The object here is the improvement of the nutrition. This is effected by first dilating the superficial cutaneous vessels and thoroughly warming the patient by a dry pack, *i.e.*, enveloping him in long-haired blankets, or by a hot-air bath short of inducing perspiration. Then he is subjected to a circular or needle bath under a pressure of twenty-five pounds at a temperature of 95° F., gradually reduced in the course of one minute to 85° F. and followed by a fan douche under a pressure of twenty pounds at a temperature of 90° F., reduced daily 1° F. If precision in the technique be not observed and the patient is exposed to lower temperatures or subjected to higher pressures at the beginning, the results would be serious and discouraging.

In cases of neurasthenia, of atonic and nervous dyspepsia, and of simple chlorosis, the results obtained with hydrotherapy applied with judgment and skill

in improving the nutrition and hematosis are striking. A patient with chlorosis may be instructed to stand in a tub containing twelve inches of water at a temperature of 100° F., while an attendant squeezes from a crumpled towel or two bath gloves upon successive parts water at a temperature of 90° F. or less, according to the reactive capacity of the patient, meanwhile rubbing gently the surface of the body. The patient is then gently dried with a soft linen towel and subsequently rubbed with a crash towel. The temperature of the bath should be reduced 1° or 2° F. daily until 50° F. is reached; then larger quantities of water should be poured over the body by squeezing a large sponge quickly over different parts. Later pitcherfuls or basinfuls may be poured over the body with some force.

In the discussion DR. JAMES TYSON expressed himself as a firm believer in the Brand treatment of typhoid fever, which he contended is the only treatment that should be practised. The objections that have been raised and the difficulties that have been encountered are being gradually removed. The portable tub has made easily possible the employment of the treatment in private practice. In hospital practice the mortality has been reduced to seven per cent. and even less. It would seem that something is gained by the reduction of temperature effected by the bath, though this is not the most important result. The almost total absence of stupor, of delirium, and of other symptoms suggestive of a typhoid condition is a striking feature in cases treated with the cold bath, the effect of which is, as has been said, to make every case of typhoid fever a mild case.

DR. H. A. HARE pointed out that for a long time fever was considered a conservative process, although later it was viewed with concern. It has been experimentally shown that animals inoculated with infective matters have a better chance of recovery when fever develops than under the reverse conditions. It is not perfectly clear in what way fever exerts its beneficent influence. This may possibly have some connection with leucocytosis, as it has been shown clinically that cases of pneumonia and typhoid fever attended with an increase in the number of leucocytes have a more favorable prognosis than those in which such increase fails to take place. It is probable that the good effects resulting from the application of cold in the treatment of pyrexia is not due to the abstraction of heat. With the contraction of the superficial vessels there is an afflux of blood to the interior of the body, with consequent elevation of the deep temperature and activity of the viscera. In this way it is probable that the well-known capacity of the liver to destroy toxic substances is increased.

DR. FENTON B. TURCK, of Chicago, also emphasized the importance of precision in method in every detail in the application of water in the treatment of disease. In this connection must be considered the temperature of the bath and its duration, the object to be accomplished, the individuality of the patient, and his tolerance of the treatment.

DR. J. P. CROZER GRIFFITH expressed confidence in the Brand treatment, although in his service at St. Agnes' the method was modified by making the temperature of the bath not quite so low as that prescribed by Brand, with results nevertheless that were quite satisfactory. He also referred to the use of the hot bath in the treatment of broncho-pneumonia in children.

DR. J. M. ANDERS pointed out that the prejudice against the bath treatment in private practice can often be overcome by instructing the family to add to the water a small quantity of alcohol or of vinegar. In his experience it was often possible to give a graduated cool bath when a genuine cold bath would not

be permitted. While the former might extend over a period of twenty minutes, the latter should not last longer than ten. The prolonged stimulation may lead to exhaustion, especially in cases characterized by weakness of the heart. The cold bath has yielded bad results in the treatment of pneumonia.

DR. THOMAS J. MAVS stated that he had for a long time employed cold in the treatment of pneumonia and had never observed shock result. In this disease he prefers local applications in the form of ice packed around the chest in ordinary ice bags. The good results secured are attributable to an influence upon the nervous system.

DR. WHARTON SINKLER stated that different forms of hydrotherapy must be employed in different forms of neurasthenia and some care must be exercised in the selection of cases. In cases attended with perturbation the cold must not be too intense or the application too protracted.

In closing the discussion DR. BARUCH repeated that the primary object of the cold bath in the treatment of the febrile process is not the reduction of temperature. It was from this point of view that Liebermeister failed for a long time to secure successful results. Prolonged baths at low temperatures with quinine during the night, to keep the temperature down, proved inadequate. Feebleness of heart must be considered a distinct indication rather than a contraindication for cold bathing in typhoid fever. In the most perfect form of heart failure, as in syncope, the first expedient is the use of cold water. In the treatment of scarlet fever it is often useful to immerse the patient quickly in cold water and then to gently dry him. The reaction is shown by the glow that follows. The inadequacy of ice to influence the local process in cases of pneumonia and peritonitis is shown by the observation that after application of ice to the abdomen in case of peritonitis the abdominal walls have after death been found frozen, without, however, any appreciable influence upon the inflammatory process.

Should One Sleep After Eating?—We would not now revert to this oft-discussed question to give any one's theoretical views or personal beliefs in the matter, or to bring forward the familiar argument that because animals sleep just after they have eaten, hence the human animal should do the same. Dr. Schule, of Fribourg (*La Méd. Mod.*, January 15, 1896), has, however, approached the subject from the chemico-experimental side and his results are worthy of record. Having analyzed the stomach's contents in two normal subjects a few hours after meals, some of which were followed by sleep and others not, he finds that sleep has for its constant effect the weakening of the stomach's motility and at the same time there is an increase in the acidity of the gastric juice. On the other hand, simple repose in the horizontal position stimulates the motive function of the stomach but does not increase the acidity of the gastric juice. The conclusion is hence reached that, while one should stretch himself out for a rest in the horizontal decubitus after a hearty meal, he should resist the tempting Morpheus, especially if there be present a dilated state of the stomach or if its juices be hyperacid.

Infant Mortality in Paris.—More than 155,000 children under one year die annually in Paris, the greater number of them owing to neglect on the part of their mothers. The proportion of illegitimate births, which at the beginning of the century was four or five per cent. of all births, is now nearly nine per cent. for France and twenty-eight per cent. for Paris. Among the children of Paris wet nurses the average mortality is seventy-seven per cent.

Therapeutic Hints.

Whooping Cough.—

R. Infusion of belladonna-leaves (7½ gr.)
in distilled water fl. ʒ vi.
Antipyrin gr. xv.
Simple syrup fl. ʒ i.
M. A teaspoonful every two hours.

—ESCHLE.

Pneumonia.—1. Digitalis in large doses forms one of the most powerful therapeutic means against pneumonia. 2. It causes a favorable action on the heart, lungs, and blood. 3. In large dose, digitalis shortens the duration of pneumonia and gives an increase of the leucocytes. 4. A dose of one gram of the powdered leaves, and daily doses of four to five grams, are borne without inconvenience. 5. Hydrotherapy (cold water) assists in these conditions the action of the digitalis.—NÆGELI-ÅKERBLÖM.

Hysteria.—It is said that one-tenth of a grain of apomorphia, hypodermically, will break up and there-fore prevent an attack of hysteria.

Coffee in Strangulated Hernia and Intestinal Obstruction.—Guérin gives an account of a number of cases of his own in which the following treatment has been successful: Make an infusion of 250 grams of coffee in twelve cups of boiling water. Administer a cupful every fifteen minutes until eight have been taken, then give the remaining four cupfuls at intervals of half an hour. Four hours will effect a reduction. The coffee may be given per rectum or caffeine by subcutaneous injection when it is impracticable to give by way of the mouth.—*Archives de Médecine.*

New Method of Administering Chloroform.—M. Rosenberg contends that the dangers to both heart and respiration are occasioned reflexly by the irritating action of the chloroform on the terminations of the trigemini distributed to the mucous membrane of the nose, that the same is true of any other anæsthetic taken through the nose, and that this may be obviated by first anæsthetizing the mucous membrane of the nose by using cocaine which is an antidote to chloroform. Having tried this method in fifty cases he concludes: 1. The commencement of anæsthesia is less disagreeable for the patient who never makes defensive movements. 2. The excitement stage is often wanting and is always slight except in case of alcoholics. 3. During anæsthesia it is very rarely a patient vomits, and if vomiting does occur there is little retching. 4. Upon awakening the patient experiences no disagreeable sensation, and is not haunted by the smell of chloroform or ether. The method pursued is as follows: The patient is directed to blow his nose in order to clear the mucous membrane, then, leaning forward or sitting (never lying), to snuff a centigram of a powder consisting of ten per cent. of cocaine hydrochlorate and some inert substance. Repeat in about three minutes and commence general anæsthesia. If the operation is prolonged repeat chloroform continuously drop by drop.—*Gazette des Hôpitaux, from Berlin. kl. Woch.*

Diphtheritic Conjunctivitis.—Improvement in the local manifestation of the disease, as well as in the general condition, followed so quickly upon the employment of antitoxin that its usefulness must be granted. The serum alone is sufficient to produce resolution and recovery where there is no purulent discharge.—MORAX, *Ann. d'Oculist.*, April, 1895.

Injection of Gualacol to produce local anæsthesia is found to be as powerful as cocaine and can be used in ten times larger doses. Five minutes are required for

the full effect. Solutions of 1 in 10 and 1 in 20 sterilized olive oil are used, a syringe containing ten or five centigrams. [Its vaso-constrictor action may result in sphacelus.—ED.]—LUCAS CHAMPIONNIÈRE, *Bul. de l'Acad. de Méd.*, July 30, 1895.

Tobacco.—As a general rule there is no need to forbid the use of tobacco in surgical cases, with the exception of those involving the eyes, the abdomen, and the bladder, and most of the affections where the use of tobacco is injurious are just those which cause the patient to dislike it; in fact, in these the disinclination to smoke is one of the first signs that a man is unwell. With certain troubles, such as those of the throat and pharynx, or cases of peritonitis, tobacco should not be used.—JANKAU.

Malaria.—The parasites are present in all forms of the disease, and constitute a diagnostic criterion of unfailing accuracy in uncinchonized subjects. The diagnosis of the malarial fevers can be made with certainty by the blood-examination. An intermittent fever which resists quinine is not of malarial origin.—OSLER.

Carcinoma of Stomach.—A continued persistent absence of free hydrochloric acid is, however, as a sign of carcinoma, of some diagnostic value; but the mere absence of acid without the concomitant symptoms cannot be depended upon to establish the diagnosis.—PEPPER.

Pernicious Anæmia.—In approaching the treatment of a case of pernicious anæmia, you ought always to attempt to ascertain whether the case before you is one of those connected with atrophy of the gastric tubules. In some of these cases the catarrhal symptoms are marked and the power of digestion profoundly reduced; and such cases may properly be called pernicious anæmia of gastric origin.—PEPPER.

Herpes Zoster.—The prognosis of zoster is good, save when the forehead and eyeball are affected. Suppurative panophthalmitis and destruction of the globe sometimes occur in spite of all our efforts to save the organ. Obstinate neuralgias that may plague the patient for years may be left behind; but recovery is perfect, as a rule, when the disease ends.—GOTTHEIL.

Alopecia.—The author, taking the ground that alopecia is a disease of the skin and not of the hair, suggests that the heavy layer of the skin be destroyed by vesication, so that the drugs applied may have a more direct action. Saborourand's method is to apply a liquid which will cause a blister, and then on the next day to make an application to the denuded surface of nitrate of silver. The author has found the treatment efficacious and rapid, but as yet insufficient time has elapsed to be able to judge if there will be relapses, as this is another important feature of the disease.—SABOROURAND.

Uterine Pains.—

R. Iodoform 5 gm.
Cocaine 1 "
Oleic acid 4 "
Sterilized vaseline 100 "

The oleic acid is necessary to dissolve the cocaine.
—MAYET.

Chronic Bronchitis.—

R. Morphine hydrochloratis grs. v.
Extracti hyoscyami grs. viij.
Rad. belladonnæ pulv.,
Rad. glycyrrhizæ pulv.,
Mellis ʒā grs. xiv.
Balsam. toluani,
Ol. theobromæ ʒā grs. lxxv.
M. ft. pil. div. no. c. Sig. One every five or six hours.

—RICORD.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 15, 1896:

	Cases.	Deaths.
Tuberculosis.....	82	120
Typhoid fever.....	7	2
Scarlet fever.....	147	11
Cerebro-spinal meningitis.....	2	5
Measles.....	518	19
Diphtheria.....	271	41
Small-pox.....	0	0

Sterility and Divorce.—There are certain people to whom the integrity of the marriage bond is obnoxious and they are forever seeking to prove that a greater latitude ought to be accorded for evading its indissolubleness. A point upon which great stress has been laid is the alleged injustice of condemning any two people to perpetual conjugal relationship in view of the sterility of the parties to the contract—in other words, they claim that sterility ought to justify a demand in nullity of marriage. There would seem, *prima facie*, to be some ground for this contention, but like so many other social reforms the difficulty lies in the application thereof. First of all it would be necessary to define what constitutes sterility, and, having accomplished this task, a medico-legal question would arise as to which of the conjoints is to be saddled with the responsibility of the procreative failure. Sterility after all is often relative rather than absolute, and a very interesting chapter might be written on the curious incompatibility which exists between particular couples, the peculiarity whereof lies in the fact that subsequent remarriage or an irregular union has proved the soil to be less infertile than was supposed. The subject bristles with difficulties because it would often be alleged for the defence that the disability, if any, was the result of pathological conditions induced by the complainant, an allegation which must, of its nature, be very difficult to disprove. What the reformers hanker after would be an automatic law, in virtue whereof all marriages of so many years' standing not complicated by pregnancy would be *ipso facto* dissolved or dissolvable. From a medical point of view the only legitimate ground of objection would be the fact of one or other of the parties being incapacitated for reproduction by reason of some gross physical abnormality, congenital or acquired, as to the existence of which there could be no dispute—when, for example, the wife turns out to have had her "appendages" removed by some enterprising gynecologist, or the husband belongs to the "undescended" variety of the genus man. Knowledge, as Huxley observed, does not go beyond phenomena, and phenomena in this connection must be taken to mean obvious physical misformation.—*Medical Press.*

Locomotion of Gonococci.—Dr. Moore, of Chili, working in Lassar's laboratory, believes he has discovered that gonococci do move. He has demonstrated preparations which show pus cells filled with gonococci, which have a mobility of their own, independent of any current in the preparation.—*La Méd. Mod.*, December 18, 1895.

Metritis Gonorrhoeica.—Dr. Max Madleuer (*Centralb. für Gynäk.*, December 14, 1895) gives the following *résumé* of his investigations: Neisser's gonococcus is capable of passing from the endometrium into the muscular apparatus of the entire uterus and

there setting up an inflammatory process. This inflammation may reach even to the point of abscess production. This result appears especially to occur in the puerperium. Usually the inflammation remains of moderate intensity. The gonococcus disappears quickly from the myometrium in that it either perishes or wanders farther. By the introduction of the germs into the uterine wall even as far as the serosa infection of the peritoneum from the endometrium with evasion of the tubes is a possibility, and in this way perimetritis in gonorrhoea without implication of the adnexa is explained.

Blennorrhagic Diverticuli and Peri- or Para-Urethral Abscess with Gonococci.—Dr. Batut gives the following as his conclusions (*Archiv. de Méd. et de Pharm. Milit.*, No. 9, 1895): 1. There exist blennorrhagic diverticuli around the meatus, in Tyson's glands, along the canal, in Mery's and Cowper's glands, the latter more studied but less frequent than the preceding. 2. Certain large ducts above the urethra, as it were blind external fistulæ, or communicating posteriorly with the bladder by a filiform canal, are supplementary urethras due to an arrest of development in the upper urethra and are not erratic glands of Luschka. These supplementary urethras may be primarily invaded by the gonococcus, the normal urethra remaining intact. 3. The gonococcus may also set up periurethral abscess without connection with the canal or with the annexed glandules of the latter, just as it may provoke an abscess at a distance in the periarticular connective tissue. 4. The treatment of the diverticuli is by actual cauterization according to Diday's method; for Cowperitis, incision and cautery; for periurethral abscess, large incision. 5. Extirpation is the only method of treatment truly surgical in all blennorrhagic inflammation of a supplementary urethra.

Hygiene in the Prussian Army.—According to General Staff Surgeon Dr. von Coler, of Prussia, by improving the hygienic conditions of the army the amount of invaliding has been reduced by forty-two per cent. since 1868 and the mortality by not less than fifty-seven per cent. The lives of two thousand soldiers have been saved by hygienic measures, for the deaths in 1894 were two thousand fewer than they must have been if the rate of mortality had been the same as in 1868.

The Insane in Austria.—The general interest always shown in the care of the insane, and especially the present agitation in the United States as to the best methods of provision for this class of patients, have led to brief inquiry into the conditions prevailing in this great medical centre. It is to be noted that, although the practice is not in accord with the ideals, the best medical thought turns in the same direction as in America, and the realization of present purposes will meet requirements in all respects similar to those demanded in the latter country. Unfortunately statistics of recent date have not been prepared, but it is understood that accommodation in institutions is far short of the actual need. In lower Austria there are five provincial asylums for a population of two million, the largest, in Vienna, having a normal capacity of seven hundred with a census of nine hundred patients. Further provision for the municipal insane is made in the wards of Kraft-Ebing's clinic in the large general hospital, where curative rather than custodial features prevail. The asylum proper, a large central structure, flanked by wings with plain exterior, represents the style of similar American institutions built a half-century ago. Originally in the suburbs, its domain is now so contracted by the encroachments of the city as to seriously in-

terrupt the freedom of patients and the administration of the institution. There is little interior decoration, the massive walls and arches and heavy furniture giving an unpleasantly custodial aspect. With the exception of an occasional piano or billiard table, few resources for the amusement of patients are seen. Tobacco is freely used, the corridors of wards for men being open for smoking. Employment is better provided, facilities being afforded in the gardens and in tailoring, shoemaking, bookbinding, and other trades shops for the industrial class. Patients are compensated for their labor, the money being either placed to their credit or in proper cases forwarded to their families. The administration consists of a medical director and subordinate to him the corps of medical and business officers. The so-called dual plan of management by mutually independent medical and financial departments is here regarded with strong disapproval. Of the medical staff, relieved of all other than professional duties, is exacted close attention to the medical work of the institution. To this fact, in connection perhaps with the scientific atmosphere of the neighboring general hospital, may be attributed the careful study and accurate observation of cases which are the features of all medical work in Vienna. The first assistant physician has gained repute as an instructor and lecturer in the clinic of Professor Wagner, which is conducted in the asylum. In treatment little difference from the methods of the best institutions of the United States exists. Opium in generous doses is largely used for relief of the anxiety and worry in cases of active melancholia. The sheet anchor of treatment in these cases, however, is rest in bed, and this system is carried to a greater extent than is common with us, recumbence being insisted upon until convalescence is well established. There is occasional but infrequent recourse to mechanical restraint. Isolation of excited patients is much more common but is deprecated and excused on the ground of expediency, special small wards for individualization of the turbulent class not having been provided in the plan of the buildings. Trional is a favorite hypnotic. Special investigation during the last eighteen months has been made by researches as to the effect upon insanity of tuberculin. It has been hoped that the induced febrile states might be followed by the favorable mental reaction long observed as the accompaniment of erysipelas, typhoid, and other acute infectious diseases. A preliminary report has been published by Dr. Boeck in a recent issue of the *Jahrbücher für Psychiatrie und Neurologie*, iv., 1 and 2, 1895. In the early experiments a distinct improvement was noted in cases of acute insanity. Simultaneously with the pyrexia thus artificially induced, sometimes of high degree, occurred almost invariable and rapid increase in body weight, improved appetite, and gain in sleep, the last in cases where deficient sleep had been a marked characteristic. Further experiments have been conducted with pyocyaneus culture, and later results are soon to be reported. An old-fashioned division of patients into "quiet," "moderately disturbed," and "disturbed" classes is compelled by the arrangement of the wards. This, with other present inconveniences, is expected to be overcome in the near future by removal to a new institution and abandonment of the asylum now in use. The plans for the projected institution contemplate removal from the city and separate structures for different classes of patients. In a hospital building proper with all appurtenances for refinements of treatment will be accommodations for the acute insane. Here are to be concentrated the curative resources of the institution, the most experienced physicians, trained nurses, and all approved hygienic and therapeutic means. Other distinct and remote buildings will be provided for the

chronic cases, with appliances for employment and diversion. Various sites are under consideration and the work of construction is expected to be soon undertaken. The occupation of this new hospital will mark the third and scientific epoch of management of the insane in Austria, whose early period is still recalled by the huge "Narrenturm" or "Fool's Tower" at the back of the general hospital built by Joseph II. for the insane.—*From our Vienna Correspondent.*

A Statue to Pasteur.—It has been decided to honor Pasteur in the district where his first experiments in vaccinating sheep stricken with anthrax were carried out, says *The Lancet*. These experiments were made at Pouilly-le-Fort in 1881, and in grateful memory of the benefits which accrued to agriculture as the result of these scientific experiments a statue is to be erected to Pasteur at Melun, near Fontainebleau. A committee consisting of members of the agricultural and veterinary societies of the Department of the Seine-et-Marne has been formed for the purpose of receiving subscriptions.

The General Practitioner of Times Gone By.—Before and behind his saddle were strapped the instruments and medicines the doctor might want, for he never knew what was before him. There were no specialists in Drumtochty, so this man had to do everything as best he could and as quickly. He was chest doctor and doctor for every other organ as well; he was accoucheur and surgeon; he was oculist and aurist; he was dentist and chloroformist, besides being chemist and druggist. It was often told how he was far up Glen Urtach when the feeders of the threshing-mill caught young Burnbrae, and how he only stopped to change horses at his house and galloped all the way to Burnbrae and flung himself off his horse and amputated the arm and saved the lad's life. "You would hae thocht that every meenut was an hour," said Jamie Soutar, who had been at the threshing, "an' a'll never forget the pair lad lying as white as deith on the floor o' the loft wi' his head on a sheaf, an' Burnbrae haudin' the bandage ticht an' prayin' a' the while, and the mither greetin' in the corner. 'Will he never come?' she cries, an' a' heard the soond o' the horse's feet on the road a mile awa in the frosty air. 'The Lord be praised!' said Burnbrae, and a' slippit doon the ladder as the doctor came skelpin' intae the close, the foam fleein' frae his horse's mouth. 'Whar is he?' was a' that passed his lips, an' in five meenuts he had him on the feedin' board and wes at his wark—sic wark, neeburs—but he did it weel. An' ae thing a' thocht rael thochtful o' him; he first sent aff the laddie's mither tae get a bed ready. 'Noo that's feenished, and his constitution 'ill dae the rest,' and he carried the lad doon the ladder in his arms like a bairn, and laid him in his bed, and waits aside him till he wes sleepin', and then says he: 'Burnbrae, yir a gey lad never tae say, 'Collie, will ye lick?' for a' hevna tasted meat for sixteen hoors.' It was mighty tae see him come intae the yaird that day, neeburs; the verra look o' him wes victory."—IAN MACLAREN, in "A Doctor of the Old School."

A Condensed Code Dating from the Fourteenth Century.—Guy de Chauliac, a French surgeon, author, and teacher, was both chaplain and physician-in-chief for Urban V. and two other popes of Avignon. He was educated at the universities of Bologna and Montpellier and practised a long while at Lyons. He was born about 1300. He taught the following code of ethics: "Bold when sure. Cautious in danger. Kind to the weak and sick. Friendly with fellow-workers. Constant in duty. Not greedy of gain."

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WHEN SHALL WE OPERATE FOR APPENDICITIS? ¹

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SOME time ago a colleague while reading a paper on appendicitis excused himself for again treating a subject that had been discussed so often in our societies, and considered in our journals within recent years. Not long afterward I heard another colleague say that "he was absolutely convinced that ere long this craze of the laity to be operated upon for appendicitis would cease; far fewer operations would soon," he thought, "be performed for this reason."

If anything could induce me to read a paper on appendicitis, these remarks of well-known gentlemen would. In this particular instance they are not the cause. This paper was ready, in part at least, last winter. For special reasons I felt myself unable to finish it.

In my estimation we doctors cannot discuss this subject too often. If the laity should actually sooner or later give up this craze for operation, the doctors only are responsible for it.

Now, I am not of the opinion that we should in our medical societies still discuss the pathological-anatomical aspect of appendicitis. Most exhaustive treatises, that deal also with this chapter of the disease, have appeared here and abroad within the last years. Nor do I believe it to be of special value to give a synopsis of all the cases operated upon by the single man, to give "personal statistics" before a gathering of general practitioners. At our time, when almost every moderately busy surgeon has operated for appendicitis on more than one hundred or one hundred and fifty patients—and I can conscientiously state that I also have done this—at this time, I say, conclusions based upon personal experience must be drawn, and these on a broad basis. We have to consider not only the immediate danger of the acute attack of appendicitis which happens to confront us, but also the patient's future life. If anywhere there exists a necessity for a prognosis "quoad completam valetudinem," it is here.

Viewing the subject of appendicitis in this light, everything necessarily concentrates around the question: "When shall we operate for appendicitis?"

It was a great misfortune, I believe, for those who were stricken by appendicitis within late years that the "early operation," originally advised by Dr. McBurney, had to give place by virtue of medical evolution to the so-called "timely operation."

Generally speaking, no doubt it is more scientific in the treatment of patients to individualize, thus also in appendicitis; it is more scientific not to find the indication for the removal of the appendix given as soon as the diagnosis of its inflammation has been made. And I for my part am convinced that the

medical profession will continue to carefully weigh the pros and cons with reference to operation in each case of appendicitis. Yet at the same time I am firmly convinced that if we could give one hundred equally serious or equally light cases of appendicitis to two equally trained surgeons, the one who believes in and always does an early operation will save a greater percentage of lives than the other who only takes the knife in hand during the attack when he considers it to be time. Thus we can well understand that a number of surgeons take the stand to-day that appendicitis is a surgical disease and always requires an operation as early as possible. I think, in spite of all the able talking and writing by these competent surgeons, the general practitioner will never yield to this demand. He sees too many cases of appendicitis getting well without an operation, for the time being at least. He therefore clamors for individualizing, and wants, if possible, distinct symptoms when an operation is indicated, when he has to call in the surgeon.

Now, Mr. President and gentlemen, let me say right here, that I, with many other medical men, believe it to be the general practitioner's duty in every case of appendicitis to call in a surgeon at once. Not that I mean to say that the surgeon is needed for consultation to verify the "diagnosis" of the given case. Nay; only let the patient be seen and carefully examined by physician *and* surgeon. Let the surgeon, who naturally sees more severe cases of appendicitis, at least add his advice as to what would best be done in the case to that of the physician; let the surgeon also be aware that he may be called upon at any moment, day or night, to operate, provided the indication for operative interference is not given at once.

For convenience' sake I shall divide inflammation of the appendix into three classes:

1. Acute perforative (gangrenous) appendicitis—*appendicitis acutissima*.
2. Acute appendicitis.
3. Subacute and chronic relapsing appendicitis.

This division is feasible from the clinical standpoint.

I.

If anywhere a physician through undue temporizing can do irremediable harm to his client, it is in the first class. I am well aware that the diagnosis of acute sepsis starting from a defective appendix is sometimes extremely difficult; that not so very rarely the primary profound sepsis is so marked, that the true character of the disease is never recognized. Well! These patients will die with or without an operation. But if a doctor attends a patient who suddenly develops a more or less pronounced chill with quick, continued rise of pulse and of temperature, mainly of the former, after having had for a short while or formerly annoying sensations in the appendix region, this chill must be for the general practitioner the signal for an immediate call for surgical help.¹ Not always a chill

¹ A distinct chill accompanying the other well-known symptoms always indicates here the sudden invasion of formerly healthy parts by infectious material: a perforation. If adhesions had previously been formed, a localized periappendicular abscess will develop. If the appendix was perfectly free in the abdominal cavity, general diffuse suppurative peritonitis must ensue.

¹ Read before the Metropolitan Medical Society, December 23, 1895.

introduces these acute symptoms. But if it does, slight or severe, it is of great pathognomonic value. Do not allow yourselves, gentlemen, to be deceived at this early time of the serious disease by the patient's general good feeling. The latter often has nothing whatever to complain of, did not and does not vomit, has appetite, feels when questioned "very well." But the rapidly rising pulse above 120, the quick respiration, the high and increasing temperature, more or less pain on pressure in the appendix region over Douglas' sac—by vaginal or rectal palpation, also over the left side of the abdomen, especially in the left lumbar region, showing the involvement of the entire sac—and all these symptoms after a sudden onset, will properly direct the experienced. Quick work is needed here. Not hours, minutes count. I know very well, Mr. President and gentlemen, that the immediate shock of the sudden blood-poisoning may be so marked that the surgeon hesitates to add that of the operation. I am also well aware that a few patients who have had a distinct perforative appendicitis got well without an operation, or were successfully operated upon after a while, when nature had formed adhesions around the original large effusion. Six years ago I assisted a colleague in opening an intra-abdominal abscess in the linea alba of a boy of six years, who a short while before had voided a large amount of pus through the rectum. According to the history of the case, this surely had originally been a diffuse purulent exudation due to perforative appendicitis. In 1891 I operated on an athletic young man of eighteen, who four days previous had been suddenly stricken down with symptoms of a most acute peritonitis. He was taken home in a wild delirium. For three days and nights it required the steady watch of a number of attendants to keep him in bed. On the fourth day I was called in by the attending physician, and when I opened the abdomen, the incision, made in the loin, evacuated a large abscess with the gangrenous appendix and two fecal concretions. On gentle palpation the finger could feel the anterior and posterior surfaces of the liver, and enter between the coils of the intestines in many directions. The patient recovered. A similar third case was successfully operated upon by me last January. Of course, under proper treatment and care these patients get well. But the course of their disease has been exceptionally fortunate. Perhaps five out of a hundred have such luck. But exceptions cannot and shall not guide us in drawing our conclusions. It is a fact that patients with acute perforative appendicitis generally die if not operated upon in the very first hours. Dr. McBurney saved fourteen out of twenty-four patients.¹ In my hands, three out of four of the patients operated upon within the first twelve hours after the perforation have recovered. Those operated upon later, five in number, died. This is not the place to give a history of these most interesting cases. I shall publish them at the proper time. Only one I should like to mention very briefly, a case which, I believe, shows beyond doubt that the clinical symptoms of a true perforative appendicitis can rapidly develop without a macroscopical defect in the walls of the vermiform. The case is embodied in those four operated upon within the first twelve hours that I have just mentioned. On the eve of January 12th of this year I was called by our president, Dr. S. Marx, to see with him at once a young lady, who had since 4 P.M. developed symptoms of most acute peritonitis, evidently due to a perforation of the appendix. Patient had complained of occasional pain and discomfort in the right groin for eight days. For safety's sake the doctor very wisely had kept her in-doors under proper directions. There had been no fever at any time,

¹ N. Y. MEDICAL RECORD, March 30, 1895.

pulse never above 84. Suddenly a chill of moderate severity and short duration set in on the afternoon of the eighth day. The doctor saw her at four. Pulse, 120; temperature, 103½° F.; respiration, 30. Slight tenderness on deep pressure in the appendix region. Two hours later the pulse was 126–132; temperature, 104° F.; respiration, 36. When I arrived at the patient's house at about 7:30 the pulse had gone up to 144; temperature was above 104° F.; respiration same as before. In addition to the former symptoms, Douglas' cul de sac was sensitive on rectal palpation. There was no nausea nor vomiting, and the patient's subjective condition was good. I could but confirm the doctor's diagnosis: perforative appendicitis. After consultation with the family, we agreed to operate at 9 P.M. Meanwhile Dr. Bull had been asked for a consultation by the request of the family. The doctor agreed with our diagnosis and the proposed operation.¹ The latter was performed by me at once. The appendix showed acute catarrhal inflammation, no gangrene, no perforation. There was no fecal concretion, not the slightest adhesion. Neighboring parietal and visceral peritoneum was highly hyperæmic and in the small pelvis some thin sero-purulent fluid. Free drainage to all sides, wound left open with secondary sutures in place. After a short improvement, patient was between life and death with symptoms of acute sepsis for five days. With the help of most careful attention she pulled through. Temperature and pulse had been normal for some time, when on the twentieth day after the operation, fever and pains in the region of the left kidney set in. The urine, which lately had been slightly turbid, suddenly cleared up. We diagnosed obstruction of the ureter by pus and clotted blood, due to perforation of an abscess in one of the pyramids of the kidney into its pelvis, a diagnosis in which Dr. A. Jacobi, who had seen the patient with us a number of times, concurred. That this really was the case could soon be demonstrated. Under strong diuretic treatment the passage from the left kidney to the bladder was suddenly cleared. The urine showed a very heavy, bloody, purulent deposit. All symptoms now at once improved. Analysis of the urine corroborated our diagnosis, proving beyond doubt that an abscess within the left kidney, caused most probably by embolism of streptococci at the time of the onset of the acute sepsis, had spontaneously perforated. Three weeks later the urine was normal. The patient recovered.

This case proves that acute sepsis with general peritonitis can set in in cases of acute appendicitis without any macroscopical lesion, all other clinical symptoms of perforation being present.²

If I may still add one or two remarks they are these:

If patients recover from an operation for perforative

¹ The ideal aim of operative surgery would, of course, be to prevent such an occurrence by the early distinct diagnosis of an approaching acute appendicitis of a serious character and the early removal of the organ, based upon this diagnosis. But shall we ever get so far in making our diagnosis? And if we should, may we hope that all those concerned will consent to the operation at such a time?

² That we really had to deal in this case with acute septic peritonitis, due to acute inflammation of the appendix with passage of infectious micro-organisms (bacterium coli commune, etc.) through its (macroscopically) unbroken walls, was proved to me by the inflamed condition of the appendix and its immediate neighborhood at the time of the operation. 2. The presence of thin, turbid, sero-purulent fluid in the small pelvis, besides the other clinical symptoms. 3. The slight lull in the symptoms after the removal of the appendix, the original focus of the disease thus having been eliminated. 4. The serious, almost fatal sickness, with a pulse running up to 160, under symptoms of acute sepsis for five to six days. 5. The perforation of an intrarenal abscess twenty days after the operation, temperature and pulse going up again when the abscess cavity had been put under pressure by the obstruction of the ureter. 6. The analysis of the turbid material that came down from the left kidney, showing many varieties of pyogenic micro-organisms, no tubercle bacilli.

appendicitis with acute general suppurative peritonitis, we must not always expect a speedy recovery. The favorable condition of such a patient within the first three days after the operation does not permit us to prognosticate continuous recovery as in so many other cases of laparotomy. Convalescence often is slow and protracted.

Further, the age of the patient seems to me to be very important with reference to the prognosis. Patients in the prime of life have the best chance, as in other diseases. Recovery from this disease in patients who have not yet reached puberty is rare.

II.

If generally it is not difficult to answer the question, When shall we operate? in cases showing the clinical symptoms of acute perforative (gangrenous) appendicitis, this is quite different in the ordinary acute attack of appendicitis. All the former symptoms are present, only in a lesser degree. We have at first clearly a localized peritonitis before us. Will these symptoms increase, will they suddenly take a more serious, a fatal aspect? Nobody can answer these questions with a fair degree of probability. No doctor, not the most experienced, can give even a fairly reliable prognosis. The disease is too varying in its symptoms; the virulence of the infecting micro-organisms, principally that of the bacterium coli commune, too different; the pathological-anatomical picture as we can study it during the operation too kaleidoscopic. I have long ceased attempting to make a prognosis in the given case; have long ceased also to state before the operation that we shall find an intra- or extra-appendicular abscess, a fecal concretion, or a stricture within the appendix, etc. Of course, it sharpens the surgeon's diagnostic capabilities to construct a pathological-anatomical picture before the operation and then to compare this diagnosis, though silently made, with the actual condition. I too do this in every case. But nothing is more fallacious. We therefore have to be candid and confess: we are unable, at present at least, and will, I fear, be unable forever, to diagnose the actual lesion of the appendix with reference to its clinical severity in the beginning of an acute attack of appendicitis, especially in the beginning of the first attack. We can only diagnose "acute appendicitis." We thus are also not able to give a reliable prognosis. No doubt this sounds queer. Ordinarily we expect a greater ability of the individual man in giving a strict diagnosis and prognosis with increasing experience. And yet, I believe, just the contrary is the case in appendicitis.¹ We must therefore look out for symptoms which can guide us in determining: Here the work of the physician ends, and here that of the surgeon commences. In former years I never felt more embarrassed than when called upon by a colleague to see with him a case of acute appendicitis in its early stage. I said to myself: If you temporize and suddenly more serious symptoms develop, which in spite of an operation prove fatal, colleague and relatives will perhaps say: "He waited too long." And if you advise and perform the operation at once and the patient should die, the family may say: "He was too quick in using the knife, recovery might have taken place if he had waited." The experience of years has stopped my embarrassment. Well can I understand, however, the position of those who always operate at once. There is not much thinking, no worrying. They come, they act, provided there is still time for help. Very often I was tempted to follow these col-

leagues. Yet, as mentioned above, this way of procedure is not really scientific. It also does not always mean that we do the best for the patient, though we have done the safest. The safest must not necessarily be the best.

I now follow, I fancy with many of my colleagues, a certain distinct plan of observation in trying to determine when the time for the operation has come. Of course, I know that distinct rules to properly guide us here cannot be given. The same symptoms which may have prompted us in one case not yet to advise the operation—the patient's recovery without surgical active interference bearing out the wisdom of our procedure—may prove fatal in the next. Yet by clinging to a certain routine observation with reference to the patient's pulse, less with reference to the temperature, I believe we can in the majority of cases of acute appendicitis be able to perform a "timely operation."

I should say: If all the symptoms of appendicitis are well developed and the pulse has a tendency to go up above 116–118, still more if it goes above 120 and stays there, the indication for the operation is given.¹ The fever has very little value. This is a recognized fact to-day. The incongruity between pulse rate (high) and temperature (low) even gives the case a more dangerous aspect and should always call for quick work. Now and then other specially marked symptoms will let us urge the operation. Thus I have observed that continuous extreme sensitiveness to the touch over the appendix region should give the indication for operation in spite of comparatively low temperature and pulse. In these cases I found a stricture near the tip of a long appendix and its lower extremity blown up, giving the whole vermiform a pear-shaped appearance. In a number of instances we have a certain apprehension, induced partially by increasing experience, partially perhaps by the patient's irregular pulse, or his specially sick appearance, or his indifference, or his pale face and hollow eyes, although the pulse does not press us. Here too, we operate. But for the majority of cases of acute appendicitis I believe the above rule, if strictly adhered to, will generally enable us to be still on time.

But in order to be "on time" the patient must be carefully observed. After physician and surgeon have seen the patient, a nurse must stay at the bedside and take pulse and temperature from hour to hour, day and night. People who can afford it should always give in and call for a nurse at once. Poor patients should be sent to the hospital. If we do this as soon as the diagnosis has been established, we have done the best for the patient. It goes without saying that in observing these cases the use of opiates is absolutely excluded.

Unfortunately there will always be a number of cases of acute appendicitis where even under this régime the operation, in order to be a timely one, will be done too late. In spite of it the patient dies. Therefore, if the attack is sharp, the pulse rising, and if we are in doubt what is best to be done, let us operate rather than wait, even in large cities like New York, where we can always be on hand on short notice.

The country practitioner, who cannot see his patient so often, will save more lives by always having his patients with an acute attack of appendicitis operated upon as soon as possible.

A few remarks here, before I proceed, with reference to the so-called "first attack." It would, no doubt, be very wrong to believe that the first attack of inflammation really is the first pathological symp-

¹ The differential diagnosis between acute appendicitis and other diseases does not belong to the scope of this paper. I naturally had to let my reasoning rest on the basis of an undoubted attack of inflammation of the vermiform.

¹ It has seemed to me that at this height every additional beat of the heart is of great clinical importance. Thus I would consider in a patient with a pulse of 122 the operation far more pressing than in a case with pulse of 118, the doctor always carefully counting the whole minute.

tom which befalls the appendix. "First explosion" would better express, it seems to me, the actual occurrence. We all know that the fecal concretions so often found in the appendix, do not form over night; a stricture which shuts off upwardly an abscess within the tip of the organ sometimes found on cutting open an appendix which was removed during the first inflammation, does not develop within a few days. Thus it is clear that explosive material slowly accumulates within the lumen of the appendix, that important changes slowly set in within the different structures of its wall, also often of the nourishing vessels in its mesenteriolum. At last it comes to a climax: the conflagration— inflammation—breaks out. And can we diagnose these premonitory symptoms? In a number of instances, I trust, we are able to do so, especially in children, more easily if they have had an attack of appendicitis before. Little girls, for instance, may complain that the belt of their skirts presses and hurts them on the right side, that on buttoning their shoes the pressure of the right thigh against the abdomen causes pain. Or the appetite suddenly changes: formerly favorite dishes are suddenly disliked; others, never taken before, are relished. Defecation may become irregular. Now and then reflex symptoms, especially, it seemed to me, neuralgia in the region of the heart, with irregularity of the pulse may set in. Of course, it is extremely difficult, almost risky, to explain such vague symptoms as an approaching inflammation of the appendix. But if children do complain of such symptoms, the family physician should at least think of a probably threatening inflammation of the vermiform and should never omit to carefully palpate the region of the appendix. If it is found to be sensitive to the touch, a proper regulation of diet and defecation then ordered and strictly adhered to, may still avert the inflammation or defer its appearance. And if the doctor on careful examination cannot find anything wrong in the region of the appendix, also not posteriorly to the ascending colon, where, just in the instances referred to, the appendix so often is found during a subsequent operation, let him then at least be still more on his guard, if really after a shorter or longer period an acute appendicitis sets in. Just these cases, it seemed to me, may prove fatal on account of acute or subacute gangrene and perforation. Here the most careful observation of the patient, especially of the pulse, is imperative; here an "early" operative interference generally is necessary and may save the patient's life.

One case only out of a great many in my experience let me relate to you, to show that even in younger patients, in children, whose heart responds so much more quickly to an infection, the above given rule, "look out for the pulse," holds good in order to determine the time for the operation. In September of this year I was called by a colleague to see a girl of almost ten years of age, the only daughter of well-to-do parents. Patient had been taken sick with vomiting and abdominal pains two days previously. A laxative given by the mother produced no relief, so the family physician was sent for. He diagnosed appendicitis. It was the patient's first attack. When I saw the girl with him in the middle of the third day of the disease I found: abdomen soft and flat everywhere; ability to pass wind and urine; some pain on deep pressure in the appendix region; temperature, 101.8° F.; pulse, 108; face, pale. After careful consideration of the symptoms present we told the mother that we would call together again in the evening. If the symptoms were on the increase, especially if the pulse went up toward 120, we intended to operate the same night. A nurse was sent for at once. We met at 9 P.M. and found the temperature 103.2° F.; pulse, 122. I sent for my assistants and ordered everything prepared for

the operation. Meanwhile the father had called in another surgeon for consultation, a gentleman for whom I have the highest regard, who is known to be a most conscientious doctor, with abundant experience. After careful examination of the patient he did not favor an immediate operation, and gave the prognosis that by the next morning all symptoms would be found improved. I yielded reluctantly, not without having given vent to my opinion that I considered in this case waiting more dangerous than the operation. The next morning all symptoms were found to be improved. Temperature, 100° F.; pulse, 96. Noon: temperature, 99.8° F.; pulse, 90. We ventured to give the parents hope that this attack might pass without necessitating an operation. Suddenly, in the afternoon at about 3:30, without any warning a slight chill set in. Half an hour later, temperature 103.6° F.; pulse, 132. One hour later, temperature 104.6° F.; pulse the same. Meanwhile I had been sent for. I was busy with an operation, but notified my assistants. When everything was ready for the operation it was almost 8 P.M., temperature then 103.6° F.; pulse, 132. The operation showed the appendix in a markedly catarrhal inflammation; there was no perforation but its tip was adherent between the coils of the intestines; the parietal peritoneum was slightly injected, and there was some murky serous fluid in the small pelvis. Removal of the appendix was quickly performed and the wound drained. The beneficial effect of the operation on pulse and temperature lasted only about twelve hours. Then everything began to increase again. Black copious vomiting, so often found in cases of septic peritonitis of this kind, set in. In spite of everything that human efforts could accomplish the girl died thirty hours after the operation and thirty-five hours after the chill, viz., the beginning sepsis.

Is such a case not apt to make us think? Should it not induce us to let certain symptoms, if present in a case of acute appendicitis, always force the knife into our hands, even in children, or rather especially in children, whose heart, as mentioned above, has so much less power of resisting a septic infection? And if once our diagnosis, based on good symptoms, should really have been wrong and we should remove an appendix which is healthy—certainly an extremely rare occurrence, perhaps never to come—has such a terrible crime been committed, provided the patient recovers? I maintain: in cases of doubt the operation is generally safer than waiting, provided the patient is still in the early days of the attack. If the physician finds it proper not to call in the surgeon at once, but owing to the continuance of rather severe symptoms does so on the fourth, fifth, or sixth day of the attack, it may be extremely difficult for the surgeon to know what is best to advise. It seems to me that in this stage of the disease a number of patients will be saved under palliative treatment who would die if then operated upon.

All these later remarks, Mr. President and gentlemen, refer to the very first days of the first attack of an acute appendicitis. In the later stages of an acute attack which is on the decline the decision generally is much easier for the surgeon. Suppose that we had resolved to temporize and that the first immediate danger had passed. The pulse, rather high before, slowly drops. What have we to expect, say, on the fourth, fifth, or sixth day of the disease, or still later on? The answer is not difficult. The acute inflammation either continues to subside or an abscess forms. The diagnosis of the latter is easy. As soon as pus is suspected it must be evacuated.

III.

But if a severe inflammation has passed without leaving any serious marks in its course, or if it has

been rather mild all the time of the actual disease, "subacute," as we say, should the patient then, well as he may appear, be considered a healthy person and discharged cured? I decidedly say: "No." I hold that an appendix which has been inflamed once, seriously or mildly, must be looked upon as being a diseased organ which is most apt again to give cause for serious trouble at any time in the future. I therefore say, and let me emphasize this as the central point of my paper: *An appendix which has been inflamed once should always be removed after the first attack.* This is best done at the time when the patient has fully recovered from the effects of the disease, say from four to six or twelve weeks after the onset of the inflammation. How long a period may elapse before the next attack occurs of course no doctor can state with any degree of accuracy.

With hospital patients recently I have waited from about one or two weeks only after the subsidence of the inflammatory symptoms. These patients want to go home as soon as they feel well. If they once leave the hospital they will not call for help again before the next attack has set in. And that next attack may prove fatal. Formerly the indication for the removal of the appendix in this class of cases was considered to have come when repeated attacks had run the patient down or had prevented him from enjoying his life.

If a short term for the removal of the appendix after the first attack should be wanted, this operation—in contrast with the "early operation" and the "timely operation"—might perhaps with propriety be called "the prophylactic operation" for appendicitis. If physician, patients, or relatives do not accept the advice to have the appendix removed after the first attack, I urgently emphasize that the operation should be done in the beginning of the second attack, provided it occurs and proves to be of a rather serious character; and if the patient should be fortunate enough to pass even the second attack without any operation, then not to wait still longer to remove the organ. When two attacks have occurred, the third is bound to come. It can be expected so much the sooner the shorter the interval between the former attacks has been. Then at least, gentlemen, do not wait with your advice to have an operation until that next attack sets in. The explosion may later come so suddenly that the patient is at once beyond the reach of surgical help.

The following sad cases out of a number of similar ones in my experience may serve for illustration—the one showing how the first recurrence, although not severe in the beginning, may suddenly become serious and prove fatal; the other emphasizing the fallacy of believing that after, say, two or three attacks mild in character the next must also run a subacute course.

CASE I.—A girl of almost nine years of age had had a slight attack of appendicitis when five years old. Under palliative treatment she was all right after three days. Three years later she was again suddenly stricken down with vomiting, pain in the region of the appendix, fever, and corresponding pulse. On the night of the first day the pulse had reached 120, but dropped to 84 the next morning. The next days were passed in comparative comfort. On the evening of the fourth day a slight dullness could be made out on gentle percussion above Poupart's ligament; the abdomen was flat, soft, and nowhere else painful to the touch; micturition and defecation were undisturbed, as before; temperature, 101.4° F.; pulse, 96. A beginning abscess was diagnosed and a surgeon called in for immediate operation. When he came four hours later the situation had suddenly changed. Temperature had jumped to 104° F., without a previous chill; pulse to 144; the general sub-

jective condition was undisturbed. The surgeon confirmed the presence of an abscess. To guard against the threatening perforation into the general peritoneal cavity, the operation was performed without delay. The appendix, friable and adherent to the parietal peritoneum, was found to be blown up in its lower portion to a bulb of about a walnut's size and contained a dark brown, purulent fluid of fetid odor. The long upper portion of the organ, corresponding to about two-thirds of its length, made a sharp curve in about the middle; near the entrance into the cæcum a faecal concretion was impacted. The surrounding peritoneum appeared to be normal; it was only very little injected. The operation was difficult, but had been carried out with great care and skill. The wound, packed, was left open. Inside of two hours the temperature had gone down to 100.4° F., but soon it began to rise again. The pulse never dropped below 120; fifteen hours after the operation the little girl died under the symptoms of acute sepsis.

CASE II.—A girl of twelve years was seen by me in consultation on September 9th of this year. She had just been moved from the country into the city on account of an acute attack of appendicitis, the third within six months. Pulse and temperature were on the decrease during the last twelve hours. I therefore did not favor an immediate operation, but seriously emphasized the absolute necessity for the removal of the appendix within the next two to four weeks. The doctor, who had called me in, fully coincided with this advice. Soon afterward the girl again seemed well and was up and about. The old family physician now took charge of the family's welfare for the winter. When informed of what had happened and of the proposed operation, he was of a different opinion, as was also a prominent surgeon who examined the patient with him. They did not find the indication for the removal of the appendix, as the girl had then nothing to complain of. Suddenly, seven weeks after I had seen this child, the girl, when in school, was seized by violent abdominal pains, etc., followed by profound shock. As soon as possible she was now operated upon. The appendix was perforated. She died.

I know that the question has yet to be decided: Is an appendix really a diseased organ after one attack of inflammation, is it such a constant menace to the life of the possessor that the urgent advice of its removal after one attack of inflammation is justified? I for myself am fully satisfied that this is the case. I firmly believe that such a patient continually walks on a volcano; that Damocles' sword hangs over him so long as the appendix is in his belly. This is true so much the more if some time after the attack deep pressure in the region of the vermiform still causes a more or less painful sensation. The answer to this question rests with the general practitioner. It is, in my opinion, the duty of the family physician to carefully follow up these patients in order to determine "how many" actually remain well after one attack of appendicitis. I am convinced that, had we statistics on this important point—and we do not have them yet—not twenty per cent., not ten per cent. of them will be found to remain healthy. And if twenty per cent. actually should remain well forever and eighty per cent. get a second and third attack and so on, does that not count? Are we able to determine who will be the fortunate twenty out of the given hundred cases? And can they not be stricken down more seriously for the second or third time in a place and amid surroundings where good surgical help at the proper time cannot be brought to them—on an ocean trip, in the mountains, on a railway car? Cannot the following attack start so seriously that the patient is at once beyond the reach of surgery?

The surgeon who removes the appendix after one

attack of inflammation should, in order to do his share in clearing up this question, publish the pathological-anatomical condition of the organ. Since February of this year I have thus operated four times. Case I. A boy of ten showed an abscess in the tip of a very long appendix. A tight stricture separated it from the upper portion of the organ. Case II. A girl of twenty had an ulceration in the end of the appendix. Case III. A man of twenty-two had a very long appendix and a very narrow mesenterium. The organ was twice curved, like a worm. At this curve there were commencing strictures. Case IV. A lady of twenty-six showed the vermiform embedded in adhesions and bent in its middle at a sharp angle of about thirty degrees. The point of the angle was drawn down posteriorly. Such lesions will not always be found after one attack, especially not in the so-called catarrhal inflammation. But one of the following attacks may produce them.

I know it is not easy to induce a seemingly healthy person, say of seventeen years, to gather sufficient courage to submit to an operation. I know it requires the firm conviction of the doctor that he is doing the best for his client to advise the parents of a child which has successfully pulled through a serious sickness a short while ago to have that child operated upon. I know it requires absolute confidence in the doctor for the parents to give their consent to the operation at such a time. "Not two out of ten will follow your advice," said a well-known surgeon to me a few months ago, when I told him what I was going to fight for in cases of appendicitis as long as I live. I am, Mr. President and gentlemen, of a different opinion. I am sure the time will come when the question, "When shall we operate for appendicitis?" will be solved by adopting the advice of those colleagues who always operate at once in the beginning of the first inflammation of the appendix, or else will be looked upon in the light just explained. Profession and laity must be educated to this end. I believe almost that the public will sooner listen to such advice than will the majority of general practitioners. And yet, even if he be of a different opinion personally, I deem it the solemn duty of the family physician to present the facts clearly to the family. Let the patients, the parents, the relatives decide.

It is not a proper objection, which many of you may also make, that sometimes six, eight, ten years or more may elapse before a second attack sets in. The objection might be of some little weight if the intervening time were spent in perfect health. But this happens only rarely. Last winter I had to operate for perforative appendicitis with general diffuse suppurative peritonitis upon a patient who had had the first attack twenty-five years ago. The appendix was of the size of a thumb and more than six inches long. There was free pus in the peritoneal cavity. An intra-appendicular abscess in the tip of the organ, held in by a tight old stricture, had perforated at last. She died thirty hours after the operation. Had this lady enjoyed perfect health during this quarter of a century? By no means. She had been ailing intermittently, had for years been treated for dyspepsia, had within the last three years led a miserable life on account of repeated attacks of abdominal pains. Her doctor's advice to have an operation performed was, nevertheless, always rejected by her. Now is it not worse at the end to have, for instance, a mother of twenty-seven years of age, who had her first attack of appendicitis, say, as a girl of seventeen, torn away from husband and children in her second attack than to have given the patient and relatives the worry and probable trouble of an operation soon after the first inflammation? Should not the parents rather stand the worry, to have, say, their little girl of five years

operated upon than perhaps later have to take leave from her forever?

There is only one single point seemingly weak in the chain of proofs in favor of the stand I and I trust many colleagues have taken, or at least soon will take, with reference to the question, "When shall we operate for appendicitis?" That is, we cannot *guarantee* that the patient will recover from the operation. The statistics of Bull, it is true, show us that the operation in the hands of experienced surgeons is almost void of danger. Yet there is almost two per cent. of deaths. My own patients, twenty in number, have all recovered.

But can we guarantee recovery in any other intra-abdominal operation? Does not the general practitioner send patients with reducible hernia to the hospital for operation almost every day? And do we not perform almost every day the radical operation for this trouble, in many cases bilaterally, right away? Is the removal of the appendix after the first attack a more serious operation than the radical operation for hernia? I think not. The patient afflicted with hernia has the inconvenience of wearing a truss. His rupture may suddenly become irreducible or strangulated. The appendix once inflamed may suddenly perforate, no doubt a much more serious accident than the incarceration of a hernia. It is to be regretted that patients who have once passed appendicitis have not to inconvenience themselves by also wearing a truss or similar apparatus. I believe the question, "When shall we operate for appendicitis?" could be much sooner solved.

Now, Mr. President and gentlemen, one of you might ask me with propriety: If you take the stand that every patient who has once passed an attack of appendicitis should have his vermiform removed, why do you not rather join the ranks of those who believe in immediate operative work as soon as the inflammation has commenced? Why do you eventually jeopardize the patient's life by adhering to the principle of the "timely operation?" Is that done only in order to work scientifically, to individualize?

To this query I should answer:

1. The operation is safer in its result if we have not to work in acutely inflamed tissues.
2. If we work in acutely inflamed tissues we are often forced to drain.
3. This drainage may in spite of secondary suture produce or leave a tendency to the appearance of a ventral hernia.

If on the other hand we operate after the first attack, we not only will find the appendix more or less without any adhesions or held down by slight ones only, we not only can close by stitches the entire wound in its main structures—peritoneum, muscles, and fascia, and thus provide against ventral hernia. Nay, we almost can guarantee to the patient that, if he recovers, he will not get a ventral hernia. On the great importance of this point I need not dwell. That alone should induce the attending physician earnestly to advise his client to have the appendix extirpated before the probable next attack. We owe this progress also to Dr. McBurney. As known by you, last year he recommended applying the principle of the blunt separation of the abdominal muscles according to the direction of their fibres¹ also to the operation for appendicitis performed in the quiescent stage.² The operation is a most excellent one. Its technique is a little more difficult than that of the usual oblique or longitudinal incision. The entrance into the peritoneal cavity is rather narrow; it runs transversely.

¹ Von Hacker, Witzel: "Gastrostomy," Albert: "Colostomy."

² "The Incision Made in the Abdominal Wall in Cases of Appendicitis, with a Description of a New Method of Operating." *Annals of Surgery*, 1894, vol. xx., p. 38.

It is applicable in cases only where the appendix is not confined by too-far-reaching adhesions, a point which of course can be made out only during the operation. It is obvious that after one attack the adhesions are less than if more than one has taken place.

I have operated according to this plan within this year seven times, even in very robust men. In two cases only had I to add the usual incision, this on account of far-reaching adhesions. All patients recovered, so far without a ventral hernia. In five cases in which the plan of the operation could be carried out and the abdominal wall closed by suturing layer by layer, the result is ideal. The skin is perfectly movable over the fascia. The right side of the abdomen has the same strength and tonus as the left side, since no nerves had to be divided. The operation has left no mark except the scar. I am sure this result will be permanent. Just think what that means for a child whose life lies before it; what it means for a young man who has to live on the income of his daily bodily work; what it means for an unmarried young woman, who will sooner or later marry and become pregnant.

Thus you see, Mr. President and gentlemen, many surgeons try to improve the result of the operation for appendicitis by perfecting its technique, by selecting the proper time for the same. Work hand in hand with your surgical brethren. Do not think, as many yet do, that the surgeon intends to invade a domain that formerly belonged to you alone, but try with us to further clear up and improve the treatment of this terribly treacherous disease.

Summing up, I would say:

1. In cases of diffuse perforative appendicitis the operation must always be done at once. Patients have the best chance to recover if operated upon within the first twelve hours. Exceptionally patients get well without an operation.

2. In cases of acute appendicitis the patients always need careful observation. If the pulse goes up above 116 to 120 and has the tendency to stay there, the indication for an operation is given.

In case of doubt, the operation is better than waiting.

3. In cases of subacute (mild) attack of appendicitis, also after the first severe attack from which the patient recovers without immediate operation, the appendix should be removed. The appendix, once inflamed, has to be looked upon as a diseased organ which is very apt to give repeated and more serious, even fatal trouble in the future.

When done at this time, we can almost always perform the blunt division of the abdominal muscles according to the direction of their fibres and thus save the patient the probable appearance of a ventral hernia.

Warm.—

Press me closer, all my own;
 Warms my heart for thee alone.
 Every nerve responsive thrills,
 Each caress my being fills;
 Rest and peace in vain I crave,
 In ecstasy I live, thy slave;
 Dower'd with hope, with promise blest,
 Thou dost reign upon my breast;
 Closer still, for I am thine;
 Burns my heart, for thou art mine;
 Thou the message, I the wire,
 I the furnace, thou the fire;
 I the servant, thou the master—
 Roaring, red-hot mustard plaster.

—BOB BURDETTE.

Chilblains.—Dr. George J. Monroe writes, in the *Medical Summary*, that, after suffering tortures from chilblains, he obtained perfect relief by an application of acetate of zinc solution, 3 i. to the pint of water.

BLOOD-LETTING AND PNEUMONIA.¹

By ALFRED MERCER, M.D.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: The unprecedented activity of the medical mind during the last quarter of a century has largely revolutionized medical thought. During this brief period both theory and practice have undergone many changes, and in this connection may we not say that traditional medicine has been thrown to the dogs, and if Dr. Holmes were living he might add, "All the better for mankind, and all the worse for the dogs."

We have been loaded down with new remedies by the score or hundred, the merits of which a lifetime of observation would be altogether too short to test. Among the shifting scenes of the period antipyretics have had a brief hour of unwonted popularity, both for good and for evil, but for good conservatively.

We are pushing sanitary measures of prevention and we are searching for remedies to destroy the microbes of disease and their poisonous secretions without injury to the living body. To this end, just now animal extracts and attenuated animal poisons are on the crested wave of popularity as immunizing and antidotal agents, with flattering testimonials to their credit. Scanning the results of the period it will be found that

Surgery has Accomplished Marvels.—We can hardly say this of practical medicine. Therapeutical power to change, to cut short the course of disease, has by no means kept pace with our increasing knowledge. In practical medicine our gain in life saving has been in the direction of prevention, rather than in the use of any new or more scientific use of old or new remedies.

But it is not of the recent swinging of the medical pendulum that I wish to speak, but of the pendulum that scarcely moved to the right or to the left for more than a thousand years, "the lost art"—blood-letting.

It is a sad commentary we would make on the folly of human wisdom, on the acuteness of human understanding, in tracing cause to effect and effect to cause, as illustrated in the therapeutical history of blood-letting. The belief in the utility of blood-letting for the relief of disease has been entertained from remote antiquity down to near the middle of the present century with scarce a dissenting voice. Were these many generations deceived in their observations, doing mischief rather than good? Has the type of disease changed? Has physiology or pathology given us new light? Have new remedies been introduced, that the lancet is now thrown away, is thrown away forever?

Diseases come and go and change their type in cycles, from benign to malignant, and from malignant to benign, as observed in diphtheria, scarlet fever, and other affections; the benign requiring little or no treatment, the malignant being death-dealing from the beginning—change in type requiring change in treatment.

We believe the morbid condition, the essential pathology we call inflammation, is now, as it ever has been and is almost constantly, present, somewhere and in some form, in disease—constitutional symptoms giving expression to its type, and on a broad scale blood-letting was the former remedy for inflammation.

We will take pneumonia as a type of inflammation. Antimony, veratrum viride, aconite, cold to the chest, and digitalis are the remedies chiefly relied upon as substitutes for venesection. They are all arterial sedatives except digitalis, but act on different principles from blood-letting for the relief of disease. But

¹ Read before the Syracuse Academy of Medicine, January 7, 1896.

antimony is almost as obsolete as blood-letting. By orders from the surgeon-general of the United States army its use was prohibited during the war of the Rebellion. Yet we believe it to be a valuable remedy in chest affections.

There is still a long list of remedies in use, or plans of treatment for pneumonia. They are so numerous and so various that one might question which, if any of them, have any particular influence in promoting recovery.¹

During the greater part of the first half of the present century blood-letting was a daily matter of routine practice. I was educated in this school to a limited extent.

Fifty years ago Eberle's "Practice" was the popular text-book of the period. Professor Spencer, of Geneva Medical College, followed Eberle very closely in his lectures, and Eberle made free use of the lancet. Under certain restrictions and conditions he bled in tonsillitis, hysteria, and rheumatism, to say nothing about blood-letting in the more serious diseases affecting the three great cavities, head, chest, and abdomen. Still blood-letting was not altogether indiscriminately used. The fever—we had no clinical thermometer then—the character of the pulse, and the general condition of the patient were the guides for the use of the lancet.

But blood-letting was so common that to bleed in acute disease seemed to be the rule, not to bleed the exception. It was fashionable, and the laity often asked for it in health to ward off disease. Persons, more particularly of full habit, made annual or more frequent visits to the doctor's office to be bled, and claimed they were the better for the bleeding. Is there not a plethoric condition of the blood, as to quality or quantity, as well as an anæmic condition, the cause of morbid feelings without actual disease amenable to treatment, which blood-letting relieves, giving a better feeling of health and activity?

Pregnant women were often bled, for no other reason than that they were pregnant. It was the rule to bleed in almost all cases of injury, especially when some of the internal organs were thought to be injured, to ward off anticipated inflammation.

Blood-letting was not confined to the profession. Within the memory of those living the "barber surgeon" used the lancet at his pleasure.

Vis medicatrix nature was in the background. Active treatment was resorted to for the relief of trifling, self-limited disease, and do we not unnecessarily medicate this class of diseases to-day—seeming medication may be necessary for the moral effect—and claim credit for our science and skill that belongs to nature and the time required for the subsidence of the disease?

In the early years of the century the doctor had a lot of work to do with his lancet, blisters, emetics, and cathartics. These were his reliable forces, and he was diligent in their use.

In the palmy days of blood-letting the profession held it to be the remedy *par excellence* for inflammation. Professor Gross in 1862 wrote:

"General bleeding may justly be regarded as standing at the very head of the list of the constitutional remedies for inflammation, as it is at once the most speedy and the most efficient means of relief."

¹ There is a sedative saline treatment, and the following remedies are in use, some one or more of them being relied on as the chief means of treatment: the coal-tar antipyretics, guarded with camphor or caffeine; sedative and stimulating expectorants, salts of ammonia, the salicylates, opium, strychnine, mercurials, iodide of potassium, iron, quinine, chloral, chloroform, amyl nitrite, oxygen, cups, leeches, blisters, poultices, a cotton and oil-silk jacket, and now serum treatment is likely to come to the front. British Medical Journal, November 9, 1895. American Journal of the Medical Sciences, January, 1896, p. 85.

Again he says:

"Bleeding is no longer fashionable, the operation is denounced by every one. . . . If we formerly bled too frequently, too copiously, and too indiscriminately, it is equally certain, at least to my mind, that the operation is not often enough resorted to at the present day."

The profession entertained the belief that blood-letting relieved pain, reduced temperature, lessened the force and slowed the action of the heart; that it removed, in the days of humoral pathology, morbid matter from the blood, the product of inflammation; that, resorted to early in the congestive stage, it might arrest or abort inflammation; that when established it tended to check its extension, to promote absorption and resolution, and thus to shorten its duration.

Nearly all this was denied by the opponents of venesection. They contended that it did not remove any morbid agent from the blood; that it did not lessen the blood in the inflamed part; that it impoverished the blood in its powers of repair, lowered general vitality, and increased the hazards and delayed convalescence.

Cause of the Change.—But what caused this change in the use of the lancet? Several writers eminent in the profession have expressed the opinion that the change grew out of reaction from its excessive use and abuse, but they offer no facts or circumstance beyond this statement for the opinion.

It would seem that in the decade of the thirties experimental observations were instituted in some of the European hospitals for testing the value of different modes of treating pneumonia, some being treated by blood-letting, some with antimony, some by rest and diet alone.¹ Dr. Dietl thus treated 380 cases of primary pneumonia in the Charity Hospital of Vienna: 85 by venesection, with 17 deaths or 20.4 per cent., or one death in 5 cases; 106 were treated by large doses of antimony, with 22 deaths or 20.7 per cent.; and 189 were treated by rest and diet alone, with 14 deaths or 7.4 per cent., or 1 death to 13.5 cases.

In Fleischmann's Homœopathic Hospital, Vienna, at the same period, in 538 cases reported there were 28 deaths or 5 per cent., or 1 death in 17 cases. Upon their face these were startling figures, if half true, and with a conscientious profession must certainly have called for a halt to permit a careful review and study of the then methods of treatment.²

While we know something of the fallacies of statistics and of the many circumstances that modify the outcome of disease, we have no data by which we can analyze or criticise the above statistics, but as an offset we may say that in 12,271 cases of pneumonia treated in the British army there were 413 deaths, 1 death in 29 cases, or 3.5 per cent. In the navy, in 3,099 cases with 136 deaths, 1 death in 29 cases, or 4 per cent.³ On the South American station there was only 1 death in 59 cases. These figures come down to us from the era of blood-letting. Age and general health were in favor of the army and navy statistics, compared with the general run of patients admitted to hospitals.

The reported results of these experimental investigations no doubt directed the thoughts of the profession at large to a possible change in the treatment of pneumonia for the better and naturally would have raised the question of blood-letting in other diseases. We might also speculate that the infinitesimal dosing of Hahnemannism, in its purity, before these fraudulent, degenerate days, being followed by recoveries

¹ J. H. Bennett's "Lectures on Medicine," p. 292. W. Wood, 1859.

² J. Y. Stimpson, M.D., "Homœopathy, its Tenets and Tendencies." Lindsay & Blakiston, 1854, p. 117.

³ Stimpson, p. 125.

from very serious acute ailments, led the profession to trust nature more and drugs less in the treatment of disease.

These observations were having their influence during the thirties and forties, gradually changing the drift of opinion, but the change in practice more rapidly developed during the fifties and by the dawn of the sixties blood-letting was practically obsolete. The medical journals discussed the blood-letting problem from time to time. Professor Stimpson, of Edinburgh, published a volume in 1854 under the title, "Homœopathy, Its Tenets and Tendencies," which soon after brought forth a reply from Professor Henderson, of Edinburgh, under the title of "Homœopathy Fairly Represented." These books discussed the blood-letting question and analyzed and sifted many statistics.

In 1856 or 1857 Dr. John Hughes Bennett, also of Edinburgh, published "Clinical Lectures on the Principles and Practice of Medicine," using the statistics referred to as the basis of the innovation he had already made in practice, with illustrative cases of pneumonia treated successfully by the use of antimony without blood-letting. A little later Sir John Forbes, of London, issued a small volume, "Nature and Art in Disease," in which he made the remark, somewhat sensational at the time, in relation to the practice of medicine, "It must mend or end."

In this country, in 1859, Dr. Jacob Bigelow, of Boston, put forth a little volume, "Nature in Disease." The tendency of all this literature was to check the heroic treatment of disease as practised in the first half of the century.

Still further in this country other influences were at work besides this literature to modify and change public and professional opinion. The Thomsonian doctors of the times, though not numerous, were aggressive, noisy, and boisterous, denouncing the regular profession at the street corners and in public places, decrying against blood-letting, mercury, arsenic, and quinine. They called themselves doctors and were called doctors. Practically there was no law in force regulating the practice of medicine at the time, and with many people one doctor's opinion was just as good as another's.

Homœopathy had just made its appearance, and was picked up for the most part by half-educated men attempting to practise medicine, and by superannuated clergymen, who joined in the hue and cry against the regular profession, however, in a more modest and less boisterous way. Their medication was also very modest compared with that of the Thomsonians, with their cayenne pepper, hot drops, lobelia, and teas by the quart or gallon.

To that portion of the public who naturally look elsewhere than to the regular profession for their medical advice, the contrast—each used to the same end, the restoration of health—between the easily taken sugar pellets and the disagreeable Thomsonian draughts was too great for the latter practice to last long. It gradually died out during the fifties. If any of its fraternity survived they assumed the name of botanic doctor or drifted into the eclectic fold.

Under these many influences blood-letting became unpopular, and for thirty or forty years has substantially disappeared from practice, so that the present generation of doctors know very little about blood-letting. I venture the opinion that not one-third of the profession of to-day have ever used the lancet or even seen it used. Although our text-books to date suggest or recommend its use to a limited extent, the suggestion is rarely if ever put into practice, and I suspect the authors who write, write more from the records of the past than from their own personal experience.

Perhaps the beneficial effects of blood-letting are best seen in the contraction of the blood-vessels and disappearance of the red and inflamed conjunctiva by the application of a leech or two to the temples. If general blood-letting will do for inflammation of internal organs what we can see leeches and cups do for an inflamed eye, there certainly is virtue in blood-letting. Nature herself every now and then furnishes us with an example of its utility, when hemorrhage from the nose relieves a throbbing and congested brain.

We used to hear of hemorrhage as a critical discharge in the progress of disease, and hemorrhage from accidental wounds has often relieved morbid conditions.

Certain principles and facts are pretty well established to serve as guides in the use of the lancet. From a blood-letting standpoint, children, the aged, and the feeble are known to be poor subjects for blood-letting. With them conditions seldom if ever arise to justify the use of the lancet; its use is largely confined to those of middle age and to the early stage of disease.

Pain, fever, and pulse were the chief guides for the use of the lancet, but more particularly the condition of the circulation, the action of the heart, the wiry feel and the incompressibility of the arteries. The pulse was studied much more critically and thoughtfully as to therapeutics and prognosis in former days than at the present time. Since we have had the clinical thermometer we have been disposed to study temperature and antipyretics to the neglect of other conditions and indications.

Now what are the successive steps in the development of inflammation? Generally, first a chill, followed by reaction of fever, pain, and excited arterial action. Locally we have congestion, stasis of blood in the part, with dilated capillaries; just how long this stage lasts in individual cases or in general we do not know, but sooner or later the blood corpuscles, serum, or lymph escape from the blood-vessels into the connective tissue and inflammation is established. In this congestive formative stage, at some time during the first twenty-four or sixty hours after the chill, is the stage for successful blood-letting, before exudation can have taken place to any great extent. Is it not possible that venesection at this early stage may abort or prevent the development of the inflammation? Was not this the case with those so-called pleuritic attacks of former days—chill, fever, sharp pain in the side, and short breath—when a single bleeding relieved all the symptoms and cut short the disease?

But what does blood-letting do?

It lessens the volume of blood, relieves the heart and lungs of a certain amount of labor, allays nervous irritability, slows and calms the excited, irritable heart, so that it contracts more deliberately, and thus the blood flows smoothly and placidly through the arteries and is thrown with less force into the inflamed part. Dr. Fothergill says it lowers the temperature.¹ Professor Loomis says it "has no influence on the temperature,"² and argues strongly against its use. We have bled so little since we have had a clinical thermometer that we have no personal experience to offer, but to the touch bleeding would seem to moderate fever. We have seen hemorrhage from the bowels in typhoid fever reduce temperature below the normal—to our sorrow.

We feel disposed to refer again to hospital statistics of a later date as to the results of the treatment of pneumonia by present methods.

In the Pennsylvania Hospital, Philadelphia, during the years 1845, 1846, and 1847, the deaths from pneumonia and pleuropneumonia were 6.25 per cent., or

¹ Fothergill's "Handbook of Treatment," p. 97.

² Pepper's "System of Medicine," vol. iii., p. 346.

1 death in 16 cases. During the years 1865, 1866, and 1867, the deaths were 18.50 per cent., or 1 death to 5.4 cases. In the years 1884, 1885, and 1886, the deaths were 31 per cent., or 1 death in 3.2 cases.¹

Dr. C. W. Townsend and Dr. A. Coolidge, Jr., of Boston, have compiled from the records of the Massachusetts General Hospital the percentage of the mortality from pneumonia from 1829 to 1889, the death rate starting in at 10 per cent., 1 death in 10 cases, and increasing gradually but somewhat irregularly up to 28 per cent., or 1 death in 3.4 cases in the sixty years. Before 1850 the treatment was heroic, from 1850 to 1860 transitory, after 1860 expectant. They claim that this increase of mortality comes more from the character of the patients as to age, habits, inebriety, and nationality—the disease being more fatal with foreign born—than from any change in the plan of treatment.²

We can hardly accept this as a satisfactory explanation for the increased mortality. It may be a factor in the increase, but we should look quite as much to change in treatment and to a possible change to a more malignant type of the disease. From the bad habits and impaired vitality of many hospital patients we should naturally look for a higher rate of mortality than in private practice. It would seem to me that the disease is more fatal now than during the early years of my medical experience, under the régime of blood-letting. Blood-letting could scarcely make matters worse, as is shown by results of other treatment in the hospitals of Boston and Philadelphia.

Four hundred and eighty-two physicians in Great Britain in 1884 treated variously in private practice 1,065 cases of pneumonia with a loss of 192 patients, a death rate of 18.2 per cent., or 1 death in every 5.5 cases.³

During the last five years there were 598 deaths from pneumonia in Syracuse, practically 120 deaths per year. We get excited over less than half this mortality from diphtheria or scarlet fever. To the extent that pneumonia is infectious it is preventable. Consumption stands first and pneumonia second in the list of causes of death in our city.

At the above proportion of causes to deaths, we had 3,289 cases of pneumonia in our city during the five years, constantly disabling about fifty persons during the whole period. We cannot believe the disease prevailed to this extent. We have no home statistics of private practice to compare with those of Great Britain, but from very limited observations we are of the opinion that our mortality might be double that reported from there—one death to every two or three cases, or from thirty to forty per cent.

We might quote other statistics of pneumonia: a digitalis treatment, with a loss of one case in fifty, or two per cent.;⁴ a strychnine treatment, with a loss of one case in fifteen, or six per cent.⁵ In thus gathering statistics we find them very conflicting and confusing. We hardly know what to think of such records. It must be a very different type of pneumonia from that we see in Syracuse, or there is a life-saving power in remedies that we have never dreamed of. If we could get such results from digitalis we would not say another word about blood-letting. We should be happy and content to let well-enough alone, believing that death from pneumonia could come only to the feeble and aged.

But blood-letting is not so obsolete in the books, even up to date, as it would seem to be in practice. Professor Walsh in speaking of pneumonia says:

¹ Hartshorne, Medical News, 1888, April 7th, p. 373.

² Medical News, July, 1889, p. 85.

³ "Collected Investigation Record," British Med. Assn., 1884.

⁴ British Medical Journal, 1895, November, p. 1,161.

⁵ New York MEDICAL RECORD, 1895, December, p. 864.

"In the first place venesection has been numerically proven to diminish mortality and lessen the mean duration of the disease, and also to curtail the duration of its prominent symptoms, both subjective and objective; the pain in the side, the febrile action, the peculiar expectoration, and the physical signs."¹

Prof. Francis Delafield writes in Pepper's "American Text-book of the Theory and Practice of Medicine," vol. ii., page 555:

"For the exudative inflammation of the lungs the plans of treatment most frequently adopted are: Venesection employed once or repeated several times, the quantity of blood taken to be considerable. This plan is not often employed at the present time."

Bartholow and Hare in their works on therapeutics advocate the use of the lancet. Articles in journals and in recent books might be quoted to the same end.

The most recent pathological thought is by no means antagonistic to blood-letting. Dr. John C. Warren in his recent work on "Surgical Pathology," page 132, says:

"After the stage of capillary stasis is reached arterial sedatives can only do harm, and blood should now be removed from the venous side of the circulation. The best results are obtained by bleeding from one of the principal veins leading from the inflamed focus. When bleeding is impossible leeching or wet cups should be resorted to. In this way the vessels are not only emptied, lessening the pressure, but an aspiration is also invoked which increases the rapidity of the flow, and this flow, as it is unaccompanied by increased pressure, sweeps away the leucocytes and removes the excess of oxygen, and thus lessens migrations; it also helps absorption of the exposed lymph."

But of the harm that blood-letting may do, or rather of the harm that it does not do, Prof. Austin Flint in 1879 wrote:

"Blood-letting impoverishes the blood and therefore impairs the vital powers. That the risk of harm in this direction has been of late years much exaggerated is certain, in view of past experience."

Prof. William Osler, Pepper's "American Text-book of Medicine," vol. ii., page 209, says:

"I have known a man to lose over ten pounds of blood in one week from gastric ulcer without succumbing."

After thus referring to the great loss of blood, he says:

"It is surprising to find how rapidly the regenerative processes go on, the normal amount being regenerated sometimes in a week or ten days after the hemorrhage, if it occur in a previously healthy individual. The lowering of the arterial pressure permits the absorption of the lymph from the perivascular spaces in the tissues, even while the hemorrhage is still going on."

We always aim for bloodless surgery but we frequently encounter free hemorrhage, with little or no harm to the patient. In the lying-in chamber we often have hemorrhage equal to a copious bleeding and the menstrual flow often equals a moderate bleeding, with no evil results.

To illustrate to what extent blood-letting may be carried with benefit for the relief of the lungs, I will briefly quote a case from Chelius' "Surgery," vol. i., page 440:

A chaise shaft, with tug iron attached, was thrust through the chest from left to right, passing under the sternum, projecting several inches on the right side. As difficult breathing came on soon after the accident, the patient was bled to the extent of four pounds with relief to the respiration. During the next nine days he was bled on five different occasions for urgent dysp-

¹ Walter H. Walsh, M.D., "Diseases of the Lungs and Heart," p. 433.

noea as it developed, with loss of six pounds more of blood, and still had vital and reparative power left to make a good recovery."

Personally I can call to mind no regrets for the use of the lancet, but there are occasions I do regret that I did not use it, and I have often heard like expressions from other practitioners who used the lancet in the early days of their practice. I once bled for well-developed tonsillitis. The patient was intelligent, of middle age and full habit. I argued that it would do his tonsillitis no good but himself no particular harm. "Well, then," he said, "I will be bled if you will bleed me; I have been bled before and it always did me good." I was rather glad to make the experiment, and to be sure that he had the full benefit of blood-letting for tonsillitis I bled him to faintness, but, as I expected, it had no influence over the course of the disease.

I feel disposed to report a case from an old notebook under the date of September 3, 1853:

P. S—, a middle-aged, well-developed man, sustained crushing pressure of the chest by being caught against the door-jams of the roundhouse by an entering engine, fracturing one or more ribs on each side of the chest. The shock and depression were extreme.

Treatment.—Warm fomentations to the chest.

I find no notes till September 6th, 10 P.M., three days after the injury.

Reaction fully established, high fever, strong, full pulse and labored respiration; bleeding to twenty-four ounces with prompt relief to respiration.

September 7th, 10 P.M. Pulse not so strong and full as last evening, but respiration much more labored; cyanotic; incipient asphyxia; unable to speak. Reopened the vein bled from yesterday and abstracted fourteen ounces of blood. When seven or eight ounces of blood had been taken he began to articulate and the blueness to disappear, and when we stopped the flow respiration was full and easy. One-twentieth of a grain of antimony was ordered to be given every hour. The patient went on to recovery without any further unfavorable symptoms.

This patient was in the presence of impending death and demanded immediate relief, and what could afford that relief but the lancet?

Veratrum, digitalis, aconite, antimony could not have been equal to the emergency.

But what was the pathological condition? Was it not blood stasis, congestion in the capillaries of the lungs, closing of the air cells preventing the oxygenation of the blood?

The lungs and right heart were blocked with blood and the nerve centres were being poisoned and paralyzed with carbon, the first stage of inflammation that would soon have been followed, had the patient lived long enough, by exudation and hepatization, which timely venesection arrested. The blood-letting lessened the volume of the blood, took a load off from the lungs and the right side of the heart. Both heart and lungs had less work to do. The blood was not sent to the lungs any faster than oxygenation could take place; thus the congestion, cyanosis, and dyspnoea disappeared, and the patient was saved from impending death.

It may be said this was a case of traumatic congestion, that it differed from idiopathic disease, and that similar cases are seldom met with in practice; but all cases, however mild or severe, idiopathic or traumatic, pass through the same stages of development, fever, congestion, exudation, and hepatization. Although the extent and duration of the different stages may be various, the principles of treatment remain the same.

I will give the chief points of interest in an idiopathic case:

Dr. T. J. Mitchel, of London, and his assistant were hastily summoned at midday to see a patient said to

be dying. He was a cartman, aged twenty-six, and was quite well two days before until evening, when he was seized with difficulty of breathing, a dreadful cough, and agonizing pain in his side. His face was blue, the extremities were cold, and he was pulseless at the wrist. His feet and hands were at once put into hot water, and the doctor proceeded to bleed him. "What," said the assistant, "bleed a man pulseless and dying?" "Yes," said the doctor, "wait and see the effect."

The arm was corded and after two or three minutes a vein was prominent enough for the use of the lancet. At first the blood flowed only drop by drop, but soon increased to a continuous stream and was allowed to flow till sixteen ounces were taken, with relief from the pain and all the prominent symptoms. There was some return of the symptoms in the evening, when six ounces more of blood were taken from the same opening, with permanent relief, and in two weeks the patient was following his occupation.¹

The doctor's young friend declared as they walked from the house "that he had learned more of practical pathology, therapeutics, and physiology relating to the functions of the heart and lungs from this case and its treatment than he had gained in all his previous studies."

Recent research may have modified our views of pneumonia. Admit the disease to be an essential fever with local lung complications, that it is infectious and depends for its cause on a micro-organism, infectious or non-infectious, microbe or no microbe, the actual inflammatory changes are the same now that they were fifty or one hundred years ago, and amenable to the same treatment.

Since the days of blood-letting the profession would seem to have been largely at sea, experimenting with many different remedies and different plans of treatment for pneumonia as a substitute for the lancet. No plan yet devised seems to have met with the popular favor the lancet once enjoyed as a sort of starting-point for routine practice, subject of course to infinite variations to meet the exigencies of individual cases.

We will not weary your patience with any detailed account of these many plans, of the reasons for their adoption, and of the claimed results of each as superior to all others, but would simply suggest after what we have already said that we fall back with discretion, as a starting-point to be considered, to the old remedy that stood the test of critical observation for more than a thousand years—blood-letting.

Therapy of Acromegaly with Extract of the Pituitary Gland.—Marinesco (*Semaine Médicale*, November, 1895) reports three cases of acromegaly treated with glandula pituitaria. Two cases were of the "massive" type (a woman of fifty-three years and a man of fifty-four), and one case (a woman of over thirty years) of the "giant" type. Under the treatment the severe cephalic pains were diminished in the cases of "massive" type, but the remedy had no effect upon the neuralgic pains of the limbs. The general condition improved, but Marinesco was unable to produce the slightest diminution of the hypertrophied members. Increased diuresis was the most conspicuous effect of the treatment. Marinesco and Marie believe that acromegaly depends upon a functional disturbance of the pituitary gland, but reject the hypothesis of Tamburini and Massalongo, that the hypertrophy is a result of hypersecretion of the gland. In occasional cases section has shown that the gland had suffered a change and that the cells had been supplanted by elements of a different kind, which had not the power to supply the normal glandular secretion.

¹ Medical Times and Gazette, January 15, 1876. Monthly Abstract, 1876, p. 151.

TREATMENT OF TUMORS OF THE MAMMARY GLAND.¹

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I SHALL offer no apology for asking your attention this evening to a brief paper upon the treatment of breast tumors. Often as the subject has been written upon and discussed and great as have been the advances made, I feel assured that not only is the laity but the medical profession as well slow to appreciate the immense good following rational surgery practised for the relief of mammary neoplasms. This belief, or rather unbelief, has in fact some foundation upon which to rest, for it must be admitted that prior to the last decade results were unsatisfactory and surgery was justly looked upon as in the nature of a forlorn hope. Why was this so? The question is easily answered. It was due to false teaching as to the pathology of malignant growths. No surgeon believing in the constitutional origin of cancer—and nearly all did so believe twenty years ago—could look upon an operation as done to-day by any up-to-date surgeon as anything else than a dangerous and needless mutilation of the patient.

During my pupilage, which ended sixteen years ago, I have known many distinguished surgeons to remove breasts "to relieve pain," to "get rid of disagreeable odors," to "relieve the patient's mind," and only a few were optimistic enough to believe that an operation might prolong life. A cure was not thought of, much less expected. How different to-day! No one well informed believes in the constitutional origin of cancer or that the neoplasm is but the local expression of a general dyscrasia. That the disease is primarily local is accepted of all men. Then if local, why not curable by free and early removal? Here, as elsewhere, the pathologist has blazed the way for the operator and given him heart to sacrifice seemingly healthy tissue in order to get beyond the infected area, or the well-named "invisible zone." In no field of surgery is the aggressiveness of operators more to be admired than in dealing with malignant disease in general and that of the breast in particular, for it is here that the best work has been done.

To get some idea of the possibilities for doing good to suffering women, it is only necessary to remember that there are fourteen thousand deaths from cancer in the United States annually—two-thirds of these (9,333) are in women; in twenty-five per cent. of all cases in the female the lesion is in the breast, in about twenty-five per cent. in the uterus, and in fifty per cent. in other parts of the body combined. Cancer is unmistakably on the increase all over the civilized world, and an increased liability to this most dreadful disease is one of the penalties a nation pays for its material and intellectual advancement.

If surgery could promise nothing more than to add one or two years of comfortable existence to each of the 9,333 lives annually yielded up to breast cancer in this country, it would still be an inestimable boon. I shall show that it is able to cure absolutely from twenty-five to fifty per cent. of all operable cases, according to the time of applying for relief, and to prolong the lives of incurables, as well as to allay pain and smooth the way to the grave. The medical man who makes light of a lump in the breast of one of his patients at this modern day takes upon himself an awful responsibility. In patients under forty years of age the chances for malignancy in a given tumor of the breast are rather more than ten to one. Past forty they are thirteen to one. When it is further remembered that innocent growths may degenerate into

malignancy after years of quiescence, prompt action is still more imperative. Do not wait for retraction of the nipple which some suppose invariably to accompany cancer, for at most it occurs in but fifty-two per cent. of cases (Gross); other surgeons have not found it so often. Pain is even a more misleading symptom. All tumors in subjects past forty, however small and free from symptoms, should be promptly condemned to the knife.

The treatment of benign growths, solid and cystic, is simple enough. They should be removed along with their capsule, but it is unnecessary to ablate the entire organ. The nipple may in most instances be preserved and this should always be done when practicable, as it prevents deformity and leaves a gland more or less functionally active. It is not amiss to remember that innocent neoplasms are prone to affect the upper and inner quadrant of the gland. In all cases the surgeon should make an incision into the growth before removing the entire organ.

Keen, of Philadelphia, tells a good story of the immortal Langenbeck. While attending one of his clinics a patient was brought before the class with a supposed malignant tumor of the breast. Langenbeck had previously examined the case and felt certain of his diagnosis. He at once proceeded to remove the entire gland, in a rapid and brilliant manner. When the breast had been removed and an assistant was dressing the wound, Langenbeck, in the presence of the class, made a gash into the tumor to verify his diagnosis and a liberal discharge of pus was the result. He looked surprised, but with great composure said, "I never did that but once before in my life." An incision before removal of the breast would have saved the great clinician some humiliation and the woman her mammary gland.

Malignant Growths.—For all practical purposes we need make no distinction between carcinoma and sarcoma, as their treatment is the same. However, since sarcomas generalize by the blood and not by the lymphatics, it would seem unnecessary to clean out the axilla in all cases in the very thorough manner in which it is done—if the operation be rightly performed—in operating for cancer. I confess, however, that I make no distinction and it is my belief that other surgeons do not. One of the most beautiful and thorough operations that I ever witnessed was done by Keen for sarcoma. He went to the clavicle in search of glands and fat, leaving literally nothing in the axilla but vessels and nerves. There are three most excellent reasons why sarcomas demand the same thorough extirpation as cancers.

First, mistakes in diagnosis may be made and one had always best err on the side of doing a radical operation.

Second, sarcomas do sometimes cause involvement of the axillary glands; not often it is true, but if it ever occurs one should operate as if such a case was being dealt with.

Third, some of the most malignant growths ever encountered in the breast are sarcomata. I have seen one such growth in a pregnant woman destroy life within a twelvemonth. Of course the condition of pregnancy hastened its progress.

Before giving the technique of the complete or radical operation, as it is usually called—and I shall describe none other, it being the only one worthy of mention—I must insist upon the importance of educating women to believe that as soon as a lump is discovered in the breast safety depends upon getting the best surgeon to be had and getting him as soon as possible. It is all important to remove malignant tumors before involvement of the axillary and other glands has occurred, as the chances of a permanent cure are at least four times greater before than after infec-

¹ Read before the Louisville Surgical Society.

tion of these glands. It is not to be inferred that enlargement of the axillary lymph glands is of such bad prognostic import as to make such cases inoperable. Far from it, as a rightly done operation will cure ten per cent. of such cases permanently. When patients apply before such infection, at least forty per cent. may be saved, with a probable fifty or sixty per cent. Another point of importance: Patients will sometimes insist upon having only the tumor removed and that part of the breast and nipple shall be spared. This is natural, but it is a sentiment which should not be yielded to by the surgeon. The last case I operated upon was of this kind. I insisted upon being left unfettered, free to do what my judgment dictated, and declined to operate unless such was the case. As I had suspected, the tumor proved to be malignant and a very thorough operation was done, the axilla being invaded and cleared of glands and fat (of which there was a quantity) from base to apex. I have never done a more radical operation, and, notwithstanding the fact that the axilla was so radically attacked and a part of the pectoral muscle excised, the usefulness of the arm has not been in the least impaired. The crucial test, dressing of the back hair, can be as well done now, three months after operation, as ever.

Operation.—I shall now describe the radical operation as practised by a number of leading surgeons of this and other countries. A general bath should be given the patient the day before operation. The operative field should be most thoroughly disinfected, the armpit having especial attention; all hair should be removed. This being done, antiseptic gauze should protect the parts until the anæsthetic is given. A second thorough disinfection of the parts is then secured before the operation is begun. An elliptical incision—usually from the sternum to near the axillary margin—is made; but it may be from above downward (as in my last case), according to the location and size of the tumor. The amount of skin sacrificed should depend entirely upon whether it be seemingly healthy or not. As a rule too little skin is removed, and on this account regional recurrences are not infrequently seen. The incision should rapidly extend down to the pectoralis major muscle. The fascia covering it must go and every vestige of the mammary gland along with it. It is unnecessary to lose time in applying forceps until the breast has been lifted out of the way but not detached from the axillary end of the wound. Good assistants will control hemorrhage for the time being by pressure. (Most of the vessels enter from the axillary side of the wound and hence will not be cut in the first stage.) An incision is now made along the lower border of the great pectoral muscle well up into the axilla. After cutting through skin and superficial fascia, it is well to discard sharp instruments for the blunt dissector of Allis, which in this operation is simply indispensable to one familiar with its use. The axillary vein, on account of its size and color, is soon seen, and from this time on is the key to the situation. With the blunt dissector and finger nail all lymphatic glands and the fat in which they are embedded must be searched for from base to apex. The space between the two pectoral muscles usually contains some large glands and must not be overlooked. After this the space of Mohrenheim, between the tendon of the lesser pectoral muscle and clavicle, must be carefully examined for glands and fat. One can easily carry the finger into the subclavian triangle of the neck. When the axilla has been thus dealt with, vessels and nerves will stand out almost as prominently as in a dead-room dissection. One will be surprised at the small amount of hemorrhage where there are so many vessels, if one is careful to use only blunt instruments. The only danger is the tearing of some large

vein, which with reasonable care will not happen. It is important that the breast, axillary glands, and fat be removed *en masse*. In this way no lymphatic channels are cut across, liberating juices and cells to infect healthy tissue.

The removal of the pectoral fascia has been shown by Heidenhain to be all important. The infiltrations of the disease will usually be limited by this fascia, but it is now and then necessary to excise a portion, perhaps most, of the muscle. It has not been shown, however, that Halsted's plan of invariably removing the great pectoral muscle in its entirety is necessary or advisable. Willy Meyer goes farther than Halsted and removes the lesser pectoral muscle at the same time. Halsted also removes the supraclavicular glands in all cases. I do not think surgeons will follow either Halsted or Meyer in their more radical procedures, as most of these operations are in elderly women, for which reason shock should not be increased and prolonged without compensatory advantages. As yet such advantages have certainly not been proven.

The wound should now be thoroughly dried. This is most important, if the ideal method of dispensing with drainage is to be followed. A large dead space is left, and unless accurate approximation of the sides and edges of the wound is secured suppuration will ensue. This, in my judgment, can be done and primary union secured, as a very general rule. Some surgeons, as Keen, prefer to drain with the tube for twenty-four or thirty-six hours; others do not drain at all. The latter method is the ideal one and the one most generally followed. I never use a tube myself, but cut an elliptical hole at the most dependent part of the axilla, which I find drains admirably well if the fat along the edges of the opening is freely removed. I formerly introduced iodoform gauze as a drain, but have discarded it. The hole is all that is necessary and is free from objection. I have seen no one else follow this plan nor have I known of its being recommended. The wound is now carefully brought together by interrupted silkworm-gut sutures, care being taken to avoid tension. Where the skin is scant one can by undermining it slide the flaps so as to gain space. (Shrady and others follow this plan.) If too much skin has been sacrificed for approximation, one must either treat the case as an open wound or immediately skin graft by the method of Thiersch and in this way avoid a tedious convalescence. In applying the dressing it is necessary to make firm pressure under the axilla so as to obliterate the dead space left behind. If this be not done fluids will accumulate and suppuration ensue. There is no more important step than the application of the dressing. I never, as in many other operations, trust this to an assistant, no matter how fatigued I may be. The arm should be confined to the side in the Velpeaux position for forty-eight hours, afterward it may be freed. Some patients will complain of this position, and when they do I free the forearm, keeping the arm firmly bandaged at the side. This, as a rule, gives prompt relief. I change the dressing at the end of twenty-four hours, no other dressing being done until the sixth day, when I remove part or all of the stitches. My cases very generally run an afebrile course and the patients sit up in forty-eight hours. A dose of morphine is seldom necessary.

Mortality.—The English, with whom the complete operation originated but who, strange to say, do fewer such operations now than are done by surgeons in this country, Germany, and France, would have us believe that the mortality following it is much greater than after simple excision of the gland. This would seem *a priori* to be the case, for opening such an important space as the axilla, filled as it is with many large vessels and nerves, is calculated to increase shock, to

cause a greater loss of blood, and if not aseptically done is likely to be followed by sepsis variously manifested. But the statistics of American and German surgeons doing the complete operation are much better than the showing made by our British brothers, not only as to ultimate cure but as to mortality. Butlin, Treeves, and Williams, of the English, all recent writers, place the mortality as high as ten per cent., which in the light of less than one per cent. mortality of six American surgeons whose results have been published within the last year seems extraordinarily high and cannot be understood unless old statistics are included; for certainly the principles of asepsis—and that is all there is to it—are as well understood and carried out in England as anywhere. In my limited experience I can well remember when a breast amputation was a serious operation, and during my service in a Philadelphia Hospital in 1879 and 1880 there were deaths from erysipelas, pyemia, and secondary hemorrhage, the result of sepsis. Billroth at one time admitted a death rate in his own practice of twenty-three per cent. Asepsis has done as much for this operation as it has for laparotomy, and it is as unfair to call out old statistics for the one as for the other. I once heard the greatest surgeon this country has ever produced (S. D. Gross) say that ovariectomy was an unjustifiable operation on account of its dangers. *Tempora mutantur et nos mutamur in illis.* With the careful training students get to-day, both in theoretical and clinical work, the tyro who flashes his maiden knife may look for better results than a master of bygone days. The results of Keen, Bull, Dennis, Weir, Halsted, and Powers, six Americans who within the year have published their statistics, show a mortality of less than one per cent. (six hundred and fifty-six operations and six deaths). This number of cases reported by entirely reliable men is sufficient to settle forever the fact that the death rate cannot be excessive. I should say that it will be two or three per cent. with the average operator. In my own practice I have never lost a case nor had cause to feel the least anxiety about a patient.

Ultimate Results.—We now come to the vital question, are women permanently cured by operation and, if so, how often? Having served under S. W. Gross in Jefferson Hospital, in 1879, when he was about the only one in this country doing the radical operation, and knowing of his excellent results by seeing some of his patients years after operation, it is but natural that I, in the beginning of my professional life, became a believer in the curability of breast cancer. To doubt was, as Virchow recently said, "to resist the brute force of facts." On other occasions in this society I have taken advanced grounds on this subject and perhaps made myself liable to the charge of optimism. I am prepared to go farther to-night than ever before, and shall give statistics from unquestioned sources to justify my position. From the twelve per cent. of cures claimed by Gross and Banks in 1880 we have gotten to the twenty-five or fifty per cent. of 1895. Until recently Bull, of New York, with 26.6 per cent. of recoveries, held the record. Dennis, of New York, the late president of the American Surgical Association, in his address before that body in May last, gave the result of his life work in malignant disease. He had records of thirty-eight breast amputations for carcinoma, seventeen of which had passed the three-year limit and were justly called permanent cures. This is forty-five per cent. He also reported 66⅔ per cent. of cures in sarcomas of the breast (six cases, four recoveries). This is too small a number to generalize from. It will, however, be admitted that the prognosis in sarcoma should, as a rule, be somewhat better than in cancer.

For complete details W. T. Bull's series of one hun-

dred and eighteen cases is still the most satisfactory yet published, as he leaves nothing to be conjectured. Forty per cent. of his cured cases had axillary involvement, as shown by microscopical examination. In cases where there was no such involvement he secured fifty-four per cent. of cures.

Halsted's series of seventy-six cases was apparently a good showing, but sufficient time had not elapsed since operation in nearly all of his cases. Keen, unfortunately, has not kept a record of all of his two hundred cases, but thinks we should get from twenty-five to fifty per cent. of cures.

I will close with the following propositions:

First, all mammary growths should be removed at once, for innocent tumors carried for a long time become a menace.

Second, the complete operation should always be done in cases of malignant disease.

Third, in nearly every case it is simply impossible to detect enlarged glands until the axilla is opened. Keen says that he cannot do so once in ten times.

Fourth, the mortality should be with average operators about three per cent.

Fifth, a radical operation should promise from twenty-five to fifty per cent. of permanent cures, according to the time when patients apply.

Sixth, when in doubt operate; never wait for symptoms.

NOTE ON THE USE OF PERMANGANATE OF POTASSIUM IN THE TREATMENT OF DISEASES OF THE SKIN.¹

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REMEDIES which are able to give efficient relief to pruritic conditions of the skin are so relatively few that each addition to the number is not without value, although the range of its applicability may not be so great as might be desired. In the following very brief communication I wish to call attention to a remedy which has served me excellently in a considerable number of cases of eczema, and also somewhat in other pruritic eruptions, during the past two years, and which I am prescribing with increasing confidence.

It is quite possible that its use is known to many, but as I learned it accidentally from a patient and have not seen it mentioned in text-books or journal articles, I feel that it cannot be very widely employed.

Briefly, it is simply a solution of permanganate of potassium in water, in a strength of from one to two per cent., or possibly stronger in certain cases. This is brushed or mopped over the surface and allowed to dry, which it does very quickly. The well-known brilliantly pink or magenta-colored fluid turns very soon to a medium dark brown, staining the skin for some little time, and is finally thrown off by exfoliation of the tissues which it has oxidized.

Thus far I have used it mostly on subacute eczema, exhibiting patches of erythematous or papulo-squamous surface. I have not commonly employed it on moist or weeping surfaces, but recently a patient applied it to such on the thigh with most beneficial effects. It may sting or smart a little if the surface be at all abraded, but this is never complained of, and patients speak only of the immediate relief from the itching in the part which it affords.

I have frequently had a little calamine and zinc lotion sopped on after it was dry, mainly to guard against any excessive action of the permanganate.

¹ Read before the New York State Medical Society, January 28, 1896.

When the surface has tended to dry up too much, I have had a little mild or negative ointment applied after the permanganate was quite dry.

The application of the solution of permanganate needs to be repeated, perhaps twice daily, and some patients have used it oftener with advantage.

As it is an oxidizing agent, it often serves very well in reducing thickening of the skin, and I have seen patches which had resisted other treatment melt away under its use.

Although I have mentioned applying another lotion or an ointment over the dried application of the permanganate, there is no question whatever as to the effect of the remedy under consideration. In some cases it has been employed alone, and in other instances the patient has voluntarily omitted the additional local medication, finding that the permanganate alone sufficed to give relief; not infrequently where other remedies had been employed ineffectively the addition of the latter secured the desired result.

It is understood, of course, that in thus recommending a particular local application I do not advise it to the exclusion of other and proper dietary and internal medical treatment, nor do I wish to exaggerate its special value to the deprecation of other valuable topical treatment. I only wish to call attention to a local measure which I believe is not well known, and which has helped me much in managing some rather rebellious cases.

4 EAST THIRTY-SEVENTH STREET, NEW YORK.

Progress of Medical Science.

A New Method of Performing Abdominal Hysterectomy.—At a late meeting of the British Gynecological Society, as reported in the *British Medical Journal*, Mr. Bowreman Jessett read a paper on this subject. He pointed out that the methods of performing the operation might be divided into three classes: (1) Extraperitoneal method of dealing with the stump by the use of Koeberlé's clamp; (2) the subperitoneal method of dealing with the stump after removal of the tumor; (3) total extirpation. The objections to the extraperitoneal and subperitoneal methods were discussed. By total extirpation of the whole organ all these objections were overcome, and the author submitted certain operative details which he had carried into practice with the most satisfactory results. Hitherto, operators after removal of the entire uterus with its tumor had laced or stitched the two peritoneal surfaces of the flaps together across the pelvis, thereby restoring the floor of the abdominal cavity. Difficulty hitherto had been experienced in opening up the roof of the vagina, some accomplishing this *per vaginam*, others by having an assistant's finger passed into the vagina. To overcome this difficulty, Mr. Jessett had had a bivalved speculum made, two inches long, which an assistant passed into the vagina when the tumor was delivered through the abdominal wound; by having this instrument pushed well home the roof of the vagina was put upon the stretch, and it was easy after the anterior and posterior flaps were reflected from the tumor to cut down upon the ends of the blades before and behind and then to ligature the uterine arteries on each side; by dividing the tissues between these ligatures and the cervix the uterus and tumor were lifted out. By lacing the flaps across there was a large raw surface left which would, or might, be a source of septic trouble afterward. To overcome this he proposed that long loops of silk, some four to six in number, should be passed through these flaps at their edge, so that the knot was made to come out through the speculum in the vagina by catch-

ing the loop in a specially made instrument. When all these loops were passed they were drawn taut, and the peritoneal flaps were in this way everted and doubled upon themselves into the vaginal roof. The vagina was then packed with strips of iodoform gauze, the speculum withdrawn, and the abdominal wound closed. All the patients on whom Mr. Jessett had performed this operation had convalesced easily and well; in fact, just as after an ordinary ovariectomy or vaginal hysterectomy. He read short notes of five cases in which he had operated successfully by this plan. The chief points in the operation were: (1) The use of the long speculum passed up the vagina, by means of which the uterus is somewhat lifted up and the roof of the vagina put on the stretch, which enables the operator to cut with precision into the vagina from above. (2) The treatment of the peritoneal flaps; by everting and drawing these down through the vagina, the two peritoneal surfaces are brought into accurate apposition, and by being doubled on themselves raw surface is apposed to raw surface, and also free drainage is established at the lowest point of the abdominal cavity, through the vagina if required. (3) The flaps being drawn down in this fashion form a plug to the roof of the vagina, and the floor of the pelvic cavity is much firmer than if the peritoneum is simply laced across; moreover, by the latter method a large raw area is left which is much more likely to cause suppuration. (4) By removing the whole uterus in this manner there is very little hemorrhage, and no need for the use of elastic ligatures or other means for constricting the neck of the tumor. (5) The patients suffer no more pain or inconvenience after the operation than after an ordinary ovariectomy. There is no dragging on the stump, and the abdominal wound is not dragged in afterward as in those cases which have been treated by the *serre-nœud*.

The Infectious Nature of Lacunar Tonsillitis.—Under the title of tonsillitis or angina lacunaris, or, as it was formerly called, follicularis, Dr. Fraenkel understands an inflammatory affection of the tonsil which is distinguished by its phenomena and course as a disease *sui generis*. It begins in the majority of cases with a rigor and rapid rise of temperature. Simultaneously or after a short delay the patient experiences a sense of uneasiness in the throat. Swallowing, and particularly swallowing saliva, causes him some pain, though this is usually insignificant, and even when he is not swallowing he feels that the throat is not normal, or rather that some slightly painful change has occurred in it. In some cases these subjective phenomena precede the rigor by a few hours (*British Medical Journal*). If the throat is examined at the beginning of the illness the palatine tonsils are seen to be red and swollen. A few hours later whitish elevated spots make their appearance, and these prove on closer inspection to be drops of secretion issuing from the orifices of the lacunæ. These may be seized and pulled away, and if this is done they usually become drawn out into threads, which retain an attachment to what is left behind in the lacunæ. Fresh secretion is formed and expels what is already present, and in this manner drops of secretion reform at the lacunar orifices. They finally gravitate downward, and may coalesce with similar drops from neighboring lacunæ. In this way a larger or smaller extent of the surface of the tonsil may be covered with the whitish secretion. The latter is of a dense-fluid consistency and adheres fairly firmly to the underlying parts. It is, however, not a pseudo-membrane, for it may be removed without any injury to the surface on which it lies, and proves on microscopic examination to contain no fibrin. It consists in the main of large numbers of cells (chiefly leuco-

cytes, together with epithelial cells) which exhibit granulation and the other usual indications of impaired nutrition. Besides the cells, micro-organisms (chiefly cocci) are present in crowds; but, as said before, there is no fibrin. With the further progress of the disease the redness and swelling of the tonsils increase, but these phenomena as well as the pain in the throat usually keep within moderate bounds; while, on the other hand, the fever advances with rapidity, a temperature of 103° F. and more being reached as early as the first evening of illness. Next morning the fever remits, but again rises in the evening, until during the night of crisis the temperature sinks to normal, with the occurrence of perspiration and urinary sediment. In some cases the fever ceases even within twenty-four hours of onset, in others it lasts three or four days. In all cases, however, it gives us, by the suddenness of its onset and by its termination in crisis, the impression of an infective fever, an impression which is strengthened by the disproportion which exists between the local phenomena and the height of the fever, while it is further supported by the fact that in a fraction of all cases a swelling of the spleen is to be detected. Lacunar tonsillitis is an infectious disease; for the infection to become active an injury to the organism must be added. The infective agents may reach the parenchyma of the tonsils by way of the lymph stream. The author believes that on this hypothesis the clinical and pathological phenomena of the disease under discussion are brought into harmony. It is true that many points still demand further investigation, which will be the more readily accepted the more we learn to think etiologically, or, what in these days is the same thing, bacteriologically.

The Buried Tendon Suture.—Dr. H. O. Marcy, of Boston, first suggested the use of buried animal suture. His first contribution upon the buried catgut suture was published in 1870. Ten years later (1880) he substituted tendon for catgut, claiming it in many ways superior. Catgut is defective in that it cannot be rendered absolutely aseptic. When dry the gut is strong, but when wet it is flat, elastic, and slippery. Sterilization tends to render it less strong, on account of damage to the intercellular cement substance by previous bacterial infection. The violin string (catgut) is not unlike a very thin piece of tissue silk which has been cut diagonally and then twisted. Tendon has connective-tissue cells disposed parallel to each other and is the strongest structure of the animal economy. Tendons taken from a freshly killed animal are quickly sun dried and kept dry till final preparation. Then they are soaked in 1 to 1,000 bichloride-of-mercury solution until supple, then carefully cleaned, assorted, and dried between sterilized towels. They are then chromicized until of a dark golden-yellow and then preserved in sterilized linseed oil, to which one-tenth part of crystals of carbolic acid has been added. Thus prepared they improve with age. When needed for use they are soaked in a 1 to 1,000 bichloride-of-mercury solution until supple. Prepared in the many ways suggested for sterilization of catgut serves only to injure the inherent structure of tendon and should not be recommended. Tendon taken from the tail of the smaller varieties of the kangaroo furnishes us with best suture material yet found. Dr. Marcy believes that all aseptic wounds, including even the larger amputations, should be closed in layers by buried tendon suture instead of drainage, the edges of the skin being coaptated by means of parallel continuous buried suture and the wound sealed by iodoform collodion strengthened with a few fibres of cotton. The advantages of the buried tendon suture are briefly as follows: Being aseptic, and buried in aseptic

wounds it remains aseptic, and the repair is primary without inflammation, pain, or suppuration. The iodoform collodion seal renders subsequent infection impossible. No sutures are to be removed and no other dressing is required. The tendon is absorbed so slowly that it may be traced in the tissues months after inflammation, and ultimately it is replaced by a band of vitalized connective tissue which serves as a permanent reinforcement of the united structures.

Humero-Ulnar and Metacarpo-Radio-Ulnar Osteoplastic Amputations.—Samfirescon, following the ideas of Gritti and Sabanajeff, gives two new amputations designated by the above names, one at the elbow and one at the wrist. They offer as a plea for recognition the fact that they will give stumps of a better appearance and also more useful than can be procured by any methods now employed. In the humero-ulnar amputation both anterior and posterior flaps are used. The method of procedure is as follows: The joint is opened anteriorly. The posterior attachments of the ulna must not be severed. The ulna is split in the coronal plane from above downward for a distance equalling the diameter of the humeral shaft. The posterior portion of the olecranon is separated from the ulna by the saw and the forearm removed. Then the humerus is sawed across about an inch above the condyles. The bone segment from the olecranon remaining attached to the triceps tendon and embedded in the long posterior flap is sutured to the humerus and the wound closed. At the wrist the first metacarpal bone is selected for the bone segment. The posterior half is used but it is split throughout its whole length. A single skin flap taken from the posterior and external surfaces of the thumb is used in this case. The metacarpal is sutured in position after section of the articular surfaces of the radius and ulna.—*Revue de Chirurgie*, 1895, No. 10.

Congenital Syphilis and Tuberculosis.—Dr. Hochsinger concludes that syphilis and tuberculosis can appear as a mixed infection at the earliest possible age, and that this infection may be congenital. This conclusion is based, says the *Journal of the American Medical Association*, on the clinical and anatomic investigation of three cases. The first child born of a syphilitic father and a tuberculous mother died on the thirty-first day. During life an undoubted syphilitic cutaneous eruption existed, and a simultaneous pneumonia with enlargement of the spleen and the liver led to the diagnosis of syphilis. The post-mortem examination showed an extensively distributed tuberculosis of the internal organs with large and caseous nodules that contained the tubercle bacilli. The second case concerned a child that died on the thirty-eighth day. The history, the syphilitic eruption, and a pneumonia seemed to warrant the diagnosis of syphilis. The lung was the only tuberculous organ in this case. The third case presented pronounced syphilitic lesions and death from pneumonia occurred during the sixteenth week. The section showed a chronic tuberculous broncho-pneumonia, tuberculosis of the spleen and lymph glands, and interstitial syphilitic hepatitis without tuberculosis of the liver. Hochsinger regards such cases as not uncommon and lays stress upon the necessity of examining the contents of the nodules for bacilli, in order to determine whether syphilis or tuberculosis is present. The question whether the tuberculosis was congenital or acquired cannot be determined in Cases II. and III. Of the first case it may be said with certainty, however, that the syphilis was the result of a spermatoc or paternal infection and that the tuberculosis was due to a placental infection, because the caseous masses with tubercle bacilli in the liver speak in favor of infection through the umbilical vein.

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TO ABOLISH THE PRESENT CORONER SYSTEM.

THE absurdity of the present coroner system, so long discussed by the medical and legal professions, has at last presented itself in a tangible shape for necessary reform such as is contemplated in the well-considered provisions of a bill now before the legislature of this State. In a previous notice we gave the essential features of this proposed law and we now take the opportunity of advocating its speedy passage and of endorsing the reasonableness of the radical changes contemplated by it. As the result of a joint conference with the State Bar Association, the Medical Society of the State of New York, and various judges of the Supreme Court, the measure was framed by Mr. Tracy Becker, Prof. R. A. Witthaus, Drs. Lewis Balch, W. G. Macdonald, A. Walter Smith, M. J. Lewi, and others. Every possible effort has been made to remove the position of medical examiner, for which it provides, from the field of political influence, and to that end the appointing power is vested in the appellate division of the Supreme Court. The bill also provides that the medical examiner shall perform his duties as an independent expert who is not in the employment or under the direction of one side or the other in any case. It is, however, by no means intended that the medical officers shall exercise judicial functions, as is now done by the coroners, but that under all usual conditions their duties shall be limited to the determination of the cause of death. The provision for clothing the medical examiner with strictly judicial functions, to be exercised in exceptional and emergent cases, needs no argument in proof of its real necessity or practical utility. Under such circumstances the medical examiner will be in a position in which he can secure evidence not obtainable otherwise, and which might be of crucial importance to all parties concerned. In all ordinary cases the purely civil and judicial functions of the proposed law will be relegated to the district attorneys of the different counties and to the courts.

The appointment of a competent pathologist and of an expert chemist as advisors to examiners leaves nothing to be desired in making use of all the necessary means to the end of securing absolutely impartial and thoroughly trustworthy testimony in the most difficult and obscure cases. Other provisions in this bill,

regarding cases of alleged insanity and drunkenness in criminal actions in which the medical examiners are called upon for expert testimony, are in a measure the foreshadowing of the practical application of the principles upon which may be founded the creation of expert commissions in the still more comprehensive sense, as already advocated in these columns.

The conditions on which the proposed reforms are advocated are of vital importance and of far-reaching significance. Instead of a coroner, who may be the merest political accident and with none of the essential qualifications for responsible work, we are to have a thoroughly competent medical man, an expert in his line, capable of everything practical in scientific and judicial inquiry, and who obtains his position from real merit as judged by competent and impartial authority. This contrast with the present system is too obvious to require comment. The time has now come when every medical man can exert his influence for good upon his representative and do his best, in an individual as well as in a public capacity, to secure the passage of this timely, comprehensive, and practical measure. The coroner and his jury have outlived their usefulness, and should no longer hinder by their legal privileges the requirements of advanced science or the demands of higher equity. The only opponents to the bill are those who can possibly profit by the coroner system as it now is, politicians who are always ready to accept any office for pay, and whether competent or not are ever ready to be tempted by large salaries to discharge nominally the most weighty responsibilities. We have now, however, come to a time when a change is likely to be made, and that the good men and true throughout the State who are in favor of it may be successful is our earnest wish and confident hope.

A RADICAL CURE FOR SICK HEADACHE.

WE have received a pamphlet entitled "Migraine, its Causes and Radical Cure," written by Dr. J. H. Kellogg, of Battle Creek, Mich., a member of a great many learned societies. The writer believes that "every case of migraine is capable of being radically cured." He further believes and states that, from his standpoint, "migraine is no longer a complex or mysterious nervous malady," but is simply a state of systemic poisoning, the origin of which is decomposition of food produced in a dilated and prolapsed stomach.

Migraine, or sick headache, is one of the commonest maladies of the age, and the news that its nature is not mysterious and that its radical cure is possible will certainly awaken some interest. We have read, therefore, Dr. Kellogg's pamphlet, in order to see the grounds upon which he makes such strong and optimistic statements. He gives a history of what he seems to think is the pathology of migraine, though his literary researches do not seem to have touched any scientific contributions later than two decades ago. The view that migraine is a disease of the sympathetic, as quoted by Dr. Kellogg, is certainly a very thoroughly exploded idea, if recent neurological works can be depended upon. However, leaving this matter

aside, it seems that Dr. Kellogg has hit upon the master-key of the trouble in the researches of Glenard, Bouchard, and their followers. Some years ago Dr. Glenard tried to show that a great many serious nervous symptoms come from dilatation and more or less prolapse of the colon and stomach. Even before Glenard's time a German writer had noticed the fact that some people had hyperæsthetic spots when pressure was made deep into the abdominal cavity. Dr. Kellogg has described these spots again, and placed them and the prolapsed viscera in relationship with migrainous attacks. He thinks that the primary nervous seat of migraine is the abdominal ganglia of the sympathetic system, with perhaps some involvement also of the cervical sympathetic. A chronic toxæmia from dyspepsias due to dilatation of the gastro-intestinal tract, combined with more or less displacement of the digestive organs, is said to constitute the cause of migraine. The objections to such a view as this are simply and easily stated, but are also complete and overwhelming.

Migraine is, according to clinical writers on this subject, a disease of childhood and early youth. The large majority of attacks begin before the age of twenty-one. Now, dilated stomach and enteroptosis do not occur until a much later period of life. This fact alone, we think, would be sufficient to show the weakness of Dr. Kellogg's theory. Common experience, however, further shows and has long taught that diet has comparatively little effect upon attacks of migraine. Dr. Haig, to be sure, has written many articles in which he tries to show that the disease has some relation to the production of uric acid. But we do not think that his view is accepted as expressing more than a part of the pathology of the disorder.

There is no doubt that during middle and later periods of life headaches of a toxic character develop, and that migrainous attacks are increased and accentuated by disorders of digestion. Therefore, although Dr. Kellogg's pathology is totally wrong and his familiarity with the disease of which he writes conspicuously slight, yet we wish to do him justice, and the suggestions that he makes for the treatment of persons with periodical headaches may not be without value. The doctor lays down four principles to be followed in the care of such cases: First, an antiseptic dietary; second, washing out of the stomach and the use of intestinal antiseptics; third, the employment of measures by which the general health and the digestion are improved; and, fourth, mechanical measures for the relief of the prolapsed stomach, bowels, or other viscera. So far as the antiseptic dietary goes, that laid down by Dujardin-Beaumetz is the one accepted by Dr. Kellogg. We should judge, however, that the writer on migraine is a vegetarian, because we find no mention of meats, which form, unquestionably, the most important part of an antiseptic diet. A good deal is said about peculiar forms of kumyss and unfermented breads as well as about malted gluten, in which the pure wheat gluten—a nitrogenous substance, by the way—has been subjected to the action of diastase, which has no action at all upon gluten! A patient suffering from migraine, says the writer, should

either abstain wholly from starchy foods or should, if he continues them, avoid entirely the use of acids and acid fruits, including such things as rhubarb. Tea and coffee should also be excluded in connection with the starchy dietary. The non-starchy dietary recommended is composed of kumyss, eggs, nuts, fruits, and green vegetables. The patient's stomach is washed out regularly, usually two or three times a week, and the best time is at night, five or six hours after the last meal. Recommendations are further made of the use of electricity, abdominal massage, and abdominal supporters of various kinds.

We have referred to Dr. Kellogg's contribution on the subject of "Migraine" at some length, because the claims that he makes are large and are stated with much detail, and, apparently, with full confidence in their value. It seems to us likely that many patients would get a great deal of useless treatment and that many physicians would be led into wrong lines of work if they accepted Dr. Kellogg's assertions.

A LAYMAN ON THE ANTITOXIN TREATMENT OF DIPHTHERIA.

MR. DEMETRIUS C. BOULGER is his name, and from his name we should guess that his extraction was Armenian, while from his temper we should judge that, like other Armenians, he has a keen sense for atrocities. Mr. Boulger voices his plaint in the *Contemporary Review* of recent date and tells a story of infinite suffering, due, as he thinks, to the present "fanatical" and "hysterical" craze for the use of antitoxin in diphtheria. Mr. Boulger admits that he is not a doctor, but he has been crammed for the purposes of his article by a doctor who has seen 15,000 cases of diphtheria and does not believe in antitoxin, but who has not the courage to come out and say so.

Mr. Boulger's tale is simple, and is essentially this:

He was suddenly attacked while in London with a severe form of faucial and laryngeal diphtheria. He was taken to a fever hospital, and there, without being questioned, he was injected with antitoxin of double strength. He was given also brandy, iron, and chlorine gargles. He received a second injection of the antitoxin and, perhaps, a third. The course of his fever, however, was not interrupted. Nevertheless, he got well, despite the malignant character of the case—and treatment—and within a month went home, against the advice of his physician. Thereupon he began to suffer from weakness in the arms, legs, and throat, which weakness, he naively adds, was turned into a paralysis by the bad treatment of his physician. In a short time he was suffering from a post-diphtheritic multiple neuritis. This disease ran its regular course, and he eventually, in three or four months, became completely well. Mr. Boulger seems to think that his experience is something extraordinary and, in particular, that this paralysis is quite out of the range of the usual experience. His conclusion is, first, that the course of his disease was not modified at all by the antitoxin, and, second, that the multiple neuritis which followed the fever was due to the use of the serum

injections. His first conclusion may be right, but as to the last it is as ludicrous a specimen of the *non sequitur* as was ever put forward in the pages of a review which aims to present contemporary thought.

The clinical history of diphtheria shows that such cases of paralysis as that of Mr. Boulger are by no means infrequent, and were recorded and recognized long before the use of antitoxin was introduced. In many epidemics ten per cent. of the cases of diphtheria have been followed by paralysis; Cadet de Gassicourt observed one hundred and twenty-eight palsies in nine hundred and thirty-seven cases, and it has been estimated that, if all diphtheritic patients lived, one out of every four would have diphtheritic paralysis. On the other hand, experiments made with the antitoxin serum have failed to show that this substance leads to any form of neuritis. Mr. Boulger's post-diphtheritic line of thought is most distressing, but perhaps the subtle influence of diphtheria with antitoxin does sometimes disturb the reasoning powers of even well-trained individuals. We would not argue against Mr. Boulger on this thesis.

However, Mr. Boulger's article does not end here. He passes from his own case to those of others. He cites his hospital experience and his hospital observations, and argues about the invalidity of statistics. The point which he makes as regards the latter has been well taken several times before, but our critic gives us nothing to offset, in any wise, the steadily increasing weight of evidence from all parts of the world that the use of antitoxin has a specific effect upon diphtheria. We will admit that even now there is a possibility of there being some other interpretation put upon the facts that are accumulating, but to the unbiassed mind it seems impossible to interpret them at present in any other way than by supposing that there is an immunizing and protecting property in the Behring serum.

We have given some prominence to Mr. Boulger's article for the reason that it appeared in a conspicuous journal and is likely on that account to be received as having authority. We predict, in fact, that before long there will be an Anti-antitoxin Society in England.

SUSCEPTIBILITY OF CHILDREN TO TYPHOID FEVER.

In the January number of the *Archives of Pediatrics* the above subject is discussed editorially and in an article by Dr. W. P. Northrup. It has long been known that typhoid fever is extremely rare in children under the age of three years. The records of four of the largest children's hospitals of this country show that not a single patient under that age had been attacked with typhoid fever for many years. Not a single case had ever occurred in the New York Foundling Asylum in twenty years. Dr. Northrup, however, now reports four cases of typhoid fever in children of thirteen, sixteen, and twenty-two months of age. These cases occurred in a very severe epidemic which prevailed at Stamford, Conn., last year, and during the course of which four hundred and six persons were infected. Dr. Northrup reports another

case occurring in a child of two years. In this instance the mother had lain in bed for three weeks with undoubted typhoid and the child had slept with her. Three other cases in children under the age of three are reported. From these three cases it is inferred that typhoid, when it does attack children, appears in much the same form as in adults, and the characteristic eruption is one of the most valuable points in diagnosis. There can be no doubt, despite the report of these cases, that children under three, and especially those under two, years of age are almost immune to typhoid. We say "immune" for the reason that children under two, although they do not take this disease, are still, many of them, fed upon milk, which is now recognized as one of the great sources of this disease. The condition which is most commonly mistaken for typhoid fever is, according to the editor of the *Archives of Pediatrics*, catarrhal pneumonia, a disease in which the physical signs are often obscure. "Grippe," with slowly developing pneumonia, fevers that result from gastro-intestinal disease and from pleurisy, as well as the fever of tuberculosis, have all at times been mistaken for typhoid.

THE TRAINED NURSE.

WE all cheerfully and willingly acknowledge that the modern trained nurse has been a great acquisition to society, lessening the danger and suffering from disease and promoting vastly the comfort of households in which sickness appears. These sentiments have been frequently expressed in our columns, and are, we feel sure, common to all members of the medical profession. At the same time there is a feeling that this modern angel is not an entirely perfect being—that there is at times a rift in the lute, a haze over the stars, or, to be more strictly professional, an occasional fly in the ointment and a rigor in the ordinarily warm emolliency of the poultice. This side of the question has been recently and vigorously presented by Mr. Malcolm Morris, in *The Practitioner*. Under the head of "The Monstrous Regiment of Nurses," Mr. Morris describes with great feeling the imperfections which he thinks attend the character and conduct of the English trained nurse. The imperfection which he depicts is a tendency of the trained nurse to interfere excessively in the conduct of medical and surgical cases. They hint, he says, that doctors' prescriptions and treatment might be a little amended. They make suggestions of their own as to diagnosis and prognosis. They elevate themselves in a measure to the order of the medical practitioner himself. Their smattering of knowledge of anatomy and physiology leads them to suggest to their patients diseases which never could, by any possibility, have entered the heads of the patients themselves. To a person with a stomach ache they talk "peritonitis" and "appendicitis," and to a person with eczema they talk about "lupus" and "scleroderma."

These are the charges, or some of them, which Mr. Morris makes, and he cites some very striking illustrations of the presumption and magnification of the

English trained nurse. American physicians have also seen something of this seamy side. We do not know that the particular troubles described by Mr. Morris are the predominant ones here. What most physicians do see is that the average trained nurse often develops into a trained gossip of the most lugubrious and exaggerated type. A large majority of them seem to think that, after their strictly technical work is done, the proper thing is to sit down and tell the patients about all the cases they have ever seen or nursed in their lives. As a result the convalescent listener is left with her mind full of extraordinary pathological tales that have an unpleasant, lasting, and pernicious effect upon her mental make-up. The trained nurse of to-day, also, has so exalted her office that she is very frequently unwilling to do anything but attend to purely technical work. The idea of touching a duster, or of attending to the care of the room, or of doing anything but pouring out medicine, putting on the proper applications, and taking temperatures in the most ladylike way, becomes revolting to the majority of them, so that one often sighs for the old-fashioned nurse, who would settle down and do everything for \$10 a week. There seems, indeed, to be rather a need, not only of the trained nurse, but of a modest and half-trained nurse, who will make fewer pretensions, charge less money, talk less about her profession, and attend more strictly to business.

News of the Week.

The "X" Rays.—The new rays have been discovered to exist in the flame of a Bunsen burner and of a paraffin candle, though they are much weaker. Professor Salvioni, to whose work in this line reference has been made in a previous issue, now claims to have discovered a means by which these radiations may be made to assist the eye so far as to enable it to see through all objects which the rays can penetrate, thus revealing the contents of a closed space.

Medical Law for Ohio.—Ohio has at last a law regulating the practice of medicine. The bill passed the Senate on February 19th.

The Camden County (N. J.) Medical Society celebrated on February 11th the fiftieth anniversary of its organization. The formal ceremonies included a visit and inspection of Cooper Hospital, an address of welcome by the president of the society, Dr. Alexander McAllister, an address on "The Medical Profession of Camden County," by Dr. E. L. B. Godfrey, the presentation of busts of the late Dr. Richard Matlack Cooper and of the late Dr. Othniel H. Taylor, and finally an elaborate banquet.

The Bill for the Adoption of the Metric System, introduced into the House of Representatives by Mr. Hurley, is now before the committee of coinage, weights, and measures.

Thirty-nine Verdicts of death by starvation were brought in by London coroners' juries last year.

A Medical Law to be Repealed.—The Senate committee on military affairs favorably reported the bill repealing the existing law which requires surgeons and other medical officers of military homes to be persons who have been disabled in the military service of the United States.—*Journal of the American Medical Association.*

Obituary Notes.—DR. HENRY HOUSE, of Rockland Lake, N. Y., died February 21st, of injuries received when he was struck by an engine on the West Shore Railroad near Congers. He was born in Ulster County, in 1842, and was the son of Captain Garrett O. House, who was well known as a pilot on the Hudson for many years. Dr. House was graduated from the medical school of the University of the City of New York in 1863. For a few years he was engaged in the drug business at Haverstraw, but afterward he entered upon the practice of his profession at Rockland Lake. He had been for a long time the only resident physician in that place, and, as school trustee and health officer, he was well known throughout Rockland County. He was also conspicuous in Masonic circles. He left one brother, Dr. William S. House, of Haverstraw, and two sons, Clarence and William.—DR. DAVID L. DAGGETT, aged seventy-five, died at his home in New Haven February 23d, of pneumonia, after three days' illness. He graduated at Yale in 1839 and at the Yale Medical School in 1843. Dr. Daggett had been president of the New Haven Medical Society, president of the New Haven County Medical Society, and a member of the Connecticut Medical Society since 1843.—CORONER WILLIAM O'MEAGHER, aged sixty-five years, died at 10:45 P.M., February 25th, at his residence, 427 East Eighty-Fourth Street. On February 18th Dr. O'Meagher had a congestive chill, and he apprehended pneumonia from the first. On the following day he sent for his family physician, Dr. Dwyer, and for Dr. O'Hanlon. Symptoms of pneumonia had developed, and the doctors were compelled to remain with the patient continuously. On February 22d there was a marked improvement in Dr. O'Meagher's condition, but a relapse came on the Sunday following, and Dr. Janeway was consulted. February 25th Dr. O'Meagher sank rapidly. He was born in Ireland, and entered the British naval service as a surgeon, and later came to the United States. Here he served in both the army and the navy, and in the war won honors for bravery while fighting as a member of the famous Irish Brigade. After the war he came to New York to be treated for a bullet wound. He then joined the Grand Army of the Republic. He practised as a physician in this city, and was a deputy coroner under John R. Nugent. In 1894 he was nominated for coroner on the combination Republican and Reform ticket and was elected. Governor Morton has the power to fill the vacancy.—DR. JOSEPH JONES, of New Orleans, died on February 17th.—DR. WILLIAM J. PURCELL, of this city, vaccinator in the public schools, who has held a place in the bureau of contagious diseases since May, 1875, died on February 21st at his home at College Avenue and 164th Street.

The New York Red Cross Hospital.—Papers of incorporation have been granted to the New York Red Cross Hospital, founded under the auspices of the American National Red Cross Society, of which Miss Clara Barton is the honored president. It is under the immediate oversight of the New York branch of the Red Cross Association. It is the first and as yet the only hospital in the United States that performs Red Cross work, and as such receives patients of all nationalities, whether they are naturalized American citizens or not and irrespective of the time of residence in this country, especially so when sent by a consul-general of a foreign nation; likewise any member of the navy, army, or State militia when sick or disabled. The consulting staff is composed of Drs. T. Gaillard Thomas, George F. Shradly, Augustus G. Caillé, and William H. Porter; the visiting staff of Drs. A. Monae Lessèr, C. Ruston Ellison, Thomas A. McNicoll, H. Gottlieb Steger, Emil Mayer, and Adolph Zek. All medical men of the navy, army, and State militia are by virtue of their office associated physicians and have the right to treat personally all cases sent by them to the hospital.

Department of Public Health for Mississippi.—A bill has been introduced in the legislature of Mississippi providing for the creation of a department of public health under the control of the licensed medical practitioners of the State. The functions of the department are to comprise a general superintendence over the health interests of the State; the collection of vital statistics; the development of medical literature; the prescribing of rules and regulations, with a specification of duties for the conduct and reports of the committees; the investigation of the hospitals, asylums, and other like institutions in the State; the causes, means of prevention, and treatment of endemic and epidemic diseases; and the influences of localities and employments upon the public health. It is to act also as an advisory board to the State in all hygienic and medical matters, and auxiliary boards in the different counties are to be formed under the direction of the central board.

Official Indifference to the Spread of Tuberculosis in Vienna.—Professor Schrötter, of Vienna, commented very severely in a recent lecture on the refusal of the government to take any measures against the spread of tuberculosis.

Leprosy in Canada.—It is proposed to transfer to Tracadie, N. B., nine lepers now held in confinement in British Columbia. A new lazaretto costing about \$20,000 was recently erected at Tracadie. There are now nine male and sixteen female patients in the hospital. Three died during the past year. For many years Dr. A. C. Smith has been in charge of this institution. Regarding the result of his experience with leprosy patients, he says that no specific cure for leprosy has yet been discovered. His predecessor, Dr. Nicholson, and also Dr. Smith treated several of the lepers with colored water, to see if the influence of the mind over the body would cause a change, and in every instance it did so. For a time all symptoms of

the disease were in abeyance and there was a decided improvement, but this was only for a time, and it seemed as though the disease made up for lost time afterward.

Quarantining a Hospital.—The New Haven Hospital has been quarantined under a special cordon of police because of the discovery that one of the nurses is ill with small-pox.

Dr. Henry H. House, a physician of Congers, was struck by a south-bound train on the West Shore Railroad a few days ago. Physicians who were summoned from Haverstraw and Nyack found that he had sustained very severe and fatal injuries of the head. Death occurred the day following.

Mr. John Petch Hewly, a surgeon of London, but better known as "Pembroke," the author of several works on whist, died recently at the age of sixty-one years. Another authority on whist, "Cavendish," was also a medical man.

The Insane in California.—A California paper comments on the fact that that State, with fewer inhabitants than New York City, has five great insane asylums, with about forty-five hundred patients.

A Combination of Druggists.—More than four hundred retail druggists of Chicago have combined to fight the cutting of the prices of drugs and medicines by department stores, and to combat at the same time the sale of medicines by the manufacturers and wholesale dealers to these stores. They have organized a company, leased a manufactory, and will begin at once the compounding of all kinds of blood purifiers, cough mixtures, and tonics. All the drug stores in the combination will draw their supplies from the factory at prices so low that they expect to undersell the "cut" rates of the department stores.

The Prevalence of Tuberculosis.—Professor Köhler, Imperial German Health Officer, has found in the cases examined by him symptoms of tuberculosis in the body of every third person who died between the ages of fifteen and sixty.

Rejection of Recruits.—Nearly one-third (15,000 out of 50,000) of the men who wanted to enter the British army last year were rejected on account of defective eyesight, bad teeth, or flat feet.

An Antitoxin of Tuberculosis.—Dr. Aronson, of Berlin, has succeeded in infecting a goat with tuberculosis and in making other goats proof against the disease.

The Entering Wedge.—Göttingen has thirty-one woman students this winter semester. They study history, mathematics, modern languages, and natural history, and for the first time at this university a woman is studying medicine.

The Lehigh Valley (Pa.) Medical Association held its eighth winter conversational meeting at Allentown on January 30th. Papers were read as follows: "Some Aspects of Bacteriology in Their Relation to the Practice of Medicine," by Dr. George W. Best, of Lambertville, N. J. "Electro-Therapeutics for the General Practitioner," by Dr. Israel Cleaver, of Read-

ing, Pa. "Fractures of the Skull," by Dr. H. M. Keller, of Hazleton, Pa. "Disinfecting Methods," by Dr. Charles McIntire, of Easton, Pa. The next meeting will be held at Wilkesbarre in the spring. The following officers were elected for the ensuing year: *President*, Dr. G. L. Romine, Lambertville, N. J.; *Vice-Presidents*, Dr. W. H. Hartzell, Allentown; L. W. Moyer, East Mauch Chunk; J. W. Keath, Shaefferstown; Mary Greenwald, Stroudsburg; *Secretary*, Dr. Charles McIntire, Easton; *Assistant Secretary*, Dr. W. S. Stewart, Wilkesbarre; *Treasurer*, Dr. Abraham Stout, Bethlehem.

The Deadly Oyster.—In the fifteenth annual report of the New York State Board of Health, recently issued, is an account of an investigation of the typhoid-fever epidemic, attributed to infected oysters which were freshened in water contaminated by sewerage, at Port Richmond, made by Dr. E. C. Curtis. His opinion is that not only typhoid fever but cholera and diarrhoeal diseases may thus be transmitted.

The Leading Universities.—Berlin, Vienna, Madrid, Naples, Moscow, Budapesth, Munich, Athens, are the first eight European universities, in the number of students attending courses of lectures, according to "Minerva," the year book for the universities of the world. Harvard is ahead of Oxford and of Cambridge.

Acetylene Gas.—A petition was introduced into the Massachusetts legislature recently praying that the manufacture and sale of acetylene gas be prohibited on the ground that it is dangerous to life and property. It is also asked that the storing of the chemicals from which it is manufactured be forbidden.

Aluminium for Cooking-Utensils.—A scientific investigation was recently undertaken by the Imperial German Health Bureau to inquire into the suitability of the use of aluminium for cooking-utensils. It was proved that this metal is entirely free from communicating to food any poisonous salt, such as is given off by copper, tin, or lead.

Foreign Students in Paris.—Out of 4,158 law students 230 are foreigners, and out of 5,445 medical students no fewer than 879 are foreigners—Russians, Roumanians, and Turks being the most numerous. There are also 71 foreign students—10 of them women—in the faculty of science, and 160 in the faculty of letters, 61 of them women.

Saved because His Heart was Right.—A man in Indiana was shot the other day and would have been instantly killed if his heart had been in the normal position, for the ball from his assailant's revolver passed directly through his body at the place where his heart ought to be. Fortunately the man had transposition of the viscera, his heart being on the right side. The ball touched none of the great vessels and the man will probably recover.

The Growth of Proprietary Remedies in the West.—An analysis of 10,000 prescriptions made by the committee on revision of the United States Pharmacopœia of the Illinois Pharmaceutical Association

shows that in 2,613 prescriptions, or about one-fourth of the whole number, proprietary remedies were prescribed.

The Rout of Quackery in Kentucky.—Under this head, the *American Practitioner and News* gives an account of the results of the present law regulating the practice of medicine in Kentucky. It is said that the placards, signs, and showbills of quacks, which used to stare one in the face in every public place, are no longer seen, and that those who practise medicine honestly are not now handicapped by the methods of advertising employed by these pretenders. The benefits are not limited to the cities of the State, but affect the rural practitioner as well.

University of Pennsylvania.—A committee on medical and allied schools of the board of trustees of the University of Pennsylvania has under consideration a proposition providing for the gradual elevation of the requirements for entrance upon the course of study in the medical department, until in 1899 they shall be equal to those of the collegiate department. At a later date it is possible that a collegiate degree will also be made a requisite.

The Youngest Member of the French Academy of Medicine is Dr. Raphael Blanchard, aged thirty-nine years. He is regarded as an authority on the parasitic diseases of man and the lower animals, and is now engaged upon an important zoological work.

University of Vermont.—Dr. George Thomas Jackson, of New York City, has been appointed professor of dermatology in the medical department of this institution.

Regulation of Midwives.—The Philadelphia board of health has issued as instruction to all midwives, nurses, and others having the care of infants the text of a recent act of assembly for the prevention of blindness in new-born infants. This act makes it the duty of a midwife, or nurse, or other person having the care of an infant to report in writing to the health officer or a legally qualified practitioner of a city, town, or district in which the mother of a child resides any inflammation, swelling, or redness of one or both eyes of an infant at any time within two weeks after birth. Immediately upon the receipt of such report the health officer is to notify the parents of the infant of the danger to the eyes and enclose directions for proper treatment. Failure to comply with the provisions of this act is punishable by a fine not exceeding \$200 or imprisonment not exceeding thirty days or both. The nurses are instructed to wash the eyes of the new-born infant with clean, warm water, using a soft cotton cloth. If the eyes should appear red or inflamed the attention of a physician must be called, while in the mean time they should be washed out freely with a weak antiseptic solution, such as salt and water (one teaspoonful to the pint).

A Difference.—*Criticus*—"I don't believe there's much difference between genius and insanity."

Struggling Author—"Oh, yes, there is; the lunatic is at least sure of his board and clothes."—*Tit-Bits*.

The Decadence of Doyle.—A firm of large advertisers of a quack medicine have brought out a small book in which the virtues of their commodity are set forth in all the usual blatancy of such purveyors, but as a special inducement to read the announcements the book also contains a story by Dr. Conan Doyle, which is said to be interesting. This "literary production" is intended by the firm to reach the hands of the public through the chemists who sell their concoction.—*Medical Press.*

A Female Master in Surgery.—Miss Louisa Aldrich Blake, who is curator of the anatomical museum at the Royal Free Hospital, London, is the first woman to win the title of master in surgery of the University of London.

The Antitoxin Treatment of Diphtheria at the Boston City Hospital.—At the recent dinner of the Boston City Hospital Club, Dr. J. H. McCollom gave an account of the results obtained in the department of that hospital for contagious diseases, which is of more than passing interest. He said, in part: "Since the department was opened on August 31, 1895, 1,139 patients suffering from infectious diseases have been admitted. There have been 120 deaths, giving a percentage of 10. There have been 844 cases of diphtheria admitted, with 96 deaths, giving a percentage of 11. All of these cases have been treated with antitoxin, and the result is certainly remarkable. The lowest death rate in any of the foreign hospitals for infectious diseases has been thirteen per cent., which shows that the south department of the Boston City Hospital has reduced the death rate to a lower percentage than any other hospital in the world, so far as we can learn from published reports. If we compare this death rate from diphtheria of eleven per cent. since the introduction of antitoxin with that of a death rate in the hospital of forty per cent. before the introduction of antitoxin, there can be but one opinion regarding the efficacy of the remedy. The effect of antitoxin on the operative cases has been very marked. In the report of the Boston City Hospital for the year ending January 31, 1895, before antitoxin was generally used, there were 86 cases of intubation, with 74 deaths, giving a percentage of 86. In the south department from August 30, 1895, to February 1, 1896, there were 79 intubations, with 36 deaths, giving a percentage of forty-five, a diminution of nearly one-half."—*Boston Medical and Surgical Journal.*

A Specific for Headache.—In Paris a new novel entitled "A Victim of the Guillotine" is all the rage just now. It is advertised on large posters at the street corners. By a singular chance one of these posters was partially covered by the advertisement of some patent medicine, which made it read as follows: "A Victim of the Guillotine—no more headaches."

Water Supply of Philadelphia.—For a long time the water supply of Philadelphia has been notoriously bad and a direct connection between its quality and the marked prevalence of typhoid fever in the community has been frequently pointed out. It has, however, hitherto not been possible to secure action on the

part of the municipal legislature toward improvement in this direction, but the outlook is now more promising, thanks to the constant agitation of the subject by hygienists and by a number of public-spirited men and women. The city councils have recently approved an ordinance appropriating \$250,000 for the erection of one or more experimental filter plants and it is earnestly to be hoped that there will soon be provided a water supply that is unobjectionable from every modern point of view.

The Whole Scientific World has been set into agitation by the announcement of the discovery of the new form of light by Professor Roentgen of Würzburg and it must be especially gratifying to medical men that the first practical application of the new force has been made in the interests of medical art. Demonstrative and satisfactory results of an experimental nature have already been secured in Philadelphia by investigators in the laboratories of the University of Pennsylvania, and the subject has been discussed before a number of the scientific bodies of that city. At a well-attended meeting of the Pathological Society on February 13th Dr. H. W. Cattell described the method and demonstrated its mode of application.

Trained Attendants on the Sick.—A course of instruction consisting of forty lectures, five per week, given by a trained nurse and followed by an examination by a physician has been inaugurated in New York City for the purpose of qualifying trained nurses for the care of feeble elderly persons, little children, chronic cases, and convalescents. Such as pass the examination are allowed to register at the bureau of nurses under the charge of the Medical Society. No pupil will be received under twenty or over forty years of age, unless she has had special previous experience in the care of the sick. References as to character are also required. Besides the class work, each pupil is expected to devote part of the time during the course to nursing in homes of the poor or in hospitals under the supervision of the instructor, as such work gives valuable practical experience and also tests the ability of each pupil. No attendants will be allowed to charge more than \$7 per week during the first year of service. Further particulars may be learned by application, either personally or by letter, to Miss Beck, corresponding secretary, Room 505, United Charities Building, 105 East Twenty-Second Street, or to the members of the executive committee—Mrs. Julius Catlin, chairman, 40 East Twenty-Ninth Street, Dr. Grace Peckham Murray, medical secretary, 25 Madison Avenue, and Dr. E. L. Partridge, medical director.

The Pennsylvania Hospital for the Insane, connected with the Pennsylvania Hospital, is in process of construction and rapidly approaching completion at a cost of about \$50,000—a two-story addition 200 feet long and from 30 to 70 feet wide, with provision for fifty beds. A commodious and well-equipped bath house has also been constructed, which will be utilized for both ordinary purposes and special hydrotherapeutic purposes.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE NEW PHOTOGRAPHY—THE SCHOOL BOARD AND PROFESSIONAL CERTIFICATES—NON-TRAUMATIC ECCHYMOSES—COLLES' LAW—ARTHRITIS DEFORMANS—HEPATIC DISEASE—ARMY SURGEONS—SIR HENRY HALFORD—NOMENCLATURE OF DISEASES—LONDON UNIVERSITY EXAMINERS AGAIN—DIPHTHERIA.

LONDON, February 7, 1896.

THE new photography is creating a sensation in all our medical centres and quite absorbs our conversation. It will doubtless receive the same attention on your side. It is suggested here that, as light is destructive to bacilli, possibly the new penetrating rays may reach the microbes in the body and so give us a powerful ally in our war against disease.

Yesterday afternoon a meeting of medical men was held in the rooms of the Medico-Chirurgical Society to protest against the action of the school board in appointing persons to supervise medical certificates.

A committee was appointed to act in the matter and it is to be hoped the school board will have the grace to rescind its obnoxious regulation.

At the last meeting of the Medico-Chirurgical Society Dr. Lediard read a paper on "Non-Traumatic Ecchymoses," in which he directed attention to the modes of death called asphyxial as well as to conditions associated with ecchymoses in most of the tissues of the body. He held that particular notice of the mucous membrane of the vagina as to its freedom from ecchymoses in asphyxial modes of death was of importance from a medico-legal point of view, as it was probable that this membrane shared with other tissues and organs the liability to such conditions.

Dr. Ogilvie read a paper on the exceptions to Colles' law, of which about twenty cases have been published; they differ a good deal in conclusiveness. These exceptions are certainly rare, but they no doubt exist and their possibility should therefore be taken into account. Mr. Hutchinson held that the law must be accepted and acted upon, though he did not deny the possibility of exceptions. A law of this kind was a relative, not an absolute property. Still our practice should not be altered in consequence of the very rare exceptions, the existence of which all authorities admitted. Dr. Savill thought a *prima-facie* case had been made out for further investigation. Dr. Fox had never met with an exception, and Mr. Cotterell thought no reliable evidence of them had been established. Dr. Lees had never met with an exception and Dr. Coutts said only three supposed instances had been met with at the Shadwell Children's Hospital, besides one doubtful case, which he had himself published. Mr. Parker observed that Colles himself regarded his law as without exceptions. Dr. Ogilvie in reply regretted that he had not quite convinced the president and others, and held that our aim should be to eliminate the possibility of exceptions and each observation in this direction should be weighed rather than counted.

At the Clinical Society meeting on the 24th ult. Mr. Lunn showed a case of arthritis deformans with ankylosis of the jaw on both sides, which he had successfully treated by division of the necks of both condyles and removal of a wedge of bone in a man, aged forty-five, whose trouble began with rheumatic fever twenty-five years previously. For twelve months the patient had been unable to separate his teeth to take solid food. Both his knees were distended with fluid and most of his joints were affected. Mr. Lunn also showed a

case of suppuration of the left shoulder-joint in a man of sixty, with chronic arthritis. The joint was explored with a needle and pus withdrawn; incision was then made, the pus evacuated, the joint explored with the fingers, and a counter-opening made behind. The head of the humerus was found diseased; this was curetted and the joint washed out with hot water. Iodoform emulsion was introduced, the front incision closed, and a small drainage tube left in the posterior wound, but was removed the next day, recovery rapidly ensuing. Six months later recurrence took place and a second operation was performed, since which (June, 1894) the patient has done well, but he now has marked wasting of the muscles about the joint and the movements of the arm are very limited.

Hepatic disease occupied the attention of the Medical Society on the 27th ult., when Dr. Brunton related ten cases illustrating the difficulties of diagnosis, which sometimes amount to impossibility, but he hoped a study of his cases would enable others to avoid some of the mistakes he had made. Mr. Knowsley Thornton followed with an account of cases of hepatic surgery additional to those he had formerly communicated, and some interesting remarks were made by several speakers respecting these two papers.

Sir Redvers Buller distributed the prizes at the army school at Nutley and made a speech which, though recognizing the importance of army surgeons, is not likely to give much satisfaction to them, for he evidently is not more inclined than Lord Wolseley to recognize them as fellow-soldiers. It is curious how the combatant officers should continue to regard themselves as so superior an order to the non-combatants, so-called, who have constantly to incur the same dangers and who have in their ranks so many conspicuous examples of bravery, as is shown by the numbers who have won the Victoria cross.

A memorial brass has been placed in the College of Physicians to commemorate the long presidency of Sir H. Halford. The recently published life of Sir Henry is a very interesting book and contains a number of curious anecdotes illustrating the state of the profession during the long period in which he was its popular head. Copies of the new edition of the nomenclature of diseases were laid on the table at the last meeting of the college.

The examiners of the London University have again committed themselves. This time it is the chemical examiners, who have set a series of questions more fit for technical chemists than for medical students. The questions of experts in the various subjects ought to be submitted to more thorough supervision. Medical students cannot be expected to be experts on every subject. It is clear that the examinations as conducted are unsuitable for the purpose.

Diphtheria still maintains an increased mortality in the returns.

Midwives in Belgium.—The Belgian Gynecological and Obstetrical Society has recently passed resolutions to the effect that midwives should be placed under the active supervision of a competent authority. It recommends that they should be taught to employ certain specified methods of disinfection and asepsis; to use the thermometer regularly, and summon the doctor when the temperature of the patient remains above 101° F. for more than twenty-four hours; to call in the doctor also as soon as any signs of purulent ophthalmia are noticed in the infant. The strictest precautions are enjoined after attendance on cases of puerperal septicæmia, and it is recommended that any neglect in this respect should be made punishable by law. Any case of puerperal fever must be notified to the proper authority within twenty-four hours.



FIG. 3.—Injected Blood-Vessels of Hand.

FIG. 2.—Demonstrating Absence of Epiphyses in Infant.

FIG. 1.— Showing Supernumerary Phalanx of Great Toe.

OUR VIENNA LETTER.

(From our Special Correspondent.)

ROENTGEN'S DISCOVERY—NEW SHADOW PICTURES FOR THE MEDICAL RECORD.

VIENNA, February 12, 1896.

ROENTGEN'S discovery of the permeability to light of certain substances, especially the corporeal soft tissues, continues the subject of investigation and has aroused the greatest expectations as to the possibilities of its further development. Professor Roentgen's announcement comprehended a few facts, the most striking of which was the photography of the living human hand to reveal its skeletal structure. The first photographs exhibited the shadowy outline of the hand with the darker silhouette of the bones. More recently Professor Exner, of Vienna, has shown that irregularities in the density of the solid tissues may be revealed in the photographs by differences in shade, as, for instance in the representation of small bony excrescences or nodules. Whether the so-called Roentgen or "X" rays may be so modified as to reproduce objects of different degrees of transparency, as muscular, vascular, or nervous tissues, is a question entirely beyond present knowledge. The practical application of the discovery is now limited to (1) the conditions of the bones in health or in disease; and (2) the presence of certain foreign bodies or the pathological increase of solid constituents in the tissues.

Among the prominent surgical conditions already subjected to the Roentgen rays for purposes of diagnosis was a case of gunshot wound of the hand, in which the first attempt to remove the ball by incision failed and the second operation after the location of the foreign body by the photograph was easily successful. The outline of the bullet was seen as a rounded projection from the inner border of the metacarpus of the little finger. In the same photograph a sesamoid bone of the thumb was also shown. It was not an unpleasant feature of Professor von Mosetig-Moorhof's jubilee, celebrated on the 1st instant, that he was able to perform successfully several operations under the ægis of the new discovery. An especially interesting case was that of a young woman with a supernumerary phalanx of a toe. The proposed operation was amputation, which was modified by the evidence of the photograph to removal of the superfluous bone, resulting in the restoration of a normal member. Fig. 1 of the accompanying illustrations was taken from this case and shows in addition a deformity of the little toe, which may again stimulate discussion upon the fashion in shoes.

At a recent meeting of the Vienna College of Physicians Kreidl demonstrated Roentgen photographs of the hand of an infant, revealing plainly the diaphyses and the absence of the epiphyses, cartilage being similarly diaphanous with the soft parts (Fig. 2). The opportunity thus offered for the study of rachitis was immediately suggested.

To the courtesy of Professor Exner, who has been active in promoting the practical use of the discovery and to his assistant, Edward Haschek, is your correspondent indebted for the photographs, not previously published, and for an exhibition of the method of procedure. The latter is very simple; in fact, is more easily accomplished than ordinary photography, for the reason that no exposure of the negative is required. A Geissler's or Crooke's tube is placed in the circuit of a strong induced current. Upon making the circuit the tube is filled with a fluorescence reflected from the surface directly opposite the cathodal plate. At about a hand's breadth from this surface in the area of the projected "X" rays is placed the hand or foot or other object to be photographed, upon an ordi-

nary plate holder with negative enclosed. The duration of the exposure (?) varies with the effectiveness of the tube, the thickness of the object, and possibly the character of the negative. Professor Exner obtained good results from half-hour exposure of the hand, but for the hand an hour's exposure is safer and for the foot an hour and a half has been required. Satisfactory experiments upon the trunk have not yet been made, but it is thought that results would not follow an exposure of less than five or six hours. It is a necessary condition that the impermeable objects do not fall in identical projections of the "X" rays. The location of a needle or bullet in the hand may be such that in every position it is obscured by the bones.

A suggestion of the further possibilities of the "X" rays has been shown by photographs of gall stones and phosphatic bladder stones in boxes, the earthy concretions giving more distinct outlines than those of organic origin. A photograph has also been obtained of the injected blood-vessels of the hand, which shows little for the discovery beyond the prospect of reproduction of calcareous deposits (Fig. 3).

It thus appears that, although the invisible world is not yet to be revealed to our vision, the new discovery will assume a permanent place in the resources of medicine as a means of diagnosis. The conditions of fractures and dislocations may be definitely established, and for these the discovery has now a practical application. For the study of diseases of the bones, rachitis, osteomalacia, acromegaly, or inflammations and degenerations, an opportunity is offered which may soon be tested. Professor Roentgen is assured lasting fame and reports are daily published of the congratulatory messages and honors conferred upon him, among which has been the public recognition of his services by the physicians of Zurich, where he began his scientific labors.

Starvation Among Paris Physicians.—We learn from the Paris correspondent of the *British Medical Journal* that Dr. Langlard, after fifty years of honorable practice, found no other way of escaping starvation than suicide. It is estimated that there are twenty-five hundred medical men battling with starvation, borne down by heavy rent and taxes. Year by year the number of medical men increases, while, owing to the progress of hygienic science and still more to the disastrous competition of the hospital outpatient rooms and private gratuitous clinics, the number of patients decreases. It is the doctors themselves, says M. Lutaud, who have created their own misfortunes. They have taught lady patronesses of different societies to diagnose diseases, to dress and bandage wounds, to vaccinate their own children and those of their neighbors. Medical science is vulgarized in every way. Doctors write in important daily papers explaining how bronchitis and cramps of the stomach are to be cured, and in fashion journals they teach how to cure pimples and avert headaches. Furthermore, they have urged that hospital treatment be paid at the rate of 4s. 2d. per day; the middle classes profit by this tariff to become hospital patients, their conscience at ease since they pay. Five hundred thousand gratuitous consultations are given yearly in Paris dispensaries, and in this way a large amount of fees is diverted from the medical profession. M. Lutaud includes in his indictment the Associations des Dames, more or less patriotic, which send forth thousands of women who, because they have attended a few medical lectures and walked the hospitals for a few weeks, believe themselves to be something very like doctors and treat their families and friends. This school of medical half-knowledge has been created and kept going by medical men, who are now being crushed by the work of their own hands.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 8, 1896.

GEORGE P. BIGGS, M.D., PRESIDENT.

Addison's Disease.—DR. HENRY P. LOOMIS presented specimens from two cases of Addison's disease admitted to the New York Hospital during his service there. They both presented at autopsy the characteristic lesions of the disease. One had presented the well-known clinical picture with marked pigmentation of the skin; the other had shown no such pigmentation and, with the exception of continued weakness, none of the well-known clinical symptoms. In one the diagnosis had been easily made; in the other, no diagnosis had been hazarded. Both of the patients were men between twenty-five and thirty years of age, foreigners by birth. Both had died suddenly. Both had shown some tuberculous deposits in the lungs. In one case the pulmonary lesion had apparently antedated or coexisted with the changes found in the suprarenal capsules, while in the other the pulmonary tuberculosis had been secondary. The clinical contrast between the two cases and the similarity in the pathological lesions found made them of sufficient interest to warrant placing them on record.

The first case, Angelo M—, twenty-nine years of age, a native of Italy and a worker in mosaic, had been admitted to the hospital with the history of having gradually lost strength during the preceding six months, and of suffering from shortness of breath on slight exertion. He had never suffered from cardiac palpitation, œdema, hemorrhages, or from any pulmonary symptoms. The increasing weakness had prevented him from working any longer. Examination showed the patient to be fairly well nourished, but on slight exertion his fingers would become blue and the heart action feeble. The temperature was about 100° F., the respirations 20, and the pulse between 90 and 110. The urine showed a specific gravity of 1.016, was normal in color, contained no albumin or sugar, but microscopical examination showed the presence of a few hyaline casts. The hæmoglobin was eighty-five per cent., and the number of red blood corpuscles per cm. 3,500,000. As he lay in bed he presented the appearance of a young man in good health; the pulse was feeble, but not irregular or rapid. However, on the slightest exertion the pulse became rapid and somewhat irregular, and this was associated with dyspnoea, vertigo, and cyanosis. Two days after admission, while walking across the ward, he fainted and was revived with difficulty. As repeated and careful examination failed to reveal any organic cardiac lesion, or any blood or kidney complications, and as the patient had no fever or any evidence of active pulmonary processes, it was impossible to make a diagnosis or to account for the ever-present weakness. There was no discoloration of the skin or mucous membranes. Eight days after admission, he was found dead in bed at 11 P.M. An autopsy was made the following day, and both suprarenal capsules were found greatly enlarged, the right measuring 6 by 6 by 3 cm., the left 5 by 5 by 2 cm. The right capsule had become partially embedded in the right lobe of the liver and was closely adherent to it. On opening both organs, they were found to be almost completely converted into a thick, white, cheesy mass presenting all the appearances of tuberculosis. The creamy-colored fluid found in these masses had been examined by Dr. George P. Biggs and found to contain tubercle bacilli. The lungs presented in their upper lobes old tuberculous lesions. The left lobe

contained about a dozen cheesy nodules, each about one-half to one centimetre in diameter, and surrounded by dense pigmented fibrous tissue. In the right lung the lesions were less extensive, and mainly in the form of deeply pigmented cicatrices. There was no evidence of recent extension of the processes. In one of the kidneys, which was otherwise normal, there was found a small nodule one millimetre in diameter, which presented the appearance of a solitary tubercle. The heart weighed seven ounces and showed no gross lesions, although a microscopical examination of the muscle fibres showed them to be quite granular and to contain an occasional fat globule. All the other organs of the body were perfectly normal.

The second case, Morris M—, twenty-six years of age, a Russian rubber-coat maker, was admitted to the hospital with swelling and pain in the lower left abdominal region, accompanied by vomiting and obstinate constipation. He said that his father had died of consumption, and that his own present illness had begun about two years before, at which time he had been in a hospital in Manchester, England. Beginning at this time, there had been a gradual darkening of the skin and gradually increasing weakness, accompanied by shortness of breath and cardiac palpitation. Six weeks before admission to the New York Hospital he had been obliged to stop work on account of weakness. He had suffered from general indefinite pains and headache. Within the last week or two before admission he had had a cough with whitish expectoration and slight fever. He had lost thirty pounds in the last ten months. On examination he was found to be well nourished; there were well-marked areas of bronze discoloration over different portions of the body, especially over the face and neck. The lips and gums were of a bluish-brown color. The urine, amount of hæmoglobin, and the number of red blood corpuscles were all normal. He died fifteen days after admission. At autopsy both suprarenal capsules were found completely replaced by cheesy masses resembling old tuberculous lesions. Both were about the size of a hen's egg and were adherent to surrounding parts. Both lungs were the seat of acute miliary tuberculosis. The kidneys were normal except for a few miliary tubercles. The heart was small but otherwise normal. With these exceptions all the organs were normal.

THE PRESIDENT said, regarding the location of the lesion in these cases, that out of twenty-seven autopsies on children dying of diphtheria there were six in which there were tuberculous lesions in the lungs or other organs, and in two of the six there was tuberculosis of the suprarenals with cheesy degeneration. This seemed to be a rather large proportion. It had occurred to him that possibly in early life the suprarenal capsules were more susceptible to infection with tubercle bacilli, and that probably some of these cases of advanced suprarenal disease found in adults with a few old pulmonary or glandular lesions might have developed in early childhood and the symptoms of Addison's disease only after a long period of time. The proportion in which tuberculosis developed in adults was much smaller than he had observed in children.

DR. R. H. SAYRE exhibited a

Floating Cartilage from a Knee-Joint.—About eighteen months previous to coming under his observation the patient had fallen and injured her knee. After some weeks of rest the swelling had subsided, but for a considerable time she had been unable to use the limb. At the outer side of the patella a small, movable nodule could be felt under the skin, and she complained of pain at this point. He had removed the foreign body by incision. In many other cases he had felt these little bodies in the knee-joint,

but they had caused no inconvenience. It was probable that they caused trouble only after they had become loosened or dislodged by some traumatism. He recalled a case of pain and synovitis immediately following upon leaning the knee on the sharp edge of a window sill. After the subsidence of the swelling, a floating cartilage could be detected in the joint.

Dr. W. B. NOYES presented a

Tumor of the Brain, removed from a man whom he had first seen on December 3, 1895. The patient was twenty-five years of age, and four years before had been crushed between two railroad cars, the force being chiefly expended about the lumbar region. After this accident he had remained comatose for four days and had been confined to bed for about two months. There had been no fracture and no paralysis, but since this time he had been in poor health and had presented a number of indefinite nervous symptoms. A year ago he had had an attack of vomiting, associated with failing vision, and a month later there had been an apoplectic attack characterized by blindness, deafness, and paralysis of left arm and of both legs. The paralysis had disappeared in twenty-four hours, but the blindness and deafness had remained. When first seen by the speaker there was moderate spastic paraplegia, exaggerated knee jerk, ankle clonus of both legs, marked ataxia. He was mentally bright, but was fretful and nervous and complained of severe pain in his head, especially in the occipital region. Any sudden jar to his body or head made him complain bitterly. His skin was moderately anæsthetic in most places, but sensation to pin pricking, though much delayed, became very intense after a moderate interval. The region of the body that had been originally injured was hyperæsthetic. He was absolutely deaf in both ears, was very unsteady in his gait, falling to the right when slightly pushed, and his voice was monotonous. The ophthalmoscope showed atrophy of the optic nerve. There was no facial paralysis. He complained of a constriction in his throat, and shortly after coming to the hospital he developed paralysis of the muscles of deglutition. Death occurred suddenly from paralysis of respiration. The diagnosis was brain tumor. The brain was found at autopsy to contain a tumor, an endothelioma growing from the tentorium cerebelli, displacing the entire occipital lobe, cuneus, precuneus, and the fourth and fifth temporal lobes. The growth weighed three hundred grams. It was kidney-shaped, was very hard and nodular, and did not infiltrate the brain tissue. The cord was normal except for slight degeneration of the pyramidal tracts.

Dr. JAMES EWING said he had had an opportunity of examining other sections of this tumor than those presented, and he had come to the conclusion that the growth was probably a sarcoma. One of the reasons for this opinion was that in certain places there was a distinct gradation between the ordinary connective tissue and the cells of the tumor; in other places there were many small blood-vessels with well-marked walls and undoubted endothelial cells, not at all resembling those found in the tumor. The gross appearance also seemed to him to be against endothelioma and in favor of sarcoma.

Abnormal Ductus Arteriosus.—Dr. WILLIAM VISSMAN exhibited the heart and lungs from a child born at term. After gasping a few times the child had died. It had been delivered by forceps on account of the increasing feebleness of the foetal heart and not because of any difficulty in the labor. On examination it was found that the child weighed six pounds and was nineteen inches long. The scrotum was œdematous, and there was considerable serous fluid in the abdominal, pericardial, and both pleural cavities. The lungs were almost atelectatic. The visceral

layer of the pericardium showed a very large number of small ecchymoses. The ductus arteriosus appeared to be a continuation of the pulmonary artery, and emptied into the aorta. On the right side, there was no pulmonary artery, only a rudiment. Nothing else abnormal was found except that the intercostal arteries branched off from the aorta rather irregularly.

Dr. ROWLAND G. FREEMAN presented a specimen of **Atresia Ani** removed from a child dying on the fourth day after birth. It was a male child, and the most marked symptoms had been persistent vomiting and inability to have a movement of the bowels. Examination showed atresia ani. At the autopsy the distention of the abdomen was very marked, and just above the pubes was a large pouch of intestine, almost black, and covered with an exudate. On opening this pouch about two ounces of dark, grumous material escaped. This part of the bowel connected with the anus by a fibrous band about three inches in length. This pouch was surrounded by large clots of blood in the wall of the intestine. A probe passed into the rectum only about half an inch.

Hodgkin's Disease.—Dr. JOHN S. ELY presented specimens from a case which had been variously described as lympho-sarcoma, Hodgkin's disease, pseudo-leukæmia, malignant lymphoma, etc. He said that this confusion in the nomenclature in itself indicated a great variety of explanations of the condition and its cause. The specimens were from a woman, fifty-five years of age, a native of Ireland, and a seamstress. She had enjoyed ordinarily good health, but had been intemperate. On October 3, 1895, she presented herself at Bellevue Hospital, stating that for three weeks previously she had had some pain in the upper part of the back and abdomen, in the left hip and thigh, and had also had a slight cough with scanty white expectoration. Physical examination showed dulness over the right lung with some pleuritic crackles. The heart was normal in position and action. The liver was much enlarged, extending from the fifth rib to one inch below the umbilicus. It was hard and its surface rather smooth, except on the lower border, where it was uneven. The spleen appeared to be somewhat enlarged. Six days after admission a little clear serum was drawn from the right pleural cavity. On November 2d she became delirious, on the next day she developed slight jaundice, and she died on November 6th. During her stay in the hospital there had been a moderate fever, the temperature ranging between 99° and 100° F. up to the morning of November 5th, when it reached 101.8° F. The treatment was stimulant and laxative. The autopsy was made about thirty-six hours after death. The woman was emaciated and slightly jaundiced; there were old pleuritic adhesions on the right side; the heart was slightly enlarged; there was a pericardial thickening anteriorly about two centimetres in diameter; there were atheroma and some old thickening of the endocardium. The left lung was emphysematous and œdematous, and there was a small quantity of muco-pus in the bronchi. The bladder was normal. The uterus contained some bloody liquid. The rectum was normal. The appendix contained a hard, irregular body surrounded by inspissated fæces, but there was no evidence whatever of inflammation. The stomach was normal. The pancreas was rather hard but normal. The liver weighed nine pounds four ounces. There were about two ounces of bile in the gall bladder; the duct was pervious. The color of the liver was yellowish-green, and it was abundantly mottled with small, whitish nodules, and toward the free border with a number of reddish nodules which were rather soft and closely resembled small cavernous angiomas. In addition to these, in the right lobe there was a large cavernous angioma measuring three by

four by two and a half inches in diameter, and having a fibrous core. The left lobe was much smaller than the right; its free border was very thin and presented the appearance of an old contracted cirrhosis. The posterior mediastinum and upper mesenteric lymph nodes were greatly enlarged, and many of these masses were softened in the centre and were two inches in diameter. The enlargement of the posterior mediastinal glands was particularly marked on the right side, and they encroached to a considerable extent on the right lung at its base. The spleen was slightly enlarged, of a deep red color, and the trabeculae were thickened. The left kidney was slightly enlarged, its capsule slightly adherent, and studded with cysts. The kidney was rather hard, pale, cortex thin, and markings indistinct. The right kidney showed the same lesions, but the cysts were smaller. The suprarenal capsules were mottled and yellowish in the centre. The microscopical examination of the liver and of these various nodules showed them to consist almost entirely of small spheroidal cells similar to the lymphoid cells of the lymph nodes. In many of the lymph nodes themselves was a large amount of fine granular degeneration which under a low power resembled the cheesy matter of tuberculosis, but which when examined more carefully resembled anæmic necrotic tissue. In the liver the small spheroidal cells were collected in small nodules—the lighter spots. They appeared to have originated in the blood-vessels of the liver. In the channels of the cavernous angioma were to be seen a large number of these spheroidal cells, sometimes in considerable masses. There was also a rather diffuse infiltration of the liver with these spheroidal cells. The small spheroidal cells in the spleen were decidedly increased in number. In many of the reddish nodules in the liver were to be found collections of these spheroidal cells, and also necrosis and hemorrhage. These reddish nodules were therefore not cavernous angiomata, but masses of small spheroidal cells which had undergone degeneration and in which some hemorrhage had occurred. The intestine and stomach showed no enlargement of the lymph nodes, although the upper mesenteric lymph nodes were much enlarged. The lesion, therefore, in this case was confined to the posterior mediastinal glands, the lungs, and the liver.

The speaker said that in March, 1888, Dr. Hodenpyl had presented to the society an interesting specimen of this condition, in which the intestine was the principal site of the enlargement of the lymph nodes. On comparing the two specimens it was evident that the changes were quite similar, except that in the case just presented there was degeneration, which did not occur in the former case.

In general, it might be said that the condition was of short duration and was frequently accompanied by fever. The masses did not encroach upon the surrounding tissues as tumors did, but there was simply a dilatation of the channels in which the cells accumulated. Flechsner had written an exhaustive article on this subject in 1893 and had expressed the belief that the process was due to some form of infection, basing his opinion on the large amount of necrosis, the presence of fever, and the fact that the cells were those ordinarily found in the lymph nodes but which had been stimulated into inordinate growth. The appearances were certainly not those of sarcoma, the speaker said, and hence it was improper to speak of it as a lympho-sarcoma. It was much more likely that the condition was an inordinate multiplication of the elements of the reticulum and the cells of fatty tissue, and possibly an intoxication of the system by some unknown substance. It was worthy of note that the lymph nodes first affected were the mediastinal lymph nodes, those of the neck, or those of the intes-

tine or mesentery—in other words, well-recognized channels of infection.

DR. WARREN COLEMAN said that Flechsner had referred to certain bodies among the cells, which stained with hæmatoxylin and eosin and which he considered parasitic. He would like to ask whether these had been found in the case just reported.

DR. ELY replied that he had seen these bodies, and they had seemed to him to be fragments of nuclei or cells rather than parasites.

THE PRESIDENT said that he had seen a very similar case recently, occurring, however, in a boy of twelve years. In this case it was noticeable that the duration of the disease had been at least two years. The first development had been a mass of glands in the axilla, and these had been removed. A few months later he had returned to the hospital with enlargement of the inguinal glands. He had next developed marked ascites. There had been no recurrence in the axilla. The autopsy showed the glandular enlargement to be limited to the glands of the groin, pelvis, and mesentery. The liver presented the appearance of an old syphilitic cirrhosis rather than the nodular involvement described in the case under discussion. In the centre of some of the enlarged glands was a hard, whitish tissue, looking somewhat like tumor tissue. In this case there had been almost constant fever.

DR. T. M. PRUDDEN said that he did not think we would come to a better understanding of these pathological changes which resembled each other so closely until we knew a good deal more about the blood. It also seemed to him that very carefully recorded morphological work must be done. If sarcoma meant anything, it meant a connective-tissue growth, and hence one must find out whether there was a stroma occurring with these growths or whether simple collections of spheroidal cells. Again, if it were hyperplasia, one must determine whether the reticulum had also grown along with these cells, else it was not a hyperplasia.

The society then went into executive session.

Some General Statistics.—The 72 races inhabiting the world communicate with each other in 3,004 different tongues, and confess to about 1,000 religions. The number of men and women is very nearly equal, the average longevity of both sexes being only thirty-eight years, about one-third of the population dying before the age of seventeen. Moreover, according to the most careful computation, only 1 person in 100,000 of both sexes attains the age of one hundred years, and only 6 to 7 in 100 the age of sixty. The total population of the earth is estimated at about 1,200 million souls, of whom 35,214,000 die annually—i.e., an average of 98,848 a day, 4,020 an hour, and 67 a minute. The annual number of births, on the other hand, is estimated at 36,792,000—i.e., an average of 100,800 a day, 4,200 an hour, and 70 a minute.

Generally, taking the entire world, married people live longer than single, and those who have to work hard for their living longer than those who do not, while also the average rate of longevity is higher among civilized than uncivilized races. Further, people of large physique live longer than those of small, but those of middle size beat both.

The Micro-Organism of Scurvy, isolated from the gum, staining in aniline and resisting Gram's stain; rendering gelatin fluid; its cultures producing fever in guinea-pigs and rabbits, and being a diplococcus differing from any usually present in the mouth, has been found by Testi and Beri.—*Gaz. deg. Osped.*, August 10, 1895.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 17, 1896.

S. B. W. McLEOD, M.D., AFTERWARD JOSEPH E. JANVRIN, M.D., IN THE CHAIR.

Address of the Retiring President.—DR. McLEOD, in his retiring address, gave a retrospect of the work of the society. During the seven years that he had been a member of the executive committee, ex officio or otherwise, the membership had increased from 250 to 1,050. Eighty-four medical colleges in every part of the world were represented. The attendance on the meetings had averaged 90, and had occasionally reached 210 and over. Dr. McLeod said he highly appreciated the honor of having been repeatedly elected to preside over the association. He then introduced his successor, Dr. Joseph E. Janvrin.

Address of the President-Elect.—DR. JANVRIN thanked the society for the honor which it had conferred upon him, and said he would do all he could as presiding officer to further its interests. He then read his address, entitled

The Ultimate Results, in my own Experience, of Vaginal Hysterectomy for Cancer Originating in the Cervix Uteri.—The number of cases in one man's practice must, of course, be limited. Among cases of cancer of the uterus which had come under his care and on which he had performed hysterectomy, there were sixteen in which the disease had originated in the cervix. He had been led to analyze these with relation to the ultimate results from the fact that at a recent meeting of the New York Obstetrical Society doubt had been expressed whether the results of hysterectomy for cancer originating in or involving the cervix justified the operation. He had then stated that his own results had been such as not only to encourage hysterectomy, but to absolutely demand it, for he believed that there had been non-recurrence in about seventy-five per cent. of the cases.

The 16 cases were differentiated as follows: 5 in which the cervix alone was involved, 4 in which the cervix and upper part of the vagina were involved, and 7 in which the cervix and uterine body were implicated. Twelve of the 16 were operated upon prior to November, 1892, the first in 1884, the twelfth in 1892. Of these 12 cases, which dated back more than three years, 3 died within four days succeeding the operation, 1 of them from shock and 2 from septicaemia. They were among his early cases, and death was attributable to his inexperience with the operation. Of the remaining 9, recurrence took place in 2, 1 dying within about sixteen months, the other within eighteen months after the operation. Three were lost sight of after six months or a year, but up to that time had had no relapse. The remaining 4 were all seen and examined at least three and a quarter years subsequent to the operation, and were well. Of the 4 cases operated upon since 1892, 1 was operated upon twenty-two months ago, the other 3 in the fall of 1895. All were free from recurrence except one of the more recent ones, in which at the time of operation he recognized his inability to remove all of the disease.

Dr. Janvrin quoted his paper published in the *MEDICAL RECORD* in 1892, with regard to involvement of the vagina simply by attrition, and expressed the belief that if this portion were excised early, along with the uterus, such cases could be cured. Four of his successful cases had been of this kind. If there were thickening of the broad ligaments without history of prior pelvic inflammation, it was probably cancerous, and hysterectomy, either vaginal or suprapubic, would be useless; if there were a history of

past attacks of pelvic inflammation, and absence of cancerous cachexia, it was his custom to operate. His results had been sufficiently good to justify him in continuing in this course.

In no case of vaginal hysterectomy had Dr. Janvrin injured a ureter. In two he had had vesico-vaginal fistula, which became apparent after some days and was due, he thought, to too tight packing with gauze.

Recurrence the Rule.—DR. W. T. LUSK said he had seen a good many cases of cancer of the body of the uterus where the results of hysterectomy had been satisfactory, but in all of his own cases in which the disease had been limited to the cervix it had only been a question of time as to when recurrence had taken place. Nor had he ever been able to obtain anything definite on this point until Dr. Janvrin had read his paper to-night. In conversation Dr. Jacobs had admitted that his results had not been good, and Dr. Thornton had said that he had returned to the Schroeder operation, but supposed that he would only be regarded as an old foggy and was surprised to learn that Dr. Lusk had also returned to the Schroeder operation. After hearing Dr. Janvrin's experience he might try total extirpation again, with new hope.

DR. H. J. BOLDT congratulated the president upon his results. They certainly were better than those of most operators, probably all operators. Permanent cure of malignant disease of the cervix was comparatively rare. In his experience there was frequently a continuance of the malignant disease after hysterectomy for cauliflower growth of the cervix, shown by manifestations as early as the third or fourth month. He thought malignant disease of the cervix would continue to give less favorable ultimate results than malignant disease of the body of the organ. But much depended upon the mode of operating, and his opinion to-day was that the galvano-cautery used by Dr. Byrne, or the Paquelin cautery, was preferable to the knife and scissors. Dr. Janvrin had been fortunate in injuring the ureter in no instance, for the accident had occurred at the hands of many, two or three times with Dr. Boldt.

DR. GEORGE T. HARRISON thought it was one of the grandest triumphs of modern gynecology that the uterus, the seat of carcinomatous infiltration, could be removed with such excellent results. The mortality of the operation itself had been reduced to nine per cent., and the percentage of cases without recurrence after five years had been in his own practice, so far as he could learn, seventeen per cent. But the percentage of ultimate recoveries should be greater, for there could be no doubt that cancer in the beginning was purely local, and complete removal should effect a cure. An earlier diagnosis would greatly increase the favorable results.

Three Conditions of Success.—DR. A. P. DUDLEY thought the results of removal of the uterus for cancer depended upon three conditions: 1, The age of the patient; 2, the form of the disease; 3, the manner in which it was attacked. He was unable to give his own statistics, but believed the average time of return was eighteen months or two years, and he did not think this average would be reduced greatly unless cases were seen earlier. The method of operating would depend upon the skill of the operator and the size of the vagina, etc. He had tried the different methods, but at present doubted the propriety of leaving a large granulating surface. He would try now to close the wound by suture and obtain primary union.

Henry Durrant, the founder of the Geneva Red Cross Society, is now, it is reported, at the age of sixty-seven, in great poverty and nearly starving. He spent all he had in promoting the society.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 20, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Amendment to the By-Laws.—Section 5 of the by-laws was amended to read: "No fellow whose annual dues remain unpaid shall be entitled to a vote or be eligible for office."

The Recent Progress of Treatment in Affections of the Upper Respiratory Tract.—The meeting was held under the auspices of the section on laryngology, Dr. James E. Newcomb, chairman. Three papers on divisions of the above subject were read and discussed.

(a) **Nose and Accessory Sinuses.**—DR. F. H. BOSWORTH briefly reviewed recent progress of treatment in affections of the nose and accessory sinuses. In a paper fifteen years ago he had said: "I do not believe any physician, I care not what his abilities may be or how much wisdom and skill his management of these cases may have endowed him with, is justified in promising to cure any given case of nasal catarrh of long standing." He was gratified now to be able to review the advances made since that time.

In the author's opinion Carl Koller's discovery of the use of cocaine in 1884 constituted the most important advance. He referred not alone to its anæsthetic property, but also to its power to deplete the vessels. In 1885 Dr. Bosworth read a paper in which he claimed that the amount of moisture in the expiratory air in excess of that in the inspiratory air was derived chiefly from the turbinated tissues, and not from the mucous membrane of the lower respiratory passages, as had been claimed up to that date. The correctness of this view had since been demonstrated by physiological experiment. It enables us to eliminate the old and indefinite term catarrh, which was based on the idea that the disease resulted in excessive secretion. Better information had shown that there was interference with this respiratory function, and the indications for treatment were its restoration instead of checking it, as by burning away some fungous growth supposed to be present. Tunnelling a passage through the nose and sacrificing whatever tissues might be encountered we learned to regard as absolutely unjustifiable. If there was true hypertrophy, we recognized that the object of treatment was to reduce the inflammation rather than to destroy tissue which was endowed with physiological function. The nasal septum, however, had no special function so far as he knew, and if it were an obstruction it should be removed.

Growing out of the idea that in catarrh there was excessive discharge came the notion that the nose was an excreting organ. We had learned how false this view was. The secretions of the nose were entirely bland and never offensive *per se*, but they might become so in syphilitic disease, etc. When purulent it was usually due to disease in the accessory sinuses and constituted an empyema.

Dr. Bosworth still adhered to the belief that any form of nasal necrosis was in nearly every instance an expression of a constitutional disease and not the result of a local inflammatory trouble. In numerous autopsies Zuckerkandel had found no necrosis of the ethmoid cells. In ethmoidal disease pus usually drained into the antrum, rarely into the sphenoidal or frontal sinuses. The indications were to open up the cavity which contained pus and irrigate.

Progress was evident in the fact that we had established a definite class of diseases, definite diagnosis, and carried out treatment with definite clinical indications. We heard less of reflex neuroses than formerly, because we had learned to recognize many

affections to be directly symptomatic of diseases rather than reflex. We did not cure asthma by treating the nose, but by curing any nasal trouble we helped toward a cure of the asthma.

DR. MORRIS J. ASCH opened the discussion on this paper. While, as Dr. Bosworth had said, cocaine had been of great value, it had two important drawbacks—danger of cocaine habit and of leading to secondary hemorrhage. While there had been much advance in the treatment of disease of the accessory sinuses, yet, as the author had said, most of these cases were obscure and it was doubtful whether even the most skilful could always make a diagnosis, and great care should be taken lest treatment result in injury. In disease of the maxillary sinus, for instance, puncture through the inferior meatus might not prove so simple and might even be dangerous.

DR. ROBERT C. MYLES regarded cocaine as a necessity in accurate diagnosis. While the nose might supply the greatest amount of moisture in healthy breathing, there could be no doubt but what many persons breathed mostly through the mouth, and that therefore the mucous membrane below the nose was capable of performing this function if called upon to do it. He thought modern physiologists ought to take up the subject and test this respiratory function more fully. He thought Dr. Bosworth's view that the nasal septum was not a physiological factor was open to question. Its mucous membrane had many glands, and it ought not to be cut away *ad libitum*. Rather than remove the whole of the vomer, it was far better to take away a part of the inferior turbinated, for in time its tissue would be so far replaced as to supply all necessary moisture. Dr. Myles thought we had made important advances in the treatment of the accessory sinuses through the aid of the lamp, trocar, irrigation, etc. In disease of the frontal sinuses he often found the ethmoid cells softened, not necessarily necrosed. On cleaning out the cavities he found that the cells returned to a healthy state.

DR. GLEITSMANN had found difficulty in entering the antrum of Highmore until he witnessed puncture through the lower meatus by Schmidt, of London. In nearly all instances this method was easy and enabled one to wash out the antrum in disease of that cavity.

DR. BOSWORTH said he had not seen a case of cocaine habit which was worse than the chewing-gum habit. The mucous glands of the septum only moistened the membrane as every mucous membrane was kept moist by such glands, but the function of the turbinated tissues was different, being that of serous exosmosis to moisten the inspired air and modify its temperature.

(b) **Naso-Pharynx, Oro-Pharynx, and Laryngo-Pharynx.**—DR. JAMES E. NEWCOMB read a paper on the progress of treatment of these cavities. The general statement could be made that the treatment of diseases of the pharynx had kept pace with that of the nose and larynx. Regarding anæsthetics aside from cocaine, in this country the preference was given to ether and chloroform, in England to nitrous oxide; in France bromide of ethyl had been commended highly. The advantages of the latter had been summarized as follows: Rapidity of action, short period of excitement, complete analgesia with preservation of the mental faculties, rapidity of recovery, unirritating vapor, relative absence of unpleasant effects. Disadvantages: Hypersecretion, unavailable for operations at all prolonged, comparatively unstable compound; if inhaled too long it might cause muscular contraction. Anti-pyrin was now used in combination with cocaine to prolong and intensify the effects of the latter; the bleeding was also diminished. Recently guaiacol in olive oil had been suggested as a means of producing local anæsthesia.

Nothing specially new was to be said regarding means of removing lymphoid hypertrophies from the naso-pharynx. Dr. Hopkins thought they were liable to recur. The necessity for local disinfection in the presence of lesions had been clearly shown, for there was constant exposure to microbic infection. In local tuberculosis surgery was indicated, although in exceptional cases it was thought to be followed by rapid pulmonary tuberculosis. Naso-pharyngeal tumors had been removed with success by electricity, but in case of recurrence surgery should be resorted to. It had been claimed that electrolysis succeeded in about sixty per cent. of the cases. In malignant disease erysipelatous injections had proven of benefit in certain cases. Dental caries and the rheumatic and gouty diathesis favored the development of the leptothrix. Treatment should be by salicylic acid, corrosive sublimate solution, etc., and puncture of hypertrophic lacunæ by electrode.

Treatment of enlarged tonsils in patients under sixteen years of age consisted in removal by some form of guillotine, except in bleeders or in those whose tonsil was too flat. In older persons the cold and hot snare and forceps were at our disposal. The galvanocautery snare had come to be used much more frequently during the last few years.

Acute inflammations of the pharynx and tonsil were now regarded as nearly always of infectious origin. The bacillus coli commune was more apt to produce a chronic amygdalitis than an acute attack. The proper treatment of such forms of tonsillitis seemed to be scooping out crypts, followed by iodine solution. Any one of a large number of antiseptic solutions would often shorten the attack. In recurrent suppuration of the tonsil search for possible foreign body embedded in the tissue should be made. In initial tonsillar inflammation salol was of value, but after abscess had formed it was useless and surgery was demanded. We should not wait for the abscess to point.

Bromide of Ethyl for Anæsthesia.—DR. GLEITSMANN had found bromide of ethyl a valuable anæsthetic for short operations. Antipyrin had also proven valuable as a local injection in pain or to prevent pain during operation. Parachlorphenol in glycerin had been recommended to subdue pain, and he had found it useful in some cases, while it failed in others.

(c) **Larynx and Trachea.**—DR. D. BRYSON DELAVAN read a paper on recent progress of treatment in affections of the larynx and trachea. Intubation for the relief of acute laryngeal stenosis had long since become an established success, and treatment of chronic stenosis by this method was growing steadily in favor. Pachyderma laryngea had recently been studied, and it had been proven that the redundant tissue could be removed by the electrolytic method, best applied by means of a bipolar instrument, the needle being inserted into the growth under anæsthesia, with a current of fifteen milliamperes for five minutes. Much had been written concerning the etiology of laryngeal œdema, but the statements were conflicting. In papillomatous growths of the larynx the repeated spray of absolute alcohol had in two cases caused complete disappearance, and the method deserved a trial since surgical removal was so often followed by recurrence. Carcinoma of the larynx was not amenable to treatment by toxin injections, and Dr. Delavan gave considerable space to its surgical treatment. This consisted in thyrotomy or complete or incomplete laryngectomy. In this connection the work of Cohen, Wagner, Butlin, and others was mentioned.

No disease of the larynx had received more attention recently than tuberculosis and many suggestions had been made for its cure, but one with much experience must feel that most of them would prove delu-

sive. Yet patients had been known to recover either through change of climate or local applications. Lactic acid was one of the local applications which had proven beneficial, and Chappell had had good results from injections of creosote into the diseased laryngeal tissue. Krause was among those who recommended surgical treatment.

DR. ROBERT ABBE spoke on the surgical treatment of cancer of the larynx. His first operation was easy, but subsequent experience taught him that laryngectomy might in any case prove a most difficult and dangerous operation, and it should never be undertaken by an amateur surgeon. As in cancer of the tongue, partial removal, leaving glandular enlargements, offered little hope so far as cure or much prolongation of life was concerned. Dr. Abbe related the case of a boy in whom repeated removal of papillomatous growth of the larynx had been followed by recurrence, and he thought of trying Thiersch skin grafts applied to the base. Regarding tracheal surgery, in one case of obstruction he opened the trachea, but as dyspnoea continued, and having no silver tube at hand, he introduced a rubber tube down the trachea, which immediately gave relief. It was then learned that the obstruction was due to an aneurysmal tumor, which burst and caused death two days later.

DR. W. F. CHAPPELL mentioned removal of the vocal cord in bilateral paralysis, which he and Dr. A. H. Smith had practised in one case by a forceps devised for the purpose. Nor had anything been said about applications to papillomatous growth of the vocal cord through the tracheotomy wound, a method by which he had cured one case. English surgeons had also reported cases. In laryngeal tuberculosis no one method could claim all the beneficial results. He had cured two cases in three weeks by creosote applications. If there were extensive pulmonary complication, of course only palliation could be expected. There were two forms, acute and chronic. Attention should be given to climate, rest, food, and hygiene.

SECTION ON GENERAL MEDICINE.

Stated Meeting, February 18, 1896.

W. H. PORTER, M.D., CHAIRMAN.

R. W. WILCOX, M.D., was elected chairman for the ensuing year and Louis Faugères Bishop, secretary.

Syphilis as a Factor in Diseases of the Heart and Lungs.—DR. LEONARD WEBER read the paper on this subject, giving a number of clinical histories to show that syphilis performed an important part in diseases of the heart and lungs. The first case was that of a patient thirty-eight years of age, suffering from chronic catarrh, cough, and muco-purulent expectoration. There was tenderness over the sternum and at times there were dyspeptic troubles. Twelve years before he had had syphilis. The diagnosis of chronic bronchial catarrh with syphilitic infiltration of the trachea was made, and the patient was put on the protoiodide of mercury for one month with no effect. He was then put on potassium iodide, beginning with fifteen grains and increasing to three drachms a day, and was practically cured. The second case was a merchant who gave the appearance of emphysema, with some pressure symptoms in the mediastinal region and headaches. He was put on the protoiodide of mercury and began to get better. The third case was in a man twenty-eight years of age, who had had syphilis two years before. Contrary to advice he married. His wife was healthy, but the first child died at the age of three months of convulsions; the second child was living but unhealthy. The man died of tuberculosis; his

wife now had tuberculosis and was affected by syphilis. The fourth case was in a man who had had syphilis, but no serious constitutional symptoms. He complained of dry cough, his heart was enlarged, and his pulse was irregular. The iodides did not agree and were discontinued. He died at the age of sixty, and autopsy showed a bovine fatty heart, atheromatous arteries, enlarged liver, and the ascending colon adherent at the hepatic flexure. The fifth case was in a man fifty-eight years of age who had had gonorrhœa at nineteen, afterward a syphilitic sore, which was not followed by characteristic symptoms that he noticed. He married, had no children, lived a quiet, moral life, but after the age of forty complained of a tired heart. There were no false sounds and the pulse was regular. He was put on potassium iodide and improved.

The sixth case was in a woman forty-six years of age. She was healthy when married at eighteen. Her husband had had syphilis. She gave birth to a seven months' fœtus and had trouble with her lung. Examination showed an indurated inflammatory condition of the upper lobe, but no phthisis. She recovered under the proper treatment and five years later had no signs of lung trouble, but was not the vigorous, healthy woman she had been. She again married and again aborted. She afterward developed signs of heart trouble, slight vesical paresis, and weak, irregular pulse. The iodides did no good and mercurial treatment was impossible on account of the condition of the kidneys.

Dr. Weber said that aside from the evil after-effect of syphilis in producing bronchitis, etc., he thought the destructive influence upon the heart muscle as well as upon the arteries was far greater than was generally thought. The entire system was affected by syphilis and the resisting power of the tissues was diminished. It was, therefore, erroneous to look upon syphilis as a mild disease, even when properly treated. By continuing the treatment in after-years the effects of the poison might be kept in abeyance.

In discussing Dr. Weber's paper Dr. W. H. THOMSON said that in private practice he thought cardiac syphilitic disease was common, while pulmonary syphilitic disease was very uncommon. He had had one case of pulmonary syphilitic disease in which he had made a lucky hit in diagnosis. A gentleman came to him with the history of cough, emaciation, and hæmoptysis. A prominent physician had diagnosed the case as tuberculosis. Nothing was found at the apex of the lung except a little bronchitis, but upon percussion there was a peculiar leathery sound over the middle lobe without any corresponding murmurs. There were also scattering patches at the base of the lung much like broncho-pneumonia. The man had had syphilis four years before with various manifestations afterward. A favorable prognosis was given, the man was put on specific treatment, and he began to gain in flesh and improve in color. Later he went to the physician who had told him he had tuberculosis and asked him to examine his lungs. The doctor said he did not have tuberculosis and never had had. The patient then reminded him of the time when he had examined his lungs before and told him he did have consumption and would soon die from it.

Dr. Thomson said he thought there was great difficulty in telling a case of syphilitic disease of the lung, for it might be fibroid in character and could not be diagnosed from fibroid pneumonia. The presence of the tubercle bacillus made the differentiation of tuberculosis from syphilitic disease of the lung comparatively easy.

But syphilitic heart disease was not at all uncommon nor was syphilitic endarteritis, but how was one to be differentiated from the other? This might be

done by careful examination of the arterial and capillary condition. In cardiac failure from syphilis the pulse might be weak, but no valvular disorders and perhaps nothing but the weak, irregular, or intermittent action of the heart would be observed. Syphilis affected the arteries but not the arterioles and capillaries, as general endarteritis did. He had illustrated this to a class a few days ago by two cases, both with anginal pains, failing hearts, and apparently the same conditions; but on scratching the skin of one of them with the finger nail a bright streak appeared, showing that the capillaries and arterioles were not affected, while no amount of rubbing produced any change in the other man's skin, for there was general endarteritis interfering with the cutaneous capillary circulation.

Dr. Thomson said he thought ten per cent. of the cases of heart failure in men after the age of forty might be due to syphilis.

In the treatment of syphilitic heart disease he agreed with Dr. Weber that potassium iodide was of great value, but he had obtained the best results from the use of the mercurial vapor bath. He believed the mercurial vapor bath was the best treatment for all the later results of syphilis except neuroses, in the treatment of which he still adhered to the injection of corrosive sublimate.

DR. BISHOP said that while he was at St. Luke's Hospital a man was admitted to the tuberculosis wards whose condition was diagnosed as syphilitic disease of the lungs by the absence of the tubercle bacilli and presence of other lesions.

DR. WEBER said he was glad to hear the strong points made by Dr. Thomson and agreed that syphilitic disease of the lung was not so common as that of the heart. The point of differential diagnosis from disturbed peripheral circulation was a valuable one. He had obtained good results from the mercurial vapor bath, but of late years had had as good results from the inunction.

The Treatment of the Indigestion of Starchy Foods.—DR. REYNOLD W. WILCOX read a paper on this subject. He said that to treat this condition properly one must carefully consider its etiology. Such indigestion was often due to the habit of partaking freely of fluids along with starchy food, yet it was sometimes difficult to persuade persons to desist from this practice on account of the thirst and discomfort which they experienced. Dr. L. D. Bulkley, of New York, had recently offered a most excellent practical solution of this difficulty. It was to direct the patient to partake freely of hot water about half an hour before meals. This he had found would effectually quench the thirst. Too great gastric acidity was also unfavorable to the proper conversion of starch. Such acidity could be combated by the use of sodium bicarbonate, and it was now known that even the prolonged administration of this salt in large doses exerted no harmful influence. He had obtained good results from the administration of normal phosphate of sodium with bicarbonate of sodium on rising in the morning. In patients afflicted with indigestion of starchy foods, constipation often alternated with diarrhœa. This diarrhœa should not be treated with opium or the usual intestinal astringents, but by the use of intestinal antiseptics. Among the most useful of this class was bismuth naphthalate, in doses of ten or fifteen grains, in powder or capsules after meals. Various methods of coating pancreatin pills had been suggested, so that they might pass safely through the stomach and begin their action in the intestine. One of the best coatings, that suggested by Dr. W. H. Flint, consisted of an alcoholic solution of shellac containing a little tolu to make the coating sufficiently elastic. The solid malt extracts were useful adjuvants to treatment, but most of the liquid extracts

contained such a large proportion of alcohol as to seriously interfere with their power to convert starch. He had used with considerable satisfaction a Japanese preparation of diastase. In one case, however, after its administration the patient became faint and exhibited symptoms somewhat like those of belladonna poisoning. As the use of the remedy in this instance was not repeated, he could not, of course, say how much of this sudden disturbance was directly attributable to it.

In discussing Dr. Wilcox's paper Dr. QUIMBY said he thought there was a good deal of truth in the old saying in the New England hills that false teeth and spruce gum were good for indigestion. Why then did organic chemistry teach that the saliva must be taken at the time of the food? He did not wish to seem to question science, but experience proved that the acidity of the gastric juice could be much diminished by the action of the saliva. Science would lead to the belief that pancreatin did not pass through the stomach unchanged and it seemed that it should not, but nevertheless he had gotten excellent results from its use in certain conditions.

Dr. ANDREW H. SMITH said he would like to ask the ground for preference for sodium bicarbonate to other alkalies. He used the hydrated magnesium in the form of milk of magnesium, a smaller amount of which would neutralize the acidity than of the other. It was also free from the objection of disengaging gas, and it acted as a mild laxative. Dr. Quimby's remark as to the use of the saliva brought up a point that could be easily verified. When he had been hard at work he had often suffered from heartburn, which he could relieve by simply working the jaws and swallowing the saliva, thus avoiding the trouble of getting medicine.

Dr. BURALL said he had read a short time ago an article in which the writer suggested the use of small articles in the mouth for exciting salivary secretion and urged it as an original suggestion. He thought there was often a nervous irritation in these diseases and one of the great difficulties was the arranging of the environments of the patient so as to carry out treatment. Many led sedentary lives, some ate too fast, and the physician had to make up with drugs what the patient lacked in himself. For the nervous element he found strychnine of service. Occasionally a little ipecac could be added to stimulate the liver.

Dr. WILCOX said Dr. Quimby was right, and he had been amused at the fact mentioned by Dr. W. G. Thompson in his book on dietetics that well-fitting false teeth were of service. There was no doubt much of the acidity of the stomach could be relieved by swallowing saliva. The reason he used the sodium bicarbonate was because he had gotten into the habit, but it was probable that it increased the amount of mucus in the stomach. No doubt some cases were relieved by pancreatin, but the main reliance must be put upon the stomach.

Military Surgery.—Many of the soldiers of our army are now supplied with a little packet made up of silk coated with rubber, and containing sublimate-gauze, cambric, and triangular bandages, with a couple of safety-pins. On each triangular bandage are a number of pictures showing how it may be applied to almost any part of the body. With the improved sighting of the new rifle, however, in connection with the modern projectile, a marksman can kill his man at two miles, and at two thousand yards the projectile will pass through three human bodies. A field-cannon having a calibre of three inches and firing a projectile similar to this small one is effective at a distance of eight miles.—PARKE.

Surgical Suggestions.

Dilatation of Urethra.—A large percentage of female patients suffering with subacute vesical symptoms, such as painful micturition, bearing-down sensation, and a feeling that the bladder is not emptied after micturition, can be readily relieved by dilatation of the urethra. The greatest amount of practical good that has been obtained in bladder troubles by the use of the cystoscope may be attributed to the dilatation necessary to the introduction of the instrument.—BALDY.

Facial Paralysis.—1. Facial paralysis usually attributed to cold is frequently caused by mild otitis media. 2. This otitis is due to a pharyngo-rhinitis. 3. The aural origin of facial paralysis accounts for a number of symptoms not otherwise easily explained—pain, etc. 4. The prognostic significance of this etiological fact is very great, for usually facial paralysis of aural origin is readily cured.—LAUNOIS, *Ann. des Mal. de l'Oreille et du Larynx*.

Frost Bites.—

R. Ichthyol,
Resorcin,
Tannic acid.....āā 1.00
Water..... 5.00

M. Apply with a brush at night.

Should this, for one reason or other, be objectionable, the following formula may be substituted:

R. Resorcin.....2.00
Mucilage of gum arabic,
Water.....āā 5.00
Powdered talc.....1.00

M. Apply topically with a brush.

—BOECK.

Amputations.—I have always held that a circular skin flap, with or without a lateral incision, as the emergency may demand, is the ideal flap, the muscles being divided an inch or more above the level of the circular incision through the skin, and the bone sawed on a level with the muscle. Dissection of the periosteum from the end of the bone in order to secure a periosteal flap is entirely unnecessary and should not be done.—WYETH.

Tumors.—Every tumor first noticed in the breast after the thirty-eight years' epoch is, in the great majority of cases, primarily malignant; in the remainder it is certain, sooner or later, to become associated with malignant features in one form or another.—SNOW.

Ectopic Gestation.—It is stated that the symptoms of ectopic gestation are: A relative period of sterility, associated frequently with a history of precedent disease of the pelvic organs; amenorrhœa; enlargement of the uterus, the sympathetic disturbances from the side of the stomach, and changes in the breasts; irregular hemorrhages and "colicky" pains; the presence of a tumor to one or another side or behind the uterus.—GRANDIN.

Children in Moribund Women.—Wait until the mother dies and then extract the child as quickly as possible. Four hundred and sixty-nine Cæsarean sections have been done post mortem, producing 363 dead and 112 living children. Probably the majority of the dead children succumbed shortly before the mother died.—REMY.

Aneurism.—Hydrated calcium chloride in doses of about a drachm a day, in conjunction with rest and other suitable adjuvant measures.—COHEN.

Furunculosis.—Extract of colchicum, in doses of from 2 to 4 cgm. (gr. $\frac{1}{3}$ to gr. $\frac{2}{3}$), in conjunction with topical applications of spirit of camphor.—BROCC.

New Instruments.

KNIFE FOR TONSILLAR ADHESIONS.

By BEAMAN DOUGLASS, M.D.,

ASSISTANT SURGEON AND PATHOLOGIST, MANHATTAN EYE, EAR, AND THROAT HOSPITAL; INSTRUCTOR, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE accompanying illustration shows a tonsil knife made by the Ford Surgical Instrument Company, of New York, after a pattern submitted by me. The instrument is $7\frac{3}{8}$ inches long, $3\frac{1}{2}$ inches being the handle, $3\frac{7}{8}$ inches a delicate shank. The cutting part is placed at an angle of 45° with the shank, the blade being $\frac{1}{2}$ inch long, probe pointed, $\frac{1}{4}$ inch broad, and the cutting edge curved. The blade is notched near the probe-pointed end on the cutting surface. The instrument is made of steel in one piece.



Its uses are (1) to sever adhesions of the tonsil and anterior pillar of the fauces and (2) to incise crypts in the tonsil. Many cases of recurrent tonsillitis, of peritonsillar abscess (quinsy sore throat), and of hypertrophy of the tonsillar tissue are due to these small bands of adhesions uniting the anterior faucial pillar and the tonsillar mucous membrane. These bands of adhesion may be small and single, or they may be generally united, forming a coalescence of the faucial pillar and the anterior tonsillar surface and behind this a pocket in which food, pus, epithelium, or decomposing material may collect as a nidus for infection or inflammation. If the adhesions are distinct, taking only the form of a band, they may then cause tonsillar irritation by the dragging to which the tonsil is subjected and by the pus which can collect behind it. If this irritation continues there results an hypertrophy of the tonsil; if it is inconstant at the times of irritation, a tonsillitis or pharyngitis localized about the adhesion or a peritonsillar abscess.

All tonsillotomies, whatever the method employed, should be preceded by an exploration to ascertain if such adhesions exist, which if present, are to be separated before tonsillotomy. If this point is neglected we may fail to remove enough of the tonsil, or may cut the pillar of the fauces.

Many a case of hypertrophied tonsil will be cured by simply separating the adhesions, and the major operation be avoided.

In enlarged crypts of the tonsil filled with foul-smelling caseous material, this knife can be introduced to the bottom of the crypt and the pocket incised to its base for drainage.

Its operation is simple. After cocaine, four per cent., has anæsthetized the parts, the probe knife is used to find and then to cut the adhesion by introducing it between the tonsil and the anterior pillar and drawing it forward and inward to the edge of the pillar. If the adhesion is narrow and band-like it is readily severed; if it is broad and helps to form the wall of a pocket the knife can be introduced, the probe point pushed through the tissue and the adhesion cut, and then re-introduced until the entire depth of the pocket is incised. The after-treatment consists in keeping the raw surfaces apart until they are healed, and this is best accomplished by touching the raw edges with a solution of nitrate of silver, forty grains to the ounce.

123 EAST THIRTY-SIXTH STREET, NEW YORK CITY.

Doctors of Philosophy.—During the academic year 1894-95 the University of Leipsic granted the Ph.D. degree to one hundred and sixty-three candidates.

A NEW POCKET SPOON FOR HYPODERMATIC INJECTIONS.

By DICKSON L. MOORE, M.D.,

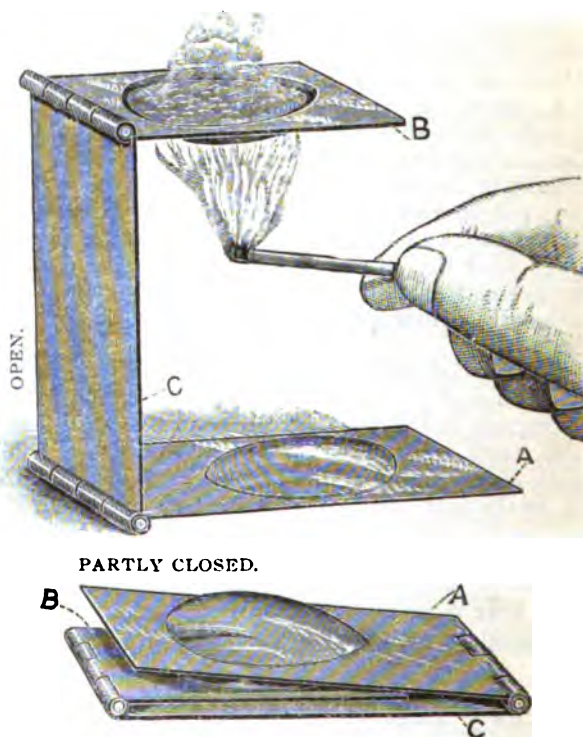
COLUMBUS, OHIO.

My excuse for this instrument will be evident to every man who uses hypodermatic medication in private practice. The desirability of cleanliness in this work is apparent; practically it is hard to attain. Because the physician who drops a tablet into the barrel of his syringe filled with water brought in by a member of the family from he knows not where—because this man seldom or never has abscesses following injection wounds, there is no reason why he should not use a sterile injection if he may. The difficulty of boiling water for injection in the bowl of an ordinary spoon, the greater difficulty of afterward balancing the spoon with its blackened, heated bowl upon a table while the contents are being sucked into the syringe, are reasons, together with others equally forcible, why many physicians who in greater things observe surgical cleanliness in this smallest of operations violate all principles of asepsis.

This consideration and that of increased convenience have led me to devise this pocket spoon, here shown in its exact size.

It is made of aluminium, and when closed can be easily carried in the vest pocket or in the case of an ordinary hypodermic syringe; when open it stands firmly enough to require no support.

The quantity of water desired is drawn into the syringe and is then thrown into the bowl, which holds just thirty minims. A match held beneath the bowl



causes the water to boil in a few seconds. A tablet dissolves readily in the heated water. It is then re-drawn into the syringe and is ready for use. This injection is certainly safer than if unboiled and the convenience of preparing it is not a small consideration.

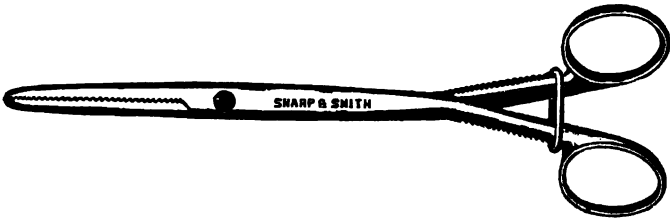
When folded, the bowl *B* is brought back over the upright *C*. The base *A*, which has an inverted bowl corresponding to *B*, is then brought back over *B* and covers the blackened lower surface of the bowl.

It has been made for me by the Columbus Pharmaceutical Company.

A NEW HEMOSTATIC CLAMP.

BY HOWARD CRUTCHER, M.D.,
CHICAGO.

THE one feature that distinguishes this clamp is the absolute reliability of its lock, which is very simple and which the illustration shows quite clearly. The shanks are serrated, and the sliding link can be adjusted so as to include any amount of tissue. I devised this clamp especially for use in hysterectomy, in which the notorious inefficiency of the ordinary lock has been amply demonstrated. To tie the handles



with silk is tedious and unsurgical. This lock can also be used for many other instruments, especially the large tumor volsella.

These clamps are supplied by Messrs. Sharp & Smith, Chicago, to whom I am indebted for the courtesy of the accompanying illustration.

103 STATE STREET.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 22, 1896:

	Cases.	Deaths.
Tuberculosis.....	91	131
Typhoid fever.....	12	4
Scarlet fever.....	127	13
Cerebro-spinal meningitis.....	2	2
Measles.....	479	20
Diphtheria.....	245	32
Small-pox.....	0	0

The Non-Existence of Human Equality.—Dr. Forbes Winslow contends that under despotic forms of government suicide is much less prevalent than it is in countries governed on the principles of republicanism, which is another term for human equality (*The Annals of Hygiene*). Where the actions, thoughts, lives of human beings are controlled rather by others than by themselves, where the life of the masses is, so to speak, regulated by the logical intelligence of constituted authority rather than by the oft-times erratic impulse of the individual, under such conditions (paradoxical as it may seem until explained) life is in itself more pleasant to the individual, and he is hence less anxious to terminate it. It seems to us logical to infer that each act of self-destruction must necessarily imply that the person so acting has no wish for a continued life, and it must be conceded that this frame of mind must be the outcome or the result of a life so lived that its living has not been, or at least is not at the time of the act, a pleasure to the individual. Even an insane man will not kill himself if his insanity is a pleasure to him; the very act of self-destruction implies a determination to destroy a consciousness that is a constant or a momentary source of discomfort. We assume as incontrovertible that no healthy person whose life, whose very living, is a source of pleasure ever committed suicide, ever wilfully sacrificed that which to him was

a pleasant possession, and when we find self-destruction most prevalent among those whose lives are self-regulated, we are compelled to pause and ask whether each individual is capable of regulating his life, his methods of life, to the best advantage, to the attainment of the best ends of which his organism is capable. In his lecture on "Liberty of Man, Woman, and Child," Col. Robert G. Ingersoll contends that thought is material, that thought is a brain product, as vegetables are products of the soil, and that each individual should harvest his mental crop and act in accordance with the dictates thereof. The idea is in accord with the theory of human equality; but it is not in accord with the teachings of biology or of physiology, the student of which cannot logically believe in the equality of mankind. Nature plainly indicates that she intends that a comparatively few shall lead the masses who are designed as followers. Grains from the same ear of corn planted, in the one instance, in the rich, fertile soil of Pennsylvania, and in the other instance in the barren, sandy soil of lower Jersey, will germinate and produce crops in both localities, but how vastly will they differ; so the same exciting or inciting impression upon the brains of one thousand men will produce one thousand crops of thoughts, but how vastly will they differ, from the most logical to the depths of absurdity, from conservatism to socialism, from good citizenship to nihilism, from self-preservation to self-destruction. While, according to our constitution, man may be born free and equal in the eyes of the law, he is not free and he is not equal in the eyes of nature; he is born a slave to inherited tendencies, and he is born in all varying degrees of self-capacity. Did we but recognize the unquestionable fact that mentality is capable of development, not alone by books and by the help of others, but by exercise and use of the mental attributes born with each of us; did we each one of us recognize that we are not all equal in the eyes of nature, and did we each strive patiently to understand and properly estimate ourselves and to fit ourselves into the holes designed for us by nature, we would have very little anarchism; we would have much less self-destruction, and this world would be altogether a much more pleasant place to live in. Argue as we may, men are not all equal, physically and mentally; nor are women either, and it is the direct and indirect and remote results of the assumption that they are that make most of the trouble of the world.

Longevity and Activity.—Great men usually carry their full mental vigor and activity into old age—M. Chevreul, M. de Lesseps, Gladstone, and Bismarck are evidences of this anthropological fact. Pius IX., although living in tempestuous times, reached a great age in full possession of all his faculties, and the dramatist Crebillon composed his last dramatic piece at ninety-four, while Michel Angelo was still composing his great canvases at ninety-eight, and Titian at ninety still painted with all the vigor of his earlier years. The Austrian General Melas was still in the saddle and active at eighty, and would have probably won Marengo but for the inopportune arrival of Desaix. The Venetian Doge Henry Dandolo, born in the beginning of the eleventh century, who lost his eyesight when a young man while on an embassy to Constantinople through the treachery of the Greek Emperor Manuel, was nevertheless subsequently raised to the highest office in the republic, managed successfully to conduct various wars, and at the advanced age of eighty-three, in alliance with the French, besieged and captured Constantinople. Fontenelle was as gay-spirited at ninety-eight as in his fortieth year, and the philosopher Newton worked

away at his tasks at the age of eighty-three with the same ardor that animated his physical prime. Cornaro was as happy at ninety as at fifty, and in far better health at the age of ninety-five than he had enjoyed at thirty. These cases all tend to show the value and benefits to be derived from an actively cultivated brain in making a long life one of comfort and of usefulness to its owner. The brain and spirits need never grow old, even if our bodies will insist on getting rickety and in falling by the wayside, but an abstemious life will even drag that old body along to centenarian limits in a tolerable state of preservation and usefulness. The foregoing list can be lengthened out with an indefinite number of names, but it is sufficiently long to show what good spirits and an active brain will do to lighten up the weight of old age. When we contemplate the Doge Dandolo at eighty-three animating his troops from the deck of his galley, and the brave old blind king of Bohemia falling in the thickest of the fray at Crecy, it would seem as if there was no excuse for either physical, mental, or moral decrepitude short of the age of four-score and ten.—*National Popular Review*.

Unprincipled Speculating Specialists.—Dr. L. A. Tourtellot, of Utica, N. Y., in a letter from Nice to the *Utica Observer*, says: "A large number of invalids are sent to the Riviera every year, and this leads me to notice an abuse not unknown in America but which prevails to a far greater degree in Great Britain and on the Continent. It is that of a type of medical specialism which has lately been denounced in the strongest terms by the leading reviews, magazines, and newspapers in London and Paris as little better than an organized robbery of the sick in mind and body. The most noted of these specialists in the great capitals of Europe are known as consultants, chiefly, and by them invalids are sent, with unquestioned authority, to one of several hundred health-resorts on the Continent, where they are handed over to the local specialist, who remits a handsome fee to the consultant and proceeds to amuse and fleece his poor patient as long as possible. Finally, when hope and purse are alike exhausted, he is sent to another confederate, probably in another country, where a new diagnosis is made and a new treatment prescribed. This course is repeated until at last the patient, bankrupt in health and in pocket, is ordered home to die."

Alcoholic Neuritis in Old Age.—In a recent number of *Brain* Dr. Maude publishes a brief account of a most interesting case. The patient, who was a robust country gentleman of sporting habits and used to an out-of-door life, had taken stimulants in considerable excess for at last twenty years. Even eighteen years ago no unusual daily allowance was half a gallon of beer, a bottle of sherry, and eight or ten liqueur glasses of "neat" whiskey. His favorite drink was beer, and even in the summer of 1894, although over seventy-five years of age, he would often consume two quarts of beer, a bottle of sherry, and half a bottle of whiskey in a day. He had had no serious illness, except broken bones from riding accidents and a fractured humerus at the age of seventy-three from a fall down stairs one evening after dinner. During the year 1894 his great muscular power became much impaired, and toward the end of the year he began to complain of severe darting pains in the left lower limb. A few weeks later the hands and feet began to swell rather suddenly, the skin became thin and glossy, while there were small ecchymoses over it. A similar condition was present on the insteps of both feet, while the calves and thighs were oedematous and the muscles shrunken. The knee-jerk could not be elicited, and the pupils were small and did not react to light. The heart sounds were somewhat feeble, but they were regular

and there was no sign of dilatation. Without any previous marked change in his symptoms he died suddenly after a few minutes' dyspnoea about two months after the onset of the symptoms. Dr. Maude considers the case to have been one of peripheral neuritis, and directs attention to several interesting points, such as the advanced age of the patient, the excess of his alcoholic indulgence, and the absence of mental change; the fact also that he was essentially a beer drinker is interesting, with reference especially to the views of the late Dr. James Ross as to the kind of alcoholic beverage most likely to produce neuritis.—*The Lancet*, October 19, 1895.

Phthisis in Australia.—Dr. G. L. Mullins, of Sydney, has contributed to the *Australasian Medical Gazette* a paper on the prevalence and distribution of phthisis in the Australian colonies. He controverts the statement of Hirsch that "the reputation that Australia used to enjoy for the rarity of consumption and for the favorable influence of its climate upon the course of the malady has of late been shown to be a mistaken one." Comparing the death rate from phthisis both per 100 deaths from all causes and per 1,000 living inhabitants of Australia with other countries, Dr. Mullins shows that Australia has by far the lowest rate, and that the capital cities of that continent have a much lower rate than European cities. Further, it appears that phthisis is decreasing in prevalence in Australia. From the returns of Queensland—the only colony from which suitable returns can be procured—it appears that the Australian-born population is not subject to phthisis. At the last meeting of the New South Wales Branch of the British Medical Association Dr. Sydney Jones advocated the establishment of a "farm hospital" for the treatment of cases of phthisis in its early stage. The buildings should be of an inexpensive kind, surrounded by a large area of land to be cultivated by the patients, and in this way it might be partially self-supporting. He objected to the mixing of early and advanced cases of phthisis in the same hospital.

Cholera in Germany in 1894.—In all 1,004 cases of cholera occurred between May 23d and the middle of December, 1894, in the German empire, out of which 490 ended fatally. These figures, taking the population of the empire at its official estimate of 49,429,470, represent a mortality from cholera equal to 0.1 per 10,000.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

THE PRINCIPLES OF BACTERIOLOGY. By Dr. A. C. Abbott. 8vo, 493 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

SYPHILIS IN THE MIDDLE AGES AND IN MODERN TIMES. By Dr. F. Buret. Translated by A. H. Ohmann-Dumesnil, M.D. Being Volumes II. and III. of "Syphilis To-Day and Among the Ancients," complete in three volumes. 12mo, 300 pages. \$1.50 net. The F. A. Davis Co., Philadelphia.

COLOR-VISION AND COLOR-BLINDNESS. By Dr. J. E. Jennings. 8vo, 115 pages. Illustrated. The F. A. Davis Co., Philadelphia, Pa.

A MANUAL OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By Dr. H. C. Chapman. Second edition. 8vo, 254 pages. Illustrated. W. B. Saunders. Philadelphia, Pa. Price, \$1.50.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION FOR THE YEAR 1895. Volume XI. 8vo, 266 pages. Published for the Association.

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Original Articles.

(From the Anatomical Laboratory of the Johns Hopkins University.)

EXPERIMENTAL LESIONS PRODUCED BY THE ACTION OF RICIN ON THE CORTICAL NERVE CELL OF THE GUINEA-PIG'S AND RABBIT'S BRAIN—THE EFFECT OF ACUTE RICIN POISONING.¹

(Preliminary Paper.)

By HENRY J. BERKLEY, M.D.,
BALTIMORE.

Literature.—The amplification of our knowledge of the minute anatomy of the nervous system has taken such tremendous strides during the past few years that an insight into the recent advances has already become widely known, not only among those who make an especial study of this branch of anatomy, but to every one interested in the progress of the science of medicine.

This increased accuracy in our information has been owing almost entirely to the chromate of silver method introduced by Golgi and his followers, aided in a measure by the vital methylene blue stain of Erlich.

Information concerning the pathological changes in the central nervous system, more particularly in the cortex of the cerebrum, has not, however, kept pace with the study of its histology. Experimental research, only by which can an accurate understanding of human pathological lesions be drawn, has not been accurately followed, and to-day we stand at a point not greatly advanced over that at the opening of this decennary. Especially is this true of the cerebral lesions induced by infectious diseases, where changes are supposed, but their character remains almost unknown.

The one great reason for the lack of progress in this direction has been owing to the few stains from which any accurate return could be expected. It is true that methods have again and again been devised, only to be discarded within a few years as untrustworthy; and by which two observers could seldom see the same structural lesions. Two different and entirely opposite methods that were first used for histological purposes have lately claimed considerable attention. The method of Nissl offers a field for study that is in a measure accurate and reliable, but the variety of cellular changes shown by it are oftentimes difficult of interpretation, though the main objection is that, while it allows of a fair view of the protoplasm of the body of the nerve cell, the distal portions of the cell, the dendrites and their appendages, are invisible, and likewise the important axis cylinder remains untinged.

The other method, the silver stain, while it impregnates all portions of the neuron, has many objections. The nerve elements are not certainly stained and it permits little information to be gathered of the variations in the structure of the protoplasm. Investiga-

tors with the Golgi method have all been hampered by the infrequency and imperfect staining of the nerve elements in adult tissues, and the general difficulties attending the examination of human pathological material, as well as by the absence of knowledge of post-mortem changes likely to be met with in these specimens.

I believe the first application of the Golgi silver method in pathology was made by Kronthal in 1887¹ on a brain from a case of general paresis, and as his results did not seem to be encouraging, the further use of the method appears to have been abandoned for the time. In 1892-93 in the course of other work I made several attempts to study the brains of alcoholics and parietic demented, but with indefinite and unsatisfactory results.

During 1893 Greppin² renewed the attempt to discover definite lesions in the brains of parietics, but also with imperfect issue.

During 1894 several memorials on similar subjects appeared. Colella³ studied the cerebra in several cases of general paralysis and alcoholic psychoses with somewhat better success, in that he found well-defined changes both in the dendrons and axons of the cells, that were in part afterward substantiated by other observers; the alterations being mainly in the form of tumefactions of these portions of the neuron.

Next in order follows the now well-known work of Golgi⁴ on the pathology of experimental rabies. Here the prevailing lesions were on the same order as those seen by Colella in paresis, namely, a varicose condition of the axons and neurons; but extend further, for Golgi finds and depicts atrophic degenerations in the corpora of the nerve cells.

Following the article of Golgi came one by Klippel and Azoulay⁵ on the alterations of general paralysis, the lesions found being of the same character as those previously determined by Colella, but their interpretation of the tumefactions of the dendrites, when they describe that the first stage of the process consists of an abrasion of the spines (gemmulæ) covering the protoplasmic expansions, then an agglutination of many spines to form irregular bands of protoplasm, and finally a coalescence of these drops to form larger ones upon the dendritic stem, is certainly erroneous, for, as we shall presently see, the gemmulæ have no part in the process beyond rapid atrophic changes.

In the fall of the same year appeared the contribution of Andriezen⁶ entitled "Newer Aspects of the Pathology of Insanity," in which there is a short paragraph on the lesions in alcoholic insanity, where a process analogous to that mentioned by Colella and Klippel is figured and described, but Andriezen finds much greater implication of the corpora of the cells than the former writers.

This short sketch of the literature finishes all the pathological work up to the beginning of the present year and, it will be observed, includes only one experimental study.

¹ Neurol. Centralblatt, 1887.

² Arch. f. Psych., Bd. 24, 1893.

³ "Sulla Fine Alterazione della Corteccia Cerebrale in Alcune Malattie Mentali," Roma, 1894.

⁴ Berl. Klin. Woch., No. 14, 1894.

⁵ Arch. de Neurologie, 1894.

⁶ Brain.

¹ Read before the Philadelphia Pathological Society, December 12, 1895.

In March, 1895, Monti, of Pavia,¹ published a monograph on the changes found in the cerebral cells after the induction of artificial embolism by the injection into the carotid artery of dogs of lycopodium or carbon powder. The results obtained were exceedingly interesting and instructive, and the drawings accompanying the paper were made with greater care and accuracy than in any of his predecessors' works.

Briefly, he finds after the injection of the powder, that after an interval of at least five hours has elapsed, there begins in the protoplasmic extensions of the nerve cells an alteration limited to the divisions that come off from the main stems at some distance from the cell body, the amount and intensity of the pathological alteration depending on the length of time after the injection. There may be in these cases only a lesion manifest in the branch or branches turned toward the site of the nearest embolism, while in others, more clearly within the area in which the blood supply has been cut off, complete implication of every extension of the cell is seen. The changes in the earlier instances consist of an irregular swelling of the protoplasmic substance of the dendrite, and commence always at the distal extremity of the cell and proceed toward the centre. The axon is involved only after the degeneration of the cell's corpus. Monti applies the name "varicose atrophy" to this peculiar condition.

Quite as interesting as the preceding study is another by the same writer on the alterations produced in the central nervous system by starvation.² Though the lesions of the nerve dendrons are on a somewhat different order than those before described, they yet bear the same imprint. The cerebral cells show great thinning of all the dendrons of the involved cells; very small varicose enlargements form along both apical and basal dendrites without implication of the cell body or axon.

The last article completes the entire literature on the pathology of the several morbid conditions as has been seen with the chrome-silver methods, besides my own investigations, which have been accomplished by a somewhat different stain, and comprise experimental studies on chronic alcoholism in the rabbit, poisoning from the serum of one animal injected into the blood of another, rabies, the present study on ricin poisoning, and some work on the pathology of mental diseases, part of which have been published and part remain incomplete.

Substantially we have found lesions of the nerve-cell structures in the form of parenchymatous degeneration, both of the protoplasmic extensions and corpora of the cells, but no involvement of the axis cylinder except in unusual instances, and this in all the morbid processes studied.

One point we would call attention to before closing this portion of the paper: the fact that, no matter how extensive and diffused the destruction may be among the cells of the cortex, a number of the elements remain histologically sound, which would seem to indicate that certain neurons of a brain rind have a higher degree of resistance to destructive influences than their fellows, and this fact is not without its importance in the consideration of mental diseases, especially those caused by the poisonous products of certain pathogenic bacteria.

I should also state that none of my work has been done with the ordinary rapid Golgi method, which we have found entirely unsuitable and unreliable with adult tissue, but with the silver phospho-molybdate method, which offers greater advantages both in the fineness of details and certainty of staining over the other.

While the study of lesions of the nervous system by silver methods has thus laid open a number of pathological conditions, work has not been entirely wanting in the experimental field by the Nissl methods. Time does not permit me to go into details, and I would refer those interested to the recent articles of Sarbo³ and Dehio;⁴ also to the work now being done in Nissl's laboratory on cell changes following the extirpation of muscles.⁵

The two articles by Monti above referred to, are the only ones bearing on the subject that have appeared since the publication of my article on the condition of the nerve cell in serum poisoning. In all of these different morbid states there is sufficient variety in the form and general deportment of the tumefactions, as well as in the relations of the gemmulæ to the swellings, to enable an accurate observer to differentiate in a slide, without great difficulty, from which pathological condition it was prepared.

A further consideration of the gemmulæ may not be out of place at this point and have a future bearing on the pathological conditions hereinafter described. Monti, who gives in his last article the first detailed notice of the buds I have found, designates them as spines and describes them as having the appearance of a bunch of moss covering the protoplasmic stems, and mentions that they are constantly found on the cells of the adult brain, the latter statement agreeing with what I have already determined.

In slides prepared according to the long Golgi method, we have not been able to determine them with any constancy, and even with the ordinary osmium-bichromate mixture of Cajal they are apt to be inconstant, at least in my experience. By the silver phospho-molybdate method they are constantly stained, are of fixed shape according to the variety of cell from which they proceed, and are present in every kind of cell of the cerebrum and cerebellum in varying numbers, but reach their highest development on the psychical and Purkinje cells.

Opportunity has not been afforded me to study their development after the beginning of extra-uterine life, but, judging from the works of others, they do not seem to be present on the ganglion cells of the cortex until some time after birth, certainly some weeks in the lower animals (Van Gehuchten et al.). They are present on the protoplasmic prolongations of the psychical cells of all vertebrates (Cajal), but their deportment and expansion depend greatly on the animal from which the section was taken. Generally speaking, they are less prominent in the lower vertebrates and reach their highest development in man. Even in the human being their numbers and luxuriance depend on the individual, for in persons of low mental grade they are not nearly so prominent as in better endowed persons.

Their development appears to depend greatly on the receptivity of the species of animal to education from external impressions, dull vertebrates like rana presenting a wide difference from animals capable of receiving a higher education, as the dog. Hence we are inclined to believe that there are inherent qualities in the development of the cerebral cells themselves that render one species of animal more susceptible of receiving and retaining impressions from extraneous sources than others—in other terms, they have memory for past events, and not only is the quality of the protoplasm different in one animal from another, but there are differences in the actual anatomical construction of the neuron. Each psychical cell of the cortex possesses an individuality of its own, the forms and general appearance of the cells differ widely, the

¹ Bollet. della Soc. Med.-Chir. di Pavia, March, 1895.

² Monti, Riforma Medica, Aug., 1895.

³ Neurol. Centralblatt, August, 1895.

⁴ Centralblatt f. Nervenheilkunde u. Psych., March, 1895.

⁵ Centralb. f. Nervenhe. u. Psych., 1894.

general arrangement of the principal dendrites is varied, the disposition of the gemmulæ varies slightly between each cell, the apical protoplasmic extensions are sometimes widespreading, sometimes do not expand into a number of branches until they reach the neighborhood of important nerve endings in certain well-defined regions of the brain rind.

A more extensive examination of histological specimens leads us to reopen and reconsider the question whether the nodosities on the dendrites are normal or artifacts from the deposit of fine precipitate on the dendrons, giving them the appearance of being covered with swellings, as is the view held by Flatau.¹

In early post-fœtal life the dendrites are covered with varicose swellings that may persist over a variable period. In some adult animals these varicosities seem entirely to disappear (man, rabbit), while in others they still persist, though in very inconsiderable numbers (guinea-pig). Even when they are present in these animals they are always of small size, present rather the appearance of irregularities than varicosities along the finest stems, and are covered, equally with the other portions of the branches, with the gemmulæ, and never encroach upon the thicker portions of the primordial or basal dendrites. That they are not precipitate is further evidenced by the fact already mentioned in a previous article, that under intense illumination they show none of the appearance of precipitate, but fine parallel lines converging on the unswollen portions of the dendrons. Differences in the staining qualities of the cells are much more puzzling than any deposit of precipitate, and accordingly may lead to wrong interpretations. Post-mortem changes may be rigidly excluded, as all our tissues were perfectly fresh.

Hitherto we have also had the absence of the gemmules to guide us in determining whether we were dealing with a normal or an abnormal swelling. In the present investigation, especially in those animals that died after a few hours of the intoxication, the gemmulæ are often found to be present, but to counterbalance this loss of control we find in the cases of pathological swelling the lateral buds are pushed further apart from each other than is natural. This is, however, only in the earliest changes, while in further advanced stems they gradually disappear, until, when the thicker primordial dendrite becomes involved in the tumefaction, and this is never the case in normal preparations, they disappear entirely. This retention of the gemmules on the swollen stems is a strong argument against the tumefactions being artifacts, as it clearly shows that the swelling comes from within the substance of the stem and pushes the gemmulæ, which are still adherent, outward and apart.

The researches upon ricin, the amorphous poison obtained from the castor bean, made by Erlich and Flexner, have induced me to infer that this agent would be an excellent one to produce pathological alterations in the protoplasm of the ganglionic nerve cells.

I cite in abridgment the lesions discovered by Dr. Flexner in his acute cases, in tissues other than the nervous system: "In the lymphatic glands there are hemorrhages, many of the elements are necrotic, and fragmentation of the nuclei is common. The lymphatic apparatus of the intestines shows in an analogous manner the destructive influence of the poison, but cell death is more extensive. The spleen shows changes similar to the lymph glands, and these are localized in part in the Malpighian bodies. The liver presents the greatest variety of cellular death. In the capillaries the endothelial cells are sometimes fragmented and necrotic, and the leucocytes suffer a

similar change. But in the liver cells the process reaches its height. There are foci of coagulation necrosis in which some of the cells are preserved, but they are hyaline in appearance and devoid of nuclei, while in others the cells are much altered in appearance and staining properties and the nuclei have undergone another form of necrosis. They have died as a whole, becoming paler and paler until they finally refuse to stain. These foci of necrosis are surrounded by large quantities of granular detritus. The lymphatics are also choked with nuclear detritus."

We obtained the brains from six of the acute cases of Dr. Flexner, and after hardening them carefully in Müller's fluid, further treated them according to the silver phospho-molybdate method, and used for control purposes the fresh brains of a healthy rabbit and a guinea-pig treated according to the same procedure as the pathological material.

The intensity of the destruction of the nerve elements was found not to depend entirely upon the amount of the poison injected into the system of the animal, but also upon the duration of the poisoning. Almost equal changes can be produced in seventy-two hours by the inoculation of .125 milligram ricin, as by the inoculation of a whole milligram extending over a period of only thirty-six hours, and perhaps had the animal survived a still longer time the lesions would have been even more profound.

The Effects of the Toxin Acting Directly upon the Substance of the Protoplasm of the Nerve Cell—

(a) *Lesions Seen with Nuclear Stains.*—The study of the two selected cases (Nos. 4 and 6) for examination of the blood channel's walls with nuclear dyes shows lesions entirely similar to those found by Flexner in the abdominal organs. In the finer vessels there are many places in which the endothelial nuclei are swollen, receive the stain badly or not at all, and are occasionally fragmented and necrotic. The perivascular channels contain considerable quantities of a grained detritus that does not take up any other dye than eosin, and this only in sufficient amount to give it a pale rose tint. This detritus is to be found in the spaces around all the medium-sized and larger blood-vessels, and the amount of it is in places sufficient to retard the lymph currents. All evidences of the presence of thrombi in the smaller vessels are absent.

The protoplasmic bodies of many of the nerve cells appear to be unaffected by the poison, a few are seen to be breaking up into granular matter. Very curious nucleolar figures are to be found everywhere in the nerve cells of the gray substance. The fine, dust-like granules and the two or three larger particles normally present in the ganglion cells are no longer to be found, but in their place in the interior of the nuclear ring lies a brightly stained, irregular mass, sometimes of horseshoe outline, at others of varied shapes, composed of the aggregations of the nucleoli and the nucleolar dust.

(b) *Lesions Seen with the Silver Phospho-Molybdate Method.*—Our six cases divide themselves, so far as the intensity of the destructive influences determined by the drug are concerned, into two principal groups: Those in which the pathological alterations are limited to the finer branches of the cell, that is, when there obtain fine swellings of the outermost portions of the protoplasm of the neuron, accompanied by little denudation of the gemmulæ, and the remaining portions of the cell are free from injury; and, secondly, cases in which there is involvement of the dendrites down to the cellular body, with great disappearance of the lateral buds, and some involvement of the corpus of the cell. The first detail is to be found after the continued action of the drug over comparatively short periods of time; the second either after the

¹ Arch. f. Mik. Anat., Bd. 44.

long-continued action of such small doses of the toxic substance as will enable the animal to survive a certain number of hours, or, after throwing into the circulation of a (proportionately to the weight of the animal) very considerable amount of the poison, inducing a sudden and intense destructive action upon the cerebral cells.

All the varieties of cells in the cortex are equally influenced by the poison, but as the pyramidal cells

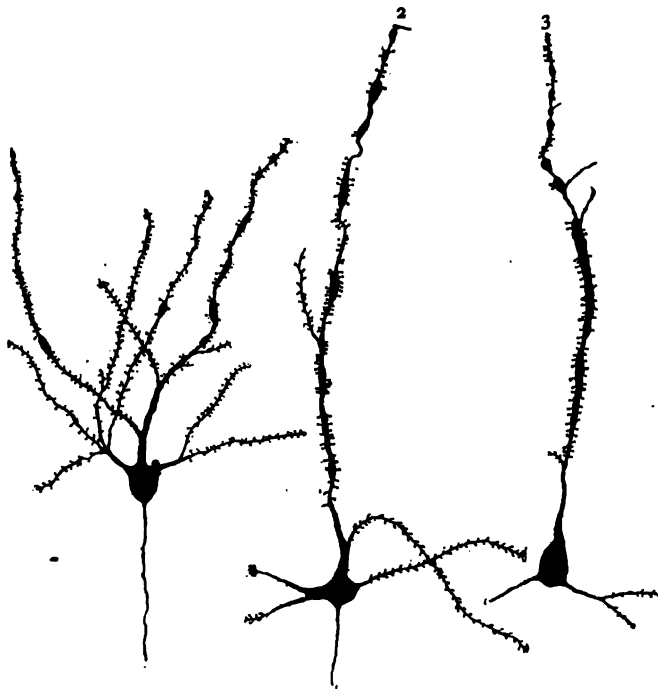


FIG. 1.—Projection cell from the second layer of the cortex showing an increased number of pathological swellings on the finer stems of the cell. There is now distinct diminution of the gemmule wherever the swellings are found. Subcutaneous injection of 0.25 mgm. ricin, death in 48 hours.

FIG. 2.—Projection cell showing numbers of large swellings on the apical dendrite, thinning of the protoplasm of the stem in the intervals between the nodules, and considerable loss of the gemmules along the margin. Ricin poisoning of 72 hours' duration, injection of 0.125 mgm. ricin.

FIG. 3.—Long apical-process pyramidal cell with extensive swellings, chiefly fusiform in character, along the trunk, with entire destruction of the lateral branches and very great atrophy of the lateral buds. Ricin poisoning of 12 hours' duration, intravenous inoculation of 1 mgm. ricin.

are the most equally stained and best defined our description applies mainly to them.

We find in the first class on the tips of the dendrons, particularly those situated within the molecular layer, well-defined, rounded, irregular, and fusiform swellings, which begin toward the extreme outer endings of the protoplasm, and gradually extend downward (Fig. 1). On these tumefactions the gemmules may or may not be involved. When the swelling is comparatively fresh, the gemmule do not seem to be greatly diminished in numbers, but when it is older they disappear. The gemmule are pushed apart and undergo a change which is not well defined by the silver impregnations. They absorb less of the staining matter, are yellowish in color instead of black, and before any other well-defined alteration takes place they fall off from the stem, their detritus is taken up by the lymph currents, and they vanish entirely. As the diameter of the gemmules does not exceed one-tenth that of a red-blood corpuscle, it is quite easy to understand that they may be very rapidly removed by the lymphatic apparatus and quickly disappear.

In the earlier stages there is little atrophy of the stem in the intervals between the swellings, the gemmule are retained in but slightly diminished numbers and show only occasional variations in their staining. The thicker dendrites are in this class rarely if ever involved, nor does the cell body lose any of its definite sharpness of outline, or appear swollen or malformed. The basal dendrites seldom participate to any extent

in the first steps of the degenerative process. One is occasionally seen with a small swelling along the course of one of the branches, but this is exceptional.

No lesions of the axons from the pyramidal cells, or other nerve fibres of local or extraneous origin, are ever to be found; likewise neuroglia changes are equally absent.

In the cerebellum the Purkinje cells are involved equally with the pyramidal in the cerebrum, only fewer of them are damaged to any extent. The basket and other cells with their peculiar axons show the same alterations of their dendrons, but the nerve extension is always normal. The Bergman support cells and the rayed neuroglia cells are natural.

The changes found in the nerve cells in the second class of cases are relatively much more interesting, from the greater intensity of the alterations found as well as in the absolute pathological significance they possess. It is always to be remembered, though, that except in one case (No. 6), there is nothing approaching an involvement of all the neurons of the cortex, but that there is actually a large proportion of cells in all regions of the layers that have every indication of health, and, while very extensive lesions are found in many of the neurons, those that are normal and those that belong to the first class greatly outnumber them.

In every section taken from Cases IV., V., and VI., we see numerous pictures corresponding to Fig. 2 and Fig. 3. Practically the neuron is reduced to the main apical dendrite, with sometimes a few of the basal ones remaining intact, sometimes degenerated. The apical dendrite is shorn entirely of its lateral branches or they are reduced to irregular filaments; the outspreading uppermost branches have vanished completely; the tree-like form has departed, and it is reduced to a trunk ill shapen and knotted, and its roots are dying.

Along the stem of the trunk we find swellings of various shapes and sizes with, in the intervals between the swollen portions, lines of protoplasm much thinner than in the control specimens at corresponding points. When we look for the gemmule we find they are still present in some places, in others they are entirely absent; but as a whole their numbers are greatly



FIGS. 4, 5, 6.—Large pyramidal cells from the second layer of the cortex in advanced stages of degeneration. Ricin poisoning of 12 hours' duration, intravenous inoculation.

diminished and the remaining ones oftentimes appear to be badly stained.

Turning from these middle forms to others that have suffered more considerably in the atrophic pro-

cess, we find an extensive reduction in the length of the apical and basal dendrites. Some of these are thinned to a great degree, but have few tumefactions, but others have numerous swellings of all sizes, both in the apical and basal dendrites, the primitive ones always showing the greater degree of tumefaction and atrophy (Figs. 4 to 7). There is still retention of very limited numbers of gemmulæ. Often there is entire absence of them over certain of the stems, which now appear thinned to fine lines with the remains of a nodule showing at intervals upon them.

In the most degenerated type the basal dendrites are reduced to stumps; the primitive one is atrophied down to near the body of the cell (Figs. 6, 7), is mainly formed of a few large tumefactions irregular in shape, and the gemmulæ have entirely vanished. The corpus of the cell, previously angular, is now seen as a rounded body with imperfect dendrites extending from it, but there is as yet no breaking up of the substance of the cell. The destruction of the receptive function of such a cell must be complete.

This concludes the description of all the positive lesions of the neuron from the effects of ricin poisoning, the nerve fibres of different kinds not being affected.

Alterations of the neuroglia, on the other hand, demand more than a passing attention. In the last three cases the staining of the support elements is equal to any in the control preparations. Apart from the peculiar local cells along the pial margin there is but one kind of neuroglia cell stained in either white or gray tissues, and this is the so-called mossy vascular cell. I do not consider this absence of the star-rayed cells as important, having met with the same peculiarity in many control slides, but I find certain differences between these in the ricin cases and those in the control. There is no increase in the numbers of the cells, but certain qualities in their bodies attract attention. They are universally much larger than in the

in the cerebrum were discovered, the alterations among the Purkinje-cell dendrites being most conspicuous. These are entirely robbed of their buds, the branches



FIG. 8.—Dendrons of the mid-portion of the second cellular layer, showing swellings and diminution of lateral buds. Ricin poisoning of 37 hours' duration. Subcutaneous inoculation of 1 mgm. ricin. Photo-micrographs by Dr. A. S. Hoen.

are irregular and gnarled, and the uppermost ones are entirely atrophied and have in part disappeared.

In conclusion, the study of the tissue changes in the cerebral cortex, which I have had the privilege of bringing before you this evening, show very absolute and positive lesions of the nerve cell induced by the action of a soluble poison in the limited space of a few hours and in a manner very similar to that in which we should imagine large quantities of a toxalbumin would act when it is engendered in the course of certain diseases of bacterial origin.

THE OPERATIVE TREATMENT OF INGUINAL HERNIA, WITH A REVIEW OF NINETY-SEVEN CASES—PREFERABLE METHOD OF OPERATION.

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IN deciding on a cure of inguinal hernia the problem is to close the breach in the abdominal wall and furnish a canal for the safe transmission of the spermatic cord. Until the more recent methods, the results from operative treatment were failures in a large proportion of cases. Even now few are so successful that failures do not sometimes occur. I believe that in the immense majority of cases the operation is followed by a complete and permanent cure; that in the great proportion of those remaining the patients are greatly benefited by the operation; that even the slight disfavor with which the operation is regarded by some is due to the bad results obtained by surgeons whose technique has been imperfect. I would emphasize this point: that the operation¹ should not be performed except by surgeons familiar not only with the surgical principles involved but also with the special anatomical conditions associated with the hernia. In looking over my list of cases in which I performed or assisted in radical operations for herniæ while house surgeon at the New York Post-Graduate Medical School and Hospital and since I left that institution,

¹ Championnière.

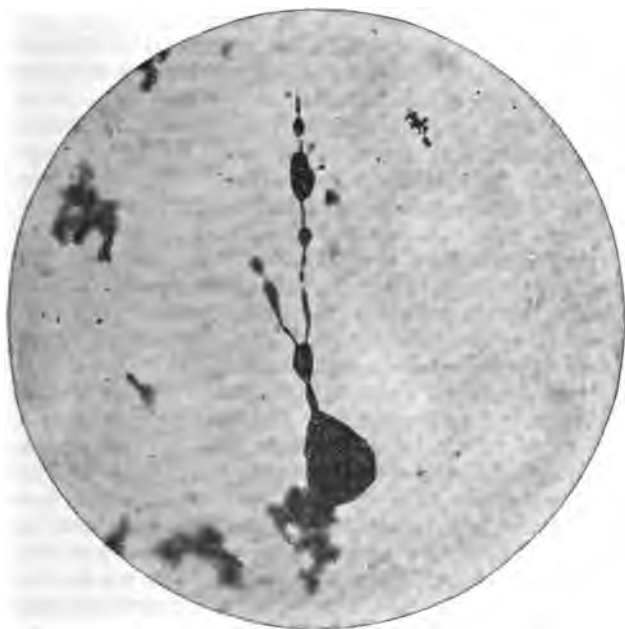


FIG. 7.—Pyramidal cell from second layer of cortex in an advanced stage of degeneration. Acute ricin poisoning of 14 hours' duration. Intravenous inoculation of 1 mgm. ricin.

control, are swollen, even globular in outline. The extensions are also much thicker and more nodular than customary, though they do not cover more territory than ordinarily. Are these elements, which belong to the lymphatic apparatus, taking up the detritus from the degenerated nerve cells and becoming engorged?

In the cerebellum lesions equivalent to those found

I find they have numbered 97. An analysis of these, of the methods employed, of the results obtained, and the description and recommendation of what I consider the preferable method of operation may help to determine the question as to the value and justifiability of operative treatment. Of the 97 operative cases, 79 were inguinal, 5 femoral, 7 umbilical, and 6 ventral. Various methods were used in operating for inguinal hernia—Bassini's, Barker's, Macewen's, and a modification of Championnière's. As I stated at the beginning, an operation to be followed by a cure should fulfil the following conditions:

1. It should cause total obliteration of the hernial sac.
2. It should allow for safe transmission of the cord, *i.e.*, the cord should not be subject to pressure in any part of its course.
3. It should not result in atrophy or inflammation of the testicle, nor in pain, thickening, or inflammation, nor in any other manner interfere with the function of the cord and its structures.
4. The breach in the abdominal wall should be closed.

I shall now describe in detail what I consider the preferable operation for the cure of inguinal hernia.

1. The external incision begins nearly on a level with the anterior superior spine, is carried obliquely downward parallel with and about one-half an inch above Poupart's ligament, and ends at the centre of the external ring.
2. The incision divides the structures superficial to the aponeurosis of the external oblique; the latter is well exposed and a director passed through the external ring beneath this layer, which is slit up to about one-half an inch above the internal ring; the cut edges are lifted up and freed from structures beneath, exposing internally the internal oblique and transversalis muscles and sometimes the rectus, externally till the shelving sharp edge of Poupart's ligament is clearly seen.
3. The cord and sac are examined and any adhesions to surrounding structures separated. Next they are separated from each other well up within the internal ring. The sac is examined and carefully opened with a short snip of the scissors; the opening is enlarged with the fingers, and if any adhesions exist internally these are separated. If the content is omentum and is matted together, thickened, inflamed, or in any other manner changed, it should be tied off; each vessel in the omentum is to be ligated separately, and even the smallest oozing vessel must be tied. Hold up the sac, after removal of its contents, and where it merges into the general peritoneal cavity close it with a running suture of fine catgut. When released the sutured edge immediately slips back into the abdomen. The cord and its vessels are then examined and any varicose or superfluous veins¹ excised high up at the internal ring. Examine the canal² for masses of adipose tissue, which should be removed.
4. Expose the internal ring—an opening in the transversalis fascia—by retracting the internal oblique and transversalis muscles. Any masses of adipose tissue which crowd into the ring from the subserous tissue should be removed; take the cord and place it at the lower angle of the internal ring. Now close the internal ring with a tendon suture, commencing at the upper angle; suture from above downward, leaving only sufficient room at the lower angle for the cord and its full vessels to play through.
5. The edges of the aponeurosis of the external oblique are retracted and the edges of the internal oblique and transversalis (sometimes the edge of the rectus on the inner side) and the shelving edge of Poupart's ligament on the outer side are brought together with three or more interrupted buried tendon sutures; the cord is situated

beneath the above layers of sutured structures; at the lower angle close to the pubic bone only sufficient room is left for the cord and its full vessels to play through.

6. The divided edges of the aponeurosis of the internal oblique are brought together with a continuous suture.
7. The skin edges are brought together with a continuous catgut suture, without drainage.

The steps of the above operation are simple, easy to follow, and the operation may be quickly performed. In an uncomplicated case it can be completed, depending on the dexterity of the operator, in from fifteen to thirty minutes. It has many advantages and should be followed by better results than the other recent operations. It has all the advantages without any of the disadvantages of the Bassini operation. It will be observed that the cord is not disturbed, is not displaced, is not subject to pressure, is not transplanted between two layers of buried sutures, and is not on the stretch, as in Bassini's operation. The cord is not transplanted between the edges of the freshly cut muscular layers and thus subject to the liability of pressure from muscular contraction or from adhesions to surrounding structures from its internal to its external ring, as in Halsted's operation. In both the Bassini and Halsted operations the functions of the nerves and vessels of the cord and the cord proper may be interfered with by pressure on, abnormal position of, or adhesions to surrounding structures; and subsequent to these operations there may be thickening, swelling, tenderness, or inflammation of the cord, or atrophy, swelling, or inflammation of the testicle.³ Thickening and swelling of the cord and its structures I have frequently seen follow Bassini's⁴ operation. The natural position of the cord is at the lowest part of the internal ring, and in the operation I have described in detail its position has not been changed. As to the formation of a new internal ring this is absolutely unnecessary; the suturing of the enlarged internal ring reduces it to its normal size, nor is it necessary to place the cord superficial to the internal oblique and transversalis as in Bassini's, or superficial to the external oblique as in Halsted's operation, for reasons already mentioned and also for those following. After closing the internal ring as I have described, this orifice is small; the cord is not on the stretch but hugs its lower angle where it passes down into the pelvic cavity to the base of the bladder, whereas in the Halsted and Bassini operations the cord, from its new position and relations, is on the stretch and, entering the ring less obliquely, the ring with its contents is more like to favor a return of the hernia. The very high removal of the hernia sac,⁵ the removal of every altered portion of peritoneum at its neck, the separation of adhesions internally and externally with suturing of the neck of the sac with fine catgut, leave a smooth surface to the peritoneum, whereas if its neck were ligated there would be more or less puckering of the peritoneum which would interfere with the free movement of the bowels over its surface. In ligating the omentum it is necessary to remove those portions that are abnormal; altered omentum must not be returned to the abdomen, as it acts as a foreign body and has at times set up peritonitis.⁶ I would not advise the pulling down of healthy omentum and its removal, as trouble may follow. Several cases are recorded of local peritonitis. In one case the result was fatal

¹ W. S. Halsted: Johns Hopkins Hospital Reports, May 15, 1895. Atrophy of testicle in three of his cases, following his operation.

² W. B. Coley, in the American Journal of the Medical Sciences, May, 1895, reports case of orchitis which went on to suppuration following Bassini's operation.

³ Championnière: "Cure Radicale des Hernies."

⁴ W. B. De Garmo: Clinical Lecture at Post-Graduate Hospital, New York.

⁵ W. S. Halsted.

⁶ W. B. De Garmo: Clinical Lecture, Post-Graduate Hospital, New York.

from internal hemorrhage, death occurring from slipping of the ligatures from the omental stumps. Even the smallest blood-vessels must be ligated before the stumps are returned to the abdomen, for the reason that there is a diminution of the muscular cells in their walls; consequently, if a small oozing vessel is returned, its walls do not contract and retract like those of other arteries, and an internal hemorrhage will result. Halsted lays great stress on excision of superfluous veins to reduce the size of the cord, and reports three cases of atrophy of the testicle following his operation. It is advisable where there is a varicose condition of the veins to excise them high up within the internal ring, otherwise no immediate and little or no remote benefit will be derived. It is obvious that if the excision is performed in the inguinal canal the bulk of the cord is not materially reduced at the internal ring. I have frequently met with slightly enlarged veins due to pressure of the sac and its contents; after removal of the sac the veins resume their normal size. It is highly important to remove all particles of fat from the inguinal canal, internal ring, and subperitoneal tissue, especially if the masses from the latter bulge into the ring. The closure of the internal ring is the most important step of the operation; most of the success depends on suture of this opening in the transversalis fascia. In closing the ring lift up its edges with forceps, thus avoiding injury to the surrounding and subjacent structures, especially the epigastric artery which runs along the inner side of the ring, and keep the immediate work well in view in the centre of the field of operation; suture the ring from above downward, commencing at the upper and leaving only enough room at the lower angle for the cord and its full vessels to play through. In the above step and for suturing the internal oblique and transversalis to Poupart's ligament a blunt-pointed hernia needle is to be preferred for passing the sutures. The cord and its structures are located beneath the sutured edges of above-mentioned structures. The character of the suture material employed is very important. Kangaroo tendon is the most suitable material for a buried suture. Great credit is due Dr. Marcy, of Boston, for bringing to notice the merits of this suture material. Tendon is the most suitable, it is non-irritating, and it is not absorbed for two or three months. Busse¹ in his experiments showed that perfect tendinous union does not occur under ten weeks, or just about the period for the absorption of kangaroo tendon.

I shall now proceed to analyze my cases. Kangaroo tendon was used as a buried suture in 82 cases, chromicized catgut in 5, silk in 5, silkworm gut in 4, silver wire in 1. In the cases in which tendon was used all the wounds healed by primary union except 2. In these the suppuration was slight and located superficial to the aponeurosis of the external oblique. In those in which catgut was used all healed by primary union, but in one case three weeks after the operation two sinuses formed; one closed, but at the last report the other was still discharging slightly. In those in which silk was used one was followed by suppuration with a subsequent discharging sinus. In those in which silkworm gut was used two of the wounds supplicated and cicatrization was not complete for weeks. During the healing some of the worm gut was thrown off. In the case in which silver wire was used catgut was employed to ligate the blood-vessels; this wound supplicated very badly and took weeks for complete cicatrization.

Final results.—Most of the operations analyzed were performed during 1893 and 1894, so that in many sufficient time has elapsed to enable us to judge of the results. In the 82 cases in which tendon was used there

has not been a single relapse, nor has there been any in the cases in which chromicized catgut was used. In those in which silk was used there have been no relapses, but in the one case in which a sinus formed the discharge continues and this will keep up, I think, until the silk is thrown off or removed by a second operation. In those cases in which worm gut was used there were no recurrences, but in the two cases in which suppuration occurred the resulting scars were not strong and as soon as cicatrization was complete, light, well-fitting trusses were at once supplied. In the case in which silver wire was used there was no recurrence. The resulting scar was not strong and here, too, a light-fitting truss was at once supplied as soon as cicatrization was complete.

Mortality.—In the 97 cases operated upon the mortality was *nil*. There was one case not included in my list, a neglected strangulated inguinal hernia. The patient was admitted to the Post-Graduate Hospital and was at once taken to the operating-room. Anæsthesia with ether was commenced, but he had not taken five breaths before respiration ceased.

I shall now refer briefly to the results obtained by Dr. William B. Coley, who operates at the New York Post-Graduate Hospital. Dr. Coley reports¹ 133 cases of operations for various kinds of hernia; 124 were for inguinal hernia. In 117 cases kangaroo tendon was used as a buried suture. All but 3 were traced. There were no relapses. The only case Dr. Coley reports in which recurrence took place after use of the tendon was one of umbilical hernia. In 2 cases silk was used. Both relapsed inside of three months. Chromicized catgut was used in 5 cases with no relapses. Dr. Coley's mortality was one death from pneumonia in a child, who died on the fifth day after operation. There was no abdominal complication nor suppuration in wound. Dr. W. B. De Garmo,² in a paper on the surgical treatment of hernia, strongly advocates the use of tendon as a buried suture.

Dressings and after-treatment.—In many cases aristol was dusted on the wound. Over this bichloride gauze was held in place by strips of rubber plaster; finally cotton and a spica bandage were applied. The scrotum was left exposed and the testicles were supported. Unless there were indications for interference, the dressings were not disturbed till the eighth day. By this time the catgut was usually absorbed. Firm dressings were reapplied and the patients were kept in bed two weeks, or longer if possible. If the bandages became loose they were reapplied and were not removed till one month after the operation. None of the patients wore trusses after the operations except those whose wounds supplicated badly and who had commencing relapse. The operation I have described in detail is to my mind the ideal one, has all the advantages with none of the disadvantages of the other recent operations, and I think has the additional advantages which I have endeavored to sum up in my paper.

219 GEARY STREET.

The Pyramid Limp.—We are given to understand that "the pyramid limp" is that state of body which falls upon one for two or three days after making the ascent of the pyramids. One is so much pulled and pushed at the time that little or no inconvenience is felt. There is no sign of soreness of joint or muscle until after one has slept, and then the trouble begins to brew; the second day of that man or woman is worse than the first; the climax is reached at the end of the second or beginning of the third day, and from that time the patient recovers slowly.

¹ Coley: American Journal of the Medical Sciences, May, 1895.

² MEDICAL RECORD, June 1, 1895.

¹ Busse: Deutsche Zeitschrift für Chirurgie, 1891-92, xxxi.

THE SURGICAL TREATMENT OF GALL-BLADDER DISEASE ILLUSTRATED BY THREE CASES.¹

BY HOWARD LILIENTHAL, M.D.,

ASSISTANT SURGEON TO MOUNT SINAI HOSPITAL.

THE title of this paper is, I fear, a little misleading. It is not my intention to bore you with an exhaustive *résumé* of the subject of gall-bladder surgery, but simply to take three cases which have lately come under my personal observation and see what lessons their histories may teach.

CASE I.—S. L.—, sixty-five years old, first came to me in May, 1893, complaining of frequent and very painful micturition. For some years there had been more or less trouble in urination, but the present exacerbation was caused by improper instrumentation. The man had a large prostate and I passed a soft instrument, intending to irrigate the bladder and deep urethra, when I felt the grating sensation of stone. The diagnosis was confirmed with a metal searcher. June 1st under chloroform I did suprapubic cystotomy, removing the three symmetrical stones which are herewith presented. There was cystitis and decided enlargement of the prostate, which delayed the closure of the wound during many weeks. All this time the patient was under daily observation in the hospital. The fistula eventually closed and the patient went home. He was taught to catheterize himself to get rid of the residual urine. I did not at that time know of the wonders which could be accomplished in such cases by double castration. On May 6, 1894, just about a year after I first treated the man, I was called to Brooklyn by his family physician, Dr. A. G. Meyersberg, to see him in consultation. The patient was suffering intensely because of spasm in urination. The urine contained pus and considerable mucus and albumin. There was frequent vomiting. Pressure over the kidneys failed to elicit great tenderness, but pressure to the right side of the epigastrium was intensely painful. The lower edge of the liver was well below the border of the ribs. There was no jaundice and there never had been. There was absolutely no previous history of gall-stone colic, but the present attack of illness had commenced four days previously with sudden and severe pain in the region of the gall bladder. The bowels had moved freely. There had been chills and when I saw the man his temperature was 105° F. Because of the vomiting and the location of the tenderness I diagnosed impacted gall stone and sent the patient to Mount Sinai Hospital, where he entered my service. The amount of urine passed made uræmia improbable. There was a marked remission of symptoms when I saw him again, which was in the evening of the same day at about nine o'clock, after a rough, jolting drive to the hospital, and I thought that possibly the stone had become dislodged. The gentlemen of the house staff diagnosed surgical kidney, but none of them would agree to the possibility of gall stone, though there was still some tenderness in the right part of the epigastrium. Until May 9th or for nearly three days the man was treated with diuretics and stimulants. Then his condition became so bad that I decided to explore the gall bladder at any rate, rather than let my patient die without making an attempt to help him by operation.

Under chloroform an incision of about four inches was made through the right rectus muscle and parallel with its fibres. On putting in my fingers I could not feel the gall bladder at all. It seemed to be entirely absent. I felt, however, a hard body under the liver and far back, which I at first took to be a nodule of

new growth. In the region of the gall bladder there was a cord of omental adhesions about as big as one's thumb. This cord was so well organized that I cut through it very carefully and only between ligatures. At last I entered a cavity containing about a drachm of pale mucus. The entire cavity was no larger than one's index finger and it seemed at first to end in a blind pocket. I assumed it to be the atrophied gall bladder. By means of a probe I found that there was a narrow channel with another cavity beyond this one and that it contained the hard mass I felt posteriorly. The impact of the probe showed it to be a stone of a very hard variety. It was firmly wedged in a little cavity it had made for itself and it was with the greatest difficulty extracted with flat forceps. There were no other stones present, but there was slight mural incrustation. The specimen I removed I present this evening. In its recent state it weighed five hundred and one grains. The specimen is a perfect prolate spheroid and is a very beautiful example of solitary biliary calculus. My operation lasted two hours and the man stood it well, but died of urinary suppression thirty-six hours later. Post-mortem through the wound showed double pus kidney.

This case presents a few points of interest. Whether or not there can be such a thing as a general tendency to stone formation in the viscera I should be interested to know. The histories of stone formation in urinary tract and in gall bladder are, of course, totally different. The second point of interest is the fact that the diagnosis was made without any previous history of gall-bladder or liver trouble and mainly because of the vomiting and local pain. Dr. M. H. Richardson, of Boston, who has written very interestingly on this subject (*Boston Medical and Surgical Journal*, April 28, 1892), has made a point of this very fact, viz., that in cases of impacted stone we may have to rely mainly on the subjective symptoms of the patient. There may even be no enlargement of the gall bladder or it may, as in this case, be atrophied so as to make palpation impossible. In one case in which Dr. Richardson waited for symptoms to develop which should clearly indicate need of operation there was ulceration around the stone, with peritonitis and death in a few hours.

Another point of interest is the lesson we may learn not to ascribe all of a patient's symptoms to some disease which you may have recognized in him, but to bear in mind the possibility of two entirely different diseases occurring simultaneously. I recognized the evident fact that my patient suffered from surgical kidney by infection from his catheter, but was not satisfied that all his symptoms were due to that trouble.

CASE II.—My second case was F. W.—, a married woman thirty years old, who was admitted to Mount Sinai Hospital on July 24, 1894. She had suffered for about two years with occasional sharp colicky attacks of pain, accompanied by nausea. The pain lasted for a variable time, from a few hours to several days. During the attack she was often nauseated and sometimes vomited. She had never been jaundiced. The history as she gave it was quite typical of gall stones. She was treated on the medical side of the hospital by Dr. Brill with olive oil and other cholagogues, but on July 28th she was turned over to the surgical service for operation, for which the patient herself earnestly begged. She was chloroformed and a three-inch cut was made over the distended and easily palpable gall bladder. On direct manipulation this viscus suddenly collapsed and it was with difficulty sewn to the skin and peritoneum, to be opened in the future. On the third day I tried to open the gall bladder, but it was still so collapsed that, fearing accidental entrance into the peritoneal cavity, I de-

¹ Read before the Medico-Surgical Society of New York, June 3, 1895.

sisted. On August 4th, however, the woman had an attack of gall colic with tense filling of the gall bladder, which was then easily opened and drained by tube. Forty-four stones, some of which are to-night presented, were removed. Now, in spite of this free opening and the fact that I could find no impacted stone, the patient had occasional attacks of colic. On September 8th I again operated for the purpose of exploring the cystic duct. Under chloroform a three-inch median incision was made and exploration with the hand was attempted. Nothing was found, so a large aluminium probe was inserted into the fistula remaining from the first operation for purposes of combined probe and digital examination. The sinus had been previously distended by a tupelo tent. What was my surprise and horror when I found the probe, which had passed through the dirty gall sinus in the free abdominal cavity; the gall bladder, even after a month's anchoring to the parietal peritoneum, having retracted. I at once sewed up the patient's abdomen, draining the track of the probe with iodoform gauze. For many days the patient was between life and death with local peritonitis due to gall infection, but finally she recovered and was discharged cured, not only of her gall stones and peritonitis but of her gall colic as well. She is at this writing pregnant with her sixth child, and is well. There is no hernia. She was discharged from the hospital on October 21, 1894.

This case is an almost typical one of gall stones, the interesting points being, first, that the symptoms were so severe with such small stones, while in Case I., with such an enormous stone, there were hardly any symptoms; and second, that the patient made a perfect recovery in spite of the entrance of a great deal of bile into the peritoneal cavity. Bile peritonitis is often fatal, although of slow progress. The case shows well the immense value of gauze drainage in abdominal wounds.

CASE III.—This patient was a man, Frank W—, fifty-nine years old, who was on the medical side of the hospital under treatment by Dr. Rudisch. He entered the institution on the 22d of April, 1894, with a bad bronchitis, some jaundice, and a history of severe pain with loss of weight extending over two or three years. The pain was in the epigastrium, but it extended over to the left side, where there was a point of tenderness in the neighborhood of the spleen which had existed for but a few weeks. The man was emaciated and gradually became intensely jaundiced. His gall bladder was plainly tense and fluctuating. Palpation of the viscus was painful. Finally this gall bladder became so distended that the patient begged for relief, and after transfer to the surgical service I operated for exploration under chloroform on April 30, 1894, by a three-inch incision downward from the border of the ribs. I came upon the tense gall bladder, but, following it up with my finger, I felt no stone or tumor. I stitched the bladder to the peritoneum and on May 4th incised it. About ten ounces of bile-stained mucus was evacuated and exploration by probe revealed nothing. The man was temporarily relieved, but died May 18th of œdema of the lungs. The autopsy showed cancer of the pancreas with metastasis in the lungs and a nodule occluding the common bile duct.

This case shows the important fact that jaundice and a swollen gall bladder may exist without true liver or gall-bladder disease, and emphasizes the necessity for a guarded diagnosis even in cases which may look plain at first sight. I took this case to be one of impacted gall stone, and I do not see how, without having watched it from its inception, a differential diagnosis could be made. The operation was of course indicated to relieve the symptoms of tension from the distended gall bladder.

These three cases are as typically different as they

can well be and yet they can hardly be called rare. They illustrate quite aptly the usual forms of treatment employed in this rapidly developing branch of surgery.

A CASE OF POISONING FROM THE EXTERNAL USE OF ACETANILID.

By RICHARD C. NEWTON, M.D.,

ONE OF THE VISITING STAFF TO THE MOUNTAINSIDE HOSPITAL, MONTCLAIR, N. J.

THE following case has occurred in the present service of Dr. Love and the writer in the Mountainside Hospital, Montclair, N. J.

M. L—, aged four, female, a healthy child, under treatment for extensive burns of right arm, face, and leg. Has been in the hospital for some time, and is receiving no internal medication. The burns of the face and leg have healed. The arm, however, still presents a large granulating surface. This is gradually cicatrizing and considerable quantities of pus are constantly secreted. The edges of this ulcer have been stimulated with balsam of copaiba, while acetanilid has been sprinkled over the central portions and a piece of lint smeared with boracic acid has been put over all.

This plan of dressing the ulcerated surface has been used in all five times, covering a period of nine days, the arm as a rule having been dressed every other day. The amount of acetanilid made use of ranged between twenty and forty grains. It happened, however, that the arm had been dressed on Saturday, January 25, 1896, and again on Sunday, January 26th. On the latter date the dressings were applied at about twelve o'clock noon, and in about four hours the child complained of pain in her bowels and seemed faint and sick. She passed into a state bordering upon collapse. Pulse, 160; rather weak. Temperature not taken. Respiration, 22; not stertorous nor sighing. Eyes glazed and staring, with widely dilated pupils. Facies extremely cyanotic. Extremities cold. Patient lay perfectly motionless upon her back. No involuntary evacuation of urine or fæces. No diaphoresis observed. In about three hours after the first appearance of the cyanosis the patient vomited three times a thin greenish material. The vomita ran out of the mouth without apparent effort on the child's part.

As she was known to be constipated she received an enema of warm water, about a pint and a half. Some improvement in the symptoms was immediately noted. A fairly copious although constipated movement from the bowels was obtained.

As the materials that had been used in dressing the burn were not thought of at the time, the real cause of the distressing symptoms was overlooked and the condition was attributed to the constipated state of the bowels and the fact that the little girl had surreptitiously partaken of some rich cake.

After the vomiting above alluded to and the movement of the bowels the child fell asleep. She was still somewhat cyanotic and did not become warm to the touch until hot bottles had been put into the bed. The next morning she was as well as usual.

On Tuesday, January 28th, the same method of dressing the burn was pursued, and no evil consequences are known to have followed.

On Thursday, January 30th, the arm was dressed again in a similar manner. In about an hour after the dressing the child complained of pericardial distress and was pale and weak. These symptoms passed off for an hour and a half and then recurred. The appearance, decubitus, and pupillary symptoms were similar to those of the former attack. At 4 P.M.

the pulse was 140. Temperature, $97\frac{1}{4}^{\circ}$ F. Respiration not recorded. In this attack there was no emesis; and on the whole the symptoms seemed less severe than in the attack four days previous. A drachm of whiskey in hot water was given per os and was followed by some amelioration of the symptoms.

At 5 P.M. my colleague, Dr. Love, saw the patient and was at first inclined to believe her in extremis. He ordered her ten drops of aromatic spirits of ammonia every half-hour until the condition improved, and then every two hours.

I saw her myself at 8:30 P.M., and even then her appearance was calculated to excite alarm. Dr. T. Y. Sutphen, of Newark, was with me. The most striking feature of the case was the utterly helpless and impassive condition in which the little creature lay. The cyanosis, the widely dilated fixed pupils, which responded very slowly if at all to light, and the cold and clammy skin, made a strong impression on my mind, occurring as they did in a child that I had seen actively moving about and crying and fretting about her arm being dressed a few hours before.

She received one-sixtieth of a grain of strychnine sulphate in addition to the treatment already detailed, and was as before all right again in the morning.

I might say in passing that three attempts have been made to graft skin upon the extensive ulcer of the right arm (the face and leg burns having already cicatrized over). The first was by Thiersch's method, and was partly successful. The last two were done with skin taken from two blisters on the arm of a healthy man and failed utterly.

Comment upon the above case seems scarcely necessary. There can be no reasonable doubt that it was a case of acetanilid poisoning. On the second occasion there had been no indiscretion in diet and nothing of an indigestible nature was in the stomach. It will be observed that the first instance of poisoning followed the second application of acetanilid within a period of about twenty-four hours and the second instance followed the last of five applications, which would seem to indicate that instead of the system becoming immunized to the drug it tends to grow more susceptible to its influence. Perhaps for some reason which we cannot explain the drug was more readily absorbed on the two occasions when it did harm than on the three occasions when it did not seem to have any evil effect. The nurse who dressed the arm on January 30th is sure that less of the drug was sprinkled on the ulcer than had been used on former occasions.

After this pointed warning we must certainly be more circumspect in the use of acetanilid as a surgical dressing than the writings of a number of surgeons would lead us to suppose necessary. It has been used a number of times as a dressing in the Mountain-side Hospital, but hereafter its use will, I presume, be suspended.

Frollington and Pratt, at the conclusion of a carefully written paper in the *American Journal of the Medical Sciences* for August, 1895, p. 156, announce that "there is no danger of poisoning from absorption of acetanilid." Dr. Bradinox, of Louisiana, and Dr. T. S. K. Morton, of Philadelphia,¹ report extensive use of this drug, the latter having "just published his observations in one thousand surgical cases with marked success." Without attempting to go into the literature of acetanilid as a dressing, the above quotations will show that it has been recommended on high authority. From the number of times that it has been spoken of in current medical literature its use must be on the increase, and a word of warning against its indiscriminate use cannot be out of place.

¹ Squibb's Ephemeris, January, 1896.

I have seen somewhere recently, although I have mislaid the reference, an account of a case in which serious symptoms of intoxication followed the use of acetanilid as a dusting powder upon the navel of a newly born infant. Strychnine was used as the remedy in small, frequently repeated hypodermic injections, and the patient recovered.

This case and my own only show that in using the coal-tar products externally we are not freed from the dangers which attend their internal exhibition: that they are remedies whose powers, limitations, and dangers are not yet understood; and that many statements made in regard to them have proved misleading in practice.

And, lastly, there is no doubt that many more carefully conducted experiments are needed, and especially a very large number of accurately recorded clinical observations must be furnished, before the true place in medicine of these peculiar agents can be determined.

MONTCLAIR, N. J., February 11, 1896.

TECHNIQUE OF MASSAGE OF THE STOMACH.

By GUSTAF NORSTRÖM, M.D.,

NEW YORK.

ONE knows, and I have already said in my "Traité du Massage," that, if massage yields good results in some cases of nervous gastralgia, it is on the contrary often insufficient or even useless in chronic gastritis and in affections presenting a real alteration of the walls of the organ.

This want of success is easily explained if we consider on one side the deep situation of the stomach and on the other the slight resistance of the deep plane on which it rests.

On account of these different causes one is able to mass only a very limited portion of the anterior wall of the stomach, the rest withdrawing under the pressure or not being reached because of its distance from the abdominal wall.

However, in a certain number of cases I have obtained amelioration or even definite cure, but in almost all of these the thinness of the abdominal wall and of the skin and the flattening of the thoracic cage allowed me to seize the diseased organ without too much difficulty—physical conditions which are very rarely realized.

I have wondered if it would not be possible to place the patient in such a position that the stomach might become, as does the intestine in the genu-pectoral position, easily accessible to the hand.

The massage of the stomach is ordinarily performed with the patient in the dorsal decubitus. About three years ago, finding myself in the presence of an invalid with a very thick abdominal wall, it occurred to me, in order more easily to seize the organ, to make him lie on the right side, the left going beyond the vertical plane.

I was then astonished at the facility with which I could seize and mass the stomach. In cases of gastric dilatation I obtained the sound by means of very small succussions, and, in a word, the organ *entraîné* by its own weight fell, if I may say so, into my hand ready to undergo the different manipulations that I wished to perform.

To this way of operating the following objection has been made: The object of massage being to make the aliments circulate from the cardia to the pylorus, is not the contrary effect obtained through massing from the pylorus to the cardia? To this I answer that the object of massage is not only to make the ali-

ments circulate in the stomach, but also and above all to restore the tone of the muscular fibres of the organ, and, these fibres being circular, the direction of the pressure is a matter of little importance. As to the aliments, we begin by driving them from the cardia to the pylorus by massing the patient in the dorsal decubitus, then we make him lie on the side, and finally we end by a new massage in the dorsal decubitus.

The following is the exact *modus faciendi*. The patient is placed in the dorsal decubitus with the legs bent and the head somewhat raised. The breathing ought to be free and the meal to have been taken a few hours before. One has indeed wondered whether massage performed during the digestion did not delay this physiological act, but the experiences of Gopadze and especially those of Dr. Beulet,¹ of Berne, have on the contrary proved that the acceleration imparted by massage to the peristaltic movements and the increase in the production of the gastric juice through the excitation of the glands stimulates the gastric function. The duration of the digestion can thus be diminished by more than an hour. The aliments remain then for a shorter time in the stomach, they are better assimilated, and the best proof that we may give thereof is the diminution of the quantity of fæces, a diminution that is great enough to frighten some patients.²

Another advantage of performing massage two or three hours after the meal is the avoidance of the rippling noise which is so unpleasant to the patient and which is almost always produced, especially if there is the slightest dilatation of the organ.

These conditions fulfilled and the patient being placed in the dorsal decubitus, massage is at first performed from the cardia toward the pylorus for a few minutes, as in the old method; then the position is altered, the patient lying on the right side, and petrissage is performed on the stomach with both hands, alternately, from the pylorus toward the cardia, dwelling for some time on each of the regions of the organ as one does for the colon in cases of constipation.

Generally, after a few sittings the patient gets accustomed to the treatment and one is able to mass easily. In very unfavorable cases, that is, when the organ is very sensitive or the patient very pusillanimous, one is obliged to use great gentleness during the first five or six *séances* in order to let the unpleasant confusional sensation pass away before beginning the definitive petrissage.

The amelioration most often shows itself by the return of the appetite, then follows very rapidly the disappearance of the spontaneous rippling, the eructations, the gastric pains, the cephalalgia, the vertigo, etc., in a word, all the symptoms of gastric affections.

The sittings ought to last about a quarter of an hour when one has to treat the stomach exclusively, but most often the different diseases of this organ are attended with constipation and it is necessary to mass the intestine at the same time.

What is exactly the action of massage?

It is a double one. **Massage acts at the same time on the muscular tunic and on the secretion of the glands of the organ.**

It acts on the muscular fibres of the stomach to make their atony disappear, the same as it acts on the muscles of atrophied and paralyzed limbs.

Its action on the glands is equally obvious. The recent experiences of Dr. Colombo, of Turin, although they relate to animals only, show perfectly well that massage stimulates the glandular secretion

of the stomach. Dr. Colombo made gastric fistulæ in dogs on which massage had been performed and noted a marked increase of secretion.

He concludes from these experiences that massage acts on the glands through a double process: on one side it stimulates the working of the glandular epithelium; on the other it determines in the organ a more abundant afflux of blood, which favors the filtration.

Besides this special action on the gland itself, the secretion of the gastric juice is also increased through the acceleration imparted to the peristaltic movements by the first and last period of massage. This action is immediate and one not rarely sees dyspeptic persons become relieved immediately after the first treatment by massage. They say that they feel lighter, their "food is no longer on the stomach." Nevertheless, as much as possible one must prevent the patient taking too large a quantity of aliment at the beginning of the treatment. During the first days he must submit to a diet, and little by little one brings him back to his habitual regimen, suppressing, however, any indigestible aliments he may have been using. This return to the habitual regimen is only made according to the indications given by the state of the patient, and it is more or less rapid according to each case. ♦

I have spoken in my "*Traité du Massage*" of constipation in neuropaths. The indications are the same in gastric affections of nervous origin, of which gastralgia without material lesion is the principal type. Massage in these cases often gives excellent results, especially if one associates with it the general treatment appropriate to their state, a treatment which we need not describe here.

We must also notice the results which one obtains in dilatation of the stomach. I do not believe that this disease is as frequent as it is generally said to be. Bouchard, who has given an excellent description of it, says that writers have too often called by the name of "dilatation" affections which were nothing but simple gastralgia or chronic gastritis, and in this view we may see dilatation everywhere. On the contrary, we shall find that the number is much more limited, if, besides surgical cases, which we have not to occupy ourselves with here (polypus, cancer, etc.), we consider only that idiopathic form of dilatation which is produced under influence of a nervous trouble.

In this kind of dilatation one almost always obtains excellent results through massage, and by excellent results I mean the diminution or the disappearance of the morbid symptoms, without the volume of the stomach being diminished in any obvious way.

I have noticed in these cases frequent relapses. It is not so in the dilatation of the stomach consecutive to a chronic gastritis in which the production of flatus in large quantity results in a mechanical distention of the walls, a distention which massage soon removes. The gastritis which is the cause thereof disappears at the same time and the results are most favorable.

Only one thing is to be regretted and that is that this affection is not sooner submitted to our treatment. We are consulted only when the muscular tunic has undergone considerable alteration because of the prolonged distention of its fibres. Besides, this great dilatation explains the necessity of submitting the patient to a relative diet, so that the wall of the stomach may become more supple and consequently more easy to reach. In the contrary case the hand slides, as it would on a bladder filled with water or air.

In dyspepsia, which by some authors is ranged in a particular class but which I regard as due only to chronic gastritis, massage renders great service, and it is not rare to see the patients relieved after only a few sittings.

¹ Beulet, Correspondenzblatt für Schweizer Aerzte, March, 1888.

² Last year an elderly lady got so frightened at the diminution of her stools that she asked me if a part of her fæcal matters did not hide itself somewhere in her belly.

Gastralgia may be ranged in two classes: essential gastralgia and that which is dependent upon a diathesis (anæmia, neurasthenia, etc.). These last although they derive good effects from massage, are completely cured only when one has at the same time through appropriate means made the cause which has produced them disappear. As to essential gastralgia, I have rarely seen it resist a massotherapeutic treatment, and, strange to say, what one often meets with in neuralgia of other parts of the body, it is frequently after the second or third sitting that the patient begins to feel relief.

I might cite among others the case of a young lady who had suffered for a certain number of years from violent gastralgia, and who was cured after relatively few sittings of massage. I saw her two years later. She had not noticed any return of the symptoms of her disease.

Finally, in cramp of the pylorus, which is an affection rather difficult to diagnose and, besides, not frequent, I have also performed massage with entire success. The cramp of the pylorus most often attends chronic gastritis. It is a painful affection, which is frequently produced at regular hours, principally during the night, and which ceases only when the contracture of the muscle has at last yielded and left passage for the flatus accumulated in the stomach. The cramp of the pylorus is often confounded with other gastralgia; it is especially important to make its differential diagnosis from the pyloric crisis that attends the ulcers or tumors of this orifice, because in the latter massage may be dangerous.

Clinical Department.

HÆMOPHILIA: AN UNRECOGNIZED CASE WHICH TERMINATED FATALLY AFTER EXCISION OF THE KNEE-JOINT.

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HÆMOPHILIA is described as a disease, nearly always hereditary, characterized by a predisposition to bleed either spontaneously or as the result of the mildest of traumatism, the hemorrhage being usually parenchymatous. The predisposition may be transmitted through many generations, but "bleeders" are chiefly limited to males, the transmission, however, being handed down almost always through a female, who herself is usually free from the diathesis. It is estimated that hæmophilia is observed relatively in males and females, in the proportion of twelve to one. According to Treves,¹ hæmophilia has a peculiar geographical distribution, being common in Germany and in Great Britain, North America, Norway, Sweden, and France, but is not observed in Spain, Portugal, Italy, Turkey, or Greece. Hæmophilia is more common among the Jews than any other race.

No pathological lesions have ever been demonstrated in a sufficient number of cases to raise the etiology of hæmophilia from among the "unknown," for as yet, in nearly all cases, both the blood-vessel walls and blood have proven to be normal, as far as the means employed have enabled the pathologists and chemists to determine (Tillman). However, it cannot but be true that either there must be some lack of tone in and construction of the vessel walls, or the power of coagulation of the blood is abnormal. That the latter may be a causative element is proven by the predisposition to hemorrhage in patients, the sub-

jects of leukæmia, in whom dangerous, even fatal, hemorrhages may follow otherwise trifling traumatism. As an illustration: very recently, and since the fatal case which prompts this paper, I was consulted regarding the removal of an enlarged spleen from a man, a victim of pronounced leukæmia. I declined the honor of the operation and counselled strongly against allowing any one else to perform it, more especially as an alarming hemorrhage had, only a short time previously, followed the extraction of several teeth. Strangely enough, no bacteriologist has as yet claimed to be the discoverer of a causative germ in hæmophilia. Nancrede² says: "Histological examination of the vessel wall has only once afforded confirmation of the statement of Blagden, made in 1817, that the walls are unusually thin, Kidd finding degeneration of the muscular tissue of the middle coat of the arteries and proliferation of the endothelium of the arterioles, veins, and capillaries." Besides hemorrhages occurring either traumatically or spontaneously from or beneath any subcutaneous or mucous surface, blood may be poured out around or into joints, and, as a result, produce changes in the joints which may resemble strongly diseases having other etiological beginnings—such, for example, as tuberculosis and arthritis deformans. According to Bowlby,³ this hemorrhage into the joints is sometimes followed by an arthritis not to be accounted for simply as a result of the hemorrhage; the arthritis resulting occasionally in loss of function and deformity, with either fibrous or bony ankylosis.

From birth to the age of puberty is the period when hæmophiliacs are most prone to bleed, especially at the latter, and at the time of dentition and the appearing of the permanent teeth.

Late in August of this year, a boy, ten years of age, was brought to me by Dr. Lukens, of Herman, Neb., with the request that I do something to straighten an ankylosed, crooked knee. The boy's parents were Germans of the lower order and apparently healthy. There was a family history of tuberculosis. The boy himself was very stupid. The history given was that, about two years before, there had been pain, inflammation, and some swelling in the knee, the limb gradually assuming the flexed position, until at the time the case was brought the leg was flexed upon the thigh at an angle of one hundred and thirty degrees. At this time there was very little swelling, and the characteristic position so often seen in the knee-joint tuberculosis was present. I judged it to be a cured or quiescent tubercular arthritis, of which I had treated many. The boy was put to bed, and a weight and pulley applied, the intention being to use the Thomas knee-splint. About one week later a more careful examination than circumstances rendered possible on the day of admission into hospital satisfied me that the ankylosis was bony, and not fibrous as I had first supposed, and the limb was ordered prepared for a resection on the following day. Just prior to the giving of the anæsthetic, being informed that there were several fading "black and blue" spots on the boy's arms and thighs, I made a careful inspection, and quizzing him elicited that the ecchymoses were the result of floggings received at home, thus relieving my mind of the doubt raised as to the propriety of any operative procedure in his case. The operation was done by a horseshoe incision, convexity downward, and was devoid of interest. The inflammation had resulted in erosion, in places, of the cartilages forming the joint, with union of the apposed eroded surfaces. The crucial ligaments were only slightly involved, and the capsule did not seem to have taken a prominent part in the pre-existing in-

¹ Dennis' "System of Surgery."

² Garrod in "Twentieth Century Practice of Medicine."

³ "System of Surgery."

flammation. The patella, which was united to the femur, was removed. Catgut stitches and drains were introduced, and the usual dressings and a posterior splint completed the operation, the boy being put to bed in excellent condition.

On the afternoon of the day of the operation, pain being complained of, the bandages were slightly loosened. Early in the evening the nurse, noticing that there was a little bloody discoloration of the dressings, and a short time later that this was rapidly increasing, the boy showing the usual symptoms of hemorrhage, a tight bandage was put on and I was summoned. Immediately after my arrival I applied a rubber bandage from the toes to the groin, expecting this to control the bleeding, as I felt confidence in my technique, and that no injury could have possibly occurred to the popliteal vessels, the other vessels necessarily divided having been carefully attended to; besides, none of them is of sufficient size to ever cause any serious post-operative trouble.

The limb was well elevated, likewise the foot of the bed, and some paregoric was given. Being informed in about two hours that there was oozing still going on, I summoned a colleague, realizing the possible nature of the case. Ligation of the common femoral and reopening of the wound for the discovery of the source of bleeding were discussed, but it was decided to apply another rubber bandage over the first, hoping in this way to control the hemorrhage. The symptoms of loss of blood were marked; paregoric and ergot were given internally, and a hot saline solution per rectum. The oozing, though slight, was progressive during the night, and next morning, under ether, I removed the dressings and reopened the wound. A careful examination failed to disclose any bleeding vessel, and there was practically no hemorrhage from the raw surfaces. Packing iodoform gauze between the bony surfaces and into all parts of the wound, the limb was re-dressed and placed upon the posterior splint, with a rubber bandage lightly applied over all. Hemorrhage recurring, a hot saline solution, six per cent., was introduced into the circulation at the elbow. This being repeated in the afternoon, the other arm being used, nearly two quarts were introduced altogether. Strychnine and digitalis were given hypodermatically, and rubber bandages were applied; but all was vain, the boy gradually sinking and dying during the night. Had any one told me that a patient of mine could die of hemorrhage from a wound of an extremity, with modern armamentarium at hand, and the patient in hospital, I would have smiled and thought: from a wound of the head or trunk, possibly; from an extremity, never.

This was a true case of hæmophilia, although nothing has been learned of the family history confirmatory of its heredity. The slight incision through the skin necessary to open the median cephalic vein gave much trouble, and in one arm the oozing continued until death. The use of the hypodermic needle was followed by subcutaneous hemorrhages as large as the palm of one's hand. König reports several experiences similar to my own. Unfortunately, the specimens removed at the operation were lost, but I am of the opinion that the joint lesion was one of hæmophilia in its late stage, which so resembled a common type of tuberculosis that it was mistaken for it. Should such an accident occur again in my practice, I believe I would reopen the wound immediately, and pack gauze impregnated with some preparation of iron or well dusted with antipyrin, and the ends of the bones might be puttied, if I may use the expression, with the resultant of the mixture of antipyrin and tannic acid, as recently recommended by Parke.¹ Further than this, I would repeat my efforts in this case.

¹ Medical News.

It is unwise to state, as do some, that hæmophilia is not so dangerous a diathesis as to make surgical operations very dangerous; several cases of success may have been in mild forms of what is usually a most serious condition, only justifying surgical operations when they are lesser evils than the conditions suggesting them.

Probably something may be done as prophylactic measures against hemorrhage in hæmophiliacs in whom it is absolutely necessary to perform a surgical operation, especially if sufficient time is given to build up the general system and administer chloride of lime, camphor, and turpentine for the purpose of gaining their supposed effect upon the blood; the first rendering the blood more coagulable, the others increasing the number of the white corpuscles (Treves). This latter I regard as very poor theoretical therapeutics, for we know that an increase of the relative proportions of the number of white blood corpuscles to the red predisposes to hemorrhage. If they are of any practical value, it is brought about in some other way than by an increase of the number of white corpuscles. Finch's recommendation and successful experience in three cases of the use of venesection can hardly be recommended, especially as he employed hot-water irrigation as an adjuvant; venesection lowers the blood-pressure and thus aids coagulation, but he must be a bold man who would bleed a recognized bleeder. The hot water was the remedy which probably saved these three patients. The actual cautery is equally recommended and condemned. Intravenous injections of hot saline solutions is, I think, to be recommended. They certainly prolong life, and thus give time for aiding nature in every way possible. For the purpose of introducing a saline solution into the circulation, I use a nozzle of glass or hard rubber similar to that employed by undertakers in embalming. This nozzle has a shoulder on the tip near the point, against which the upper ligature rests, thus preventing slipping and leakage; it is cheap and should be made in several sizes, and can be attached to the tubing of any fountain syringe. The practical facts in the treatment of bleeding in hæmophiliacs are that bleeding from slight wounds, easily accessible for the application of treatment, can be successfully handled, even when the type of hæmophilia is severe. In extensive wounds, such as in my case, the result will probably be unfavorable. In mild types of the disease almost any of the numerous recommended methods of treatment will usually prove successful.

A TEST FOR ALBUMIN IN THE URINE.

BY DR. ALEX. C. EWING,
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I FEEL that I owe the readers of the MEDICAL RECORD an apology for even suggesting a test for albumin in the urine. It is, however, not a new test but a simple way of applying an old one. It is this: Draw up into a small glass pipette or tube about an inch of the urine, let the finger remain tightly over the top and insert the pipette into nitric acid and draw up under the urine about the same quantity of acid, when if even a trace of true albumin be present there will appear a beautiful line of demarcation between the acid and urine. This test is as accurate as it is simple and, besides, is decidedly economical and far less trouble than all others.

The Mortality Rate among Medical Men of France is 26 per 1,000, the actual number being about 450.

A CASE OF UNUSUALLY EARLY MENSTRUATION.

BY E. G. WOODRUFF, M.D.,

AUBURN, N. Y.

I DESIRE to report the following case of menstruation in a child aged six years and two months, whom I was able to see and examine through the kindness of Prof.



A. Monti at the Polyclinic in Vienna on January 23d. As the reader will readily observe from the accompanying picture, the face and general appearance are those of a well-developed girl of fourteen or fifteen years of age. The child is of the brunette type, and stands 118 cm. in height.

The chest measure is 72 cm. and that of the pelvis with the pelvimeter is as follows: At the crest of the ilium 20 cm., at the anterior superior spine 21 cm., and at the great trochanter 25 cm. Upon inspection I found the breasts to be full, firm, and round.

The mons veneris was covered with hair. The hymen was present, and the uterus was found on rectal examination to be normal.

According to the statements of the mother, the child began to menstruate at the age of two years, and has done so regularly since, the flow being normal in amount.

Menstruation appeared as usual between the twelfth and fourteenth years in the mother and five sisters of the child. The general health of the child seems up to the present time to be undisturbed in any way by this menstrual precocity.

THREE CASES OF ENURESIS SUCCESSFULLY TREATED BY SIMILAR METHODS.

BY A. RUSSELL STRACHAN, M.D.,

NEW YORK.

A GENTLEMAN called at my office to report the fact that his two children, one a boy of six years and the other a girl four years of age, were in the habit of passing their urine incontinently, "wetting their clothes and their beds," and requested me to make an appointment to see his family physician in consultation regarding them, as every means known to them had been tried ineffectually to correct the habit during the previous six months.

An examination of the lad showed that he had phimosis with the foreskin very adherent to the glans penis. As the foreskin was not unduly long I did not recommend circumcision, but simply stripped it back from the glans and stretched it with a dilator. The girl on examination I found to be in a similar condition as to her clitoris, the glans being scarcely observable and the mucous membrane surrounding

being firmly bound down over it by adhesions. These latter were carefully dissected back until the glans was entirely free. Simple antiseptic dressings were applied in each case and an absolute and immediate cure resulted.

The third case was that of a young lad, fifteen years of age, who was brought to me by his father, who had been obliged to remove him from an academy where he had been studying, owing to the fact that he "wet his bed" each night and had come into disfavor. He was a well-formed, bright-looking boy, but bashful and shamefaced in manner, owing to the nature of his trouble. His father stated that all manner of treatment had been adopted for the correction of the habit, severe corporal punishment included, but without any good result, and that latterly he had feared the effect upon his son's mind might drive him to the commission of some desperate act and so had brought him home to be as much as possible under his own personal supervision. Examination showed a very long and very adherent prepuce and I recommended circumcision, which was done at once, the adhesions being overcome with difficulty. But the operation was very successful and entirely and immediately cured his enuresis.

I report these three cases as being typical of an important class. My attention was first called to them by a Jewish doctor in Paris many years ago in discussing the rite of circumcision. The point made by him as affecting the female was new to me, but I have since often found it as important in many of these reflex disturbances as in that of the male subject, and I think it calls for more careful inspection on the part of the obstetrician as to the condition of the genital organs of the infant after birth before he considers his obligations fulfilled than is generally conceded, especially in view of the serious suffering neglect at that period may entail later in life.

Progress of Medical Science.

Uræmic Pericarditis.—Pericarditis is a frequent complication of chronic nephritis. From an editorial examination of the subject published in a recent issue of the *Journal of the American Medical Association*, we learn that Buhl estimated the frequency at thirty-five per cent. of the observed cases; Bamberger, at fourteen per cent., and Wagner observed pericarditis fourteen times in one hundred and fifty cases of chronic nephritis. Many of the earlier writers believed the cause of this inflammation of the pericardium as well as of other tissues in the course of chronic nephritis to be toxic substances circulating in the blood which the kidneys failed to eliminate. Under the influence of the study of bacteriology the opinion gained ground that pericarditis in connection with nephritis must be due to an accidental infection, and this was the view expressed by Lecorché and Talamon in their treatise on albuminuria and Bright's disease published in 1888. It is self-evident that in order to determine the exact cause of the pericarditis in a given case, resort must be had to the modern microscopic and bacteriologic examination of fresh material as soon after death as possible. There are already a few records published of the examination of such cases and especially by Banti, of Florence. He described a case of pericarditis in a uræmic in 1888 (*Deutsche med. Wochenschrift*, No. 44, 1888) in which the exudate and the tissue of the pericardium seemed absolutely free from bacteria as far as could be determined by microscopic examination, by culture experiments, and by inoculation into animals. Baumgarten (*Baumgarten's Jahresbericht*, Bd. iv.) was inclined to

think that the inflammation in this case was due to micro-organisms that had died before the material was examined, but Banti was not inclined to accept this criticism, because the pericarditis had existed only seven days before death. Last year (*Centralblatt für allg. Path. u. Path. Anat.*, Bd. v., No. 11) Banti described a new case of pericarditis in uræmia due to arteriosclerotic interstitial nephritis, in which the exudate and the tissue of the pericardium were found free from microbes after the most thorough examination according to the best methods. Aërobic and anaërobic culture experiments were made with large masses of the exudate upon a variety of media, but all remained sterile. In this case the clinical manifestations pointed to the existence of the pericarditis for about four days before death. Banti consequently concluded that in the light of the results obtained from the study of these two cases, the pericardial inflammation was due to toxic substances circulating in the blood in consequence of failure of elimination through the diseased kidneys. He then made some animal experiments and found that rabbits in which the pericardium had been cauterized developed a more marked fibrinous pericarditis after nephrectomy or ligation of the ureters than did animals in which the cauterization of the pericardium only was made and which were killed after the same length of time in which the uræmic animals died. While these experiments were not conclusive, yet they seem to support the theory of uræmic pericarditis. In October, 1894, Beco (*Centralblatt für allg. Path. u. path. Anat.*, Bd. v., No. 19) describes a germ-free case of sero-fibrinous pericarditis in a chronic nephritic, which he is inclined to interpret as due to toxic substances produced by the bacillus coli communis which was present in the blood and in the spleen. This view is supported by certain experiments of Charrin (*Sem. Médicale*, 1894, No. 42, p. 337), which seem to show that the bacterial toxins may cause serositis without the immediate presence of the corresponding micro-organisms. In March, 1895 (*Centralblatt für allg. Path. u. path. Anat.*, Bd. vi., No. 5), Banti describes two additional cases of uræmic pericarditis in which there were no bacteria either in the pericardium, in the blood, or in the spleen, and he concludes that the presence of the bacillus coli communis that Beco found in his case was accidental and due to agonal or post-mortem invasion. From these interesting observations it does not seem unreasonable to believe that there may be a "toxic inflammation" independent of all direct bacterial influence. Such observations as Banti's and others indicate the necessity of a thorough bacteriologic examination of all cases of pericarditis and other serositis in connection with kidney lesions in general. The results obtained are in full harmony with the views concerning auto-intoxication that are rapidly gaining credence at the present time.

Physical Signs in Diseases of the Stomach.—

Drs. Hayem and Léon, who have pointed out anew the peculiarities frequently met with in gastric affections, state that inspection alone is often of decided value in establishing a diagnosis. These French observers inform us that (1) Prominence of the abdomen in the upper part is seen in large eaters, such as diabetics. (2) Prominence below may occur in many conditions, as in women who have borne many children, gastrop-tosis, etc. (3) A central prominence extending from the lower part of the sternum to below the umbilicus is seen after a full meal in patients with pronounced dilatation without ptosis of the stomach. (4) Flattening of the abdomen with hypogastric prominence occurs in those having dilated stomachs with ptosis. A slight transverse ridge may often be seen corre-

sponding to the lesser curvature of the stomach. The abdomen observed in profile may show: (a) A sub-sternal hollow; this occurs in inanition, frequent vomiting, etc. (b) An abnormal prominence, mostly substernal or epigastric, due to distention of the stomach. (c) A flattening of the epigastric region with hypogastric prominence seen in gastric dilatation with ptosis.

Curettage for Puerperal Fever.—Dr. Rapin, of Lausanne, employs curettage for puerperal fever. The débris remaining in the uterus after labor and constituting the greater part of the lochial discharge aids in the development of septic endometritis. This is proved by the fact that in cases that have been curetted the lochia ceases in two or three days. Antiseptic intrauterine injections should be used when the temperature rises to 38° C., with fetid discharge. If a marked change for the better is not observed in twenty-four hours proceed to curette. Out of 34 cases Dr. Rapin had 6 deaths, several of which were in desperate condition when they came into his hands. In 13 cases cure was effected in three days; in 7 in less than eight days; and in 8, in twelve or fifteen days. In 1 case in which chronic puerperal fever without localization had continued thirty-two days a cure was effected in twenty-four hours. These facts show that in puerperal fever the process of infection is carried on in the uterus and the symptoms are due to intoxication of the blood by toxalbuminoids and not to infection of the blood by microbes. The operation should be performed early. Any danger of rupture of the uterus, which is sometimes urged as an objection, may be avoided by proper precautions. This accident occasionally follows intrauterine injections.—*Gazette des Hôpitaux*, October 5, 1895.

Excision of the Gut in Tuberculosis of the Cæcum.—Primary tuberculosis of the cæcum is rare, but in the past ten years Dr. Durante, of Rome, has had five cases of this kind under his care. In a report of the proceedings of the Academia di Medicina of Rome, published in the *Deutsche Medizinische Zeitung*, January 6, 1896, we are told that Dr. Durante considers the diagnosis of cæcal tuberculosis by no means easy. According to his personal experience the early symptoms may seem to denote only chronic diarrhœa. This may last for months or even years. Then defecation will become increasingly difficult. Signs of obstruction next arise, and finally complete stenosis may develop. Cachexia, which in malignant neoplasms comes on early, may not appear until the tuberculosis is far advanced. In his own cases the tumors of the cæcum attained about the size of a lemon. The appendix may or may not be involved. In one case the Italian physician believed that the primary lesion was in the appendix. Local suppuration does not complicate this disease. Excision of the diseased portion of the gut was followed by recovery in the five cases reported. With the exception of one case, in which recurrence was observed, the patients have remained well for from five to seven years. These results are certainly encouraging and speak well for Italian surgery.

Suppurative Parotitis.—Dr. Barjon, of Lyons, has just published a study on suppurative parotitis, a disease which is known to be quite rare. Ordinary mumps scarcely ever leads to the formation of abscess. The author, writing in the *Gazette Médicale de Paris*, No. 43, 1895, states that from his own observations, as well as from a careful examination of the literature of the subject, he is convinced that a secondary infection is needed to produce suppuration after mumps. He also asserts that bacteriological examination has shown the specific microbe of mumps to be non-pyoge-

nic. The only practical suggestion that can be made from Barjon's observations is to the effect that buccal antiseptics in mumps will positively prevent suppuration of the parotid glands.

Therapeutic Hints.

Rheumatism.—The associated pyrexia, dependent on bacillary invasion, is, when moderate, a favorable condition for checking its development and virulence, and constitutes in this, as in other like conditions, a determinant toward recovery—a way out of the disease. Tendency to relapses may be explained by renewed bacillary activity, new generations occurring, owing to inadequate or insufficiently prolonged specific treatment, or else to premature dieting with improper pabula, which favor the developmental activity of the infecting organism.—DUCKWORTH.

Flatulent Dyspepsia.—

R Magnesia,
Phosphate of lime,
Powdered charcoal,
Sulphur.....āā p. e.
Dose: Teaspoonful as required taken in a little water.

—*Provincial Med. Jour.*

Otalgia.—

Chloral camphor.....5.
Glycerin.....30.
Ol. amagd. dulc.....10.
Introduced into meatus on cotton.

—*Ugeskrift for Laeger.*

Pertussis.—

Ac. carbol.....0.03
Sol. menthol (4 per cent.).....20.
Sol. cocaine (3 ").....15.
Aq. laurocerasi.....60.
Sig. Spray the throat every hour.

—SCHMID.

Eczema.—

Acid. salicyl.....gr. xx.
Zinci oleat.....3 ij.
Cocaine.....gr. v.
Pulv. amyl.....ad 3 ij.
Use as powder.

—HALLOPETER.

Anæsthetic Tents.—Soak laminaria tents for eight days before using in

Ether.....85.
Iodoform.....10.
Cocaine (pure).....5.

—LEFOUR.

Gonorrhœal Rheumatism, when beginning. Fluid extract of jaborandi in half-teaspoonful doses every half-hour until four doses are taken.—HEATON.

Thyme, 100 grams, water 700, make an infusion and add syrup of marshmallow 50. Teaspoonful eight or twelve times daily for whooping-cough.—NOEVIVS.

Epilepsy.—Continue bromides after apparent cure. Their action suspends rather than cures the fits. Bromides are harmless and more easily tolerated than is usually believed. Frequent baths may prevent skin complications.—FÉRÉ, *Rev. de Méd.*

Serum in Tuberculosis and Syphilis.—Serum of an animal inoculated with tuberculin always contains toxic principles. The milk of an animal inoculated with tuberculin is innocuous. Normal serum retards the progress of tuberculosis. Microbic serum can prevent its development. The serum of a dog inoculated eight days before with blood from a syphilitic, was inoculated in a woman suffering from nervous symptoms (tabetic). She had had syphilis twenty years before. After the injections the symptoms dis-

appeared. In a woman with syphilis of eighteen months' standing, who presented extensive ulcerations uninfluenced by specific treatment, seven injections of immunized dog serum reduced the ulcers to one-fifth their previous size.—RICHEL, *Soc. de Biol.*

Acute Gastro-Enteritis of Infants.—Bismuth becomes particularly efficacious when associated with colombo root. Colombo root, 1 gram, made into an infusion with 75 grams of water; to this when filtered is added subnitrate of bismuth, 3 grams and syrup of bitter orange peel, 15 grams. Dose: teaspoonful every two hours.—TRABANDT, *La Presse Méd.*, December, 1895.

Pulmonary Hysteria.—In this form of visceral hysteria, still but little known as affecting men, hæmoptysis is not at all influenced by ergotin, ice, astringents, etc. First treat the neurosis, and I believe much benefit can be derived from hypnotism.—LAURENT, *L'Indépendance Méd.*, December 11, 1895.

Tic Douloureux.—Neurotomy never gives lasting success. Give progressively increasing and subsequently decreasing doses of thebiac extract. The first day we gave our patient two pills, each containing two centigrams, and gradually raised the dose up to twenty centigrams, then slowly decreased to two and then stopping it entirely.—GILLES DE LA TOURETTE, *Indép. Médicale*, December 11, 1895.

Sulphur Baths simultaneously with mercurial frictions in the treatment of syphilis are supported by Grabowski (*Archiv für Dermatologie und Syphilis*, vol. xxxi., 1895), who is upheld by Kaposi and Finger. By this association greater quantities of mercury are said to penetrate the organism, while a salutary influence is exerted upon the nutritive processes of exchange. The frictions should be made some hours after the bath.

Guaiacol.—The antipyretic effect from external application is due to absorption by the skin of the vapor of the drug. If liquefied by gentle heat and painted over the chest wall with a small brush, the area being covered with adhesive plaster, a fall of from one to three degrees in temperature is noted. It can be employed in typhoid, febrile tuberculosis, etc.—BLAISE, *La Presse Méd.*

Lumbago.—

R Potass. iodid.....3 ij.
Vini colchici sem.....fl. 3 i.
Syr. zingiber.....fl. 3 iss.
Aqua.....q.s. ad fl. 3 iv.
M. Sig. Dessertspoonful every three hours.

—GERHARD.

Chordee.—

R Vini colchici seminis,
Syr. simp.....āā fl. 3 ss.
M. Sig. Take a teaspoonful at bedtime.

—BRODIE.

R Camphoræ,
Lactucarii.....āā 3 i.
M. et fiant pilulæ No. xxx. Sig. One, two or three pills at bedtime.

—RICORD.

Hyperidrosis.—

R Balsam. peruvian.....gr. xxiv.
Acid. formic.,
Chloral hydrat.....āā 3 ij.
Alcohol.....fl. 3 v.
M. Sig. Apply topically in spray or by means of cotton tampons.

—HEUSNER.

Syphilitic Laryngitis.—

R Hydrarg. cyanid.....gr. ij.
Sacch. lact.....gr. xv.
Mucil. acaciæ.....q. s.
M. et div. in pil. No. xx. Sig. One pill twice daily.

—MACKENZIE.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE INSANITY LAW.

THE Revision Committee has reported to the legislature of New York what they designate "The Insanity Law." It is a codification of all the laws relating to the insane, with many material changes. The first article relates to the State Commission in Lunacy and summarizes rather than elaborates the powers and duties of that body. In this respect American statutory law differs greatly and, we think, unfavorably from the English. Too much is left in our laws to the discretion of public officers.

We notice that while the *personnel* of the commission remains the same, provision is made that henceforth the medical member shall have "had five years' actual experience in the care and treatment of the insane, and is or has been a superintendent or first assistant physician of a State Hospital." We have frequently expressed the opinion that the tendency of the present Commission to destroy the autonomy of these great charities, and to centralize their management in a body which will always be under the control of partisan politics, is against public policy. This new phase of the law aims to strengthen and perpetuate that bureaucratic government of these Hospitals which has reduced the details of management to a lifeless, mechanical routine. It would be far better if the medical member of that Commission had been an experienced practitioner in the field of nervous diseases and had not been, previously to his appointment, inside of a State Hospital. He would detect, as no one trained in asylum methods could detect, the errors in the treatment of the insane in these institutions which result in such small percentages of recoveries. The great need of the State Hospitals to-day is a liberal transfusion into their management of the vitalizing intelligence and energy of the profession outside of asylum walls. The dead formalism of these Hospitals, which led an eminent alienist to characterize them as "great hospitals of lethargy," will only become more fixed and frigid by perpetuating that sort of medical "historic episcopate" which this clause in the bill provides.

But there is a much larger and more important interest involved in this proposed revised law which deserves the serious attention of the Legislature. It requires but a brief statement of facts to prove that the Lunacy Commission should now be entirely reorganized. When it was first created there were only about

five thousand insane in State care and a commission of three members was adequate to the duties required. With the recent transfer of the insane of all of the counties to State care the number has been increased to nearly twenty thousand, and the powers and duties of the Commission, as detailed in this bill, have been enormously increased. The number of insane now under the general jurisdiction of the Commission is nearly the same as it was in England when its famous Lunacy Commission was organized under the presidency of the Earl of Shaftesbury. That Commission consisted of eleven members. The Lunacy Commission of this State ought to be enlarged by the appointment of one commissioner from each State Hospital district, making a commission of eleven members. These commissioners should serve without pay, as do the members of the State Board of Charity, the Prisons Commission, and the State Board of Health. The interests of our State hospital system have now become so great, with its vast expenditure of public money, that every Hospital District should be represented in the Commission by a citizen of the most approved professional or business capacity. In view of the assumption by the State of the heavy financial obligation of caring for the twenty thousand dependent insane, a number which will now increase at the rate of one thousand yearly, the Legislature could not do a greater public service than to reorganize the Lunacy Commission in accordance with the plan above proposed.

The importance of enlarging and strengthening the *personnel* of the Commission becomes obvious when we consider some of the duties and powers which this law proposes to confer upon it. First, "The Commission is charged with the execution of the laws relating to the care, custody, and treatment of the insane." This is a duty and responsibility not conferred upon the English Commission, nor upon any similar body in this country or Europe. Second, the Commission has complete control of the acts of the boards of managers of all the hospitals. No by-laws, rules, or regulations in regard to the affairs of their respective institutions can be adopted unless approved by the Commission, and, that no act of the managers shall escape notice, the minutes and proceedings of all their meetings, and of their committees, must be sent forthwith to the Commission. Third, all the powers and duties of superintendents of hospitals are subject to regulations approved by the Commission. Fourth, the Commission has complete control of the expenditures of each hospital, which will involve in each year a total sum of upward of \$4,000,000. It also determines the number of resident officers and employees of the hospital and fixes the salaries and wages to be paid. When it is considered that the number of persons employed in these hospitals is upward of three thousand, and that the total expenditures will exceed \$4,000,000, the enormous responsibilities which this measure imposes upon the Commission can be appreciated. Sixth, we will mention but one more provision, which is as follows: "No contract executed by or for the benefit of any State hospital shall be valid without the approval of the Commission indorsed thereon." Thus the Commission becomes the medium through

which the contractor effects the sale of his goods to the Hospitals. It is only necessary to mention this feature of the bill. The dangers which lurk in it can be readily appreciated.

In conclusion we beg to submit to our legislators the importance of modifying the bill now before them, so as to meet conditions which evidently did not exist when the Revision Commission prepared it. Since that time New York county has added its quota of insane to those under State care, raising the grand total to nearly twenty thousand. The plan above outlined would be in harmony with the policy of the State in creating commissions, viz.: 1, One commissioner from each State hospital district, making eleven in all, that the interests of each district may be represented; 2, the commissioners serving without pay, as do the members of other State boards.

ANTI-VIVISECTION LEGISLATION.

It is becoming evident that there is a systematic and well-organized attempt on the part of many well-meaning and more foolish people who are interested in anti-vivisection agitation to secure legislation in the interests of their mistaken zoophilism. Bills have been introduced into the legislatures of Massachusetts, of New York, of several other States, and also in Congress. These bills are, for the most part, ingeniously framed in order to disarm criticism. In Massachusetts and New York, for example, the legislation desired is aimed apparently at prohibiting vivisection in schools and to confining vivisection, as is already done, to regularly incorporated universities, colleges, and medical schools. The bills, however, all contain one proviso, which, though apparently innocent, can really be used most effectively against biological research. This proviso is one making it permissible or obligatory for an agent of some society for the prevention of cruelty to animals to be present during vivisection experiments, wherever held. In a circular drawn up by a committee of the Massachusetts Medical Society and signed by its president, Dr. F. K. Paddock, by the chairman of the State Board of Health, Dr. Walcott, and by Drs. T. H. Gage, S. D. Presbrey, and Professor Bowditch, the real significance of this proviso is shown in the following paragraphs:

"Legislation of this sort will of course seriously hamper and may even practically abolish biological and medical research throughout the State, for self-respecting investigators will scarcely consent to work under a penal act administered through the agency of a society the members of which are for the most part wanting in that special training which alone could fit them to understand the importance of an experiment for the advancement of medical science or qualify them to judge whether suffering is or is not inflicted.

"Experience has shown that it is never safe to assume that proposed legislation can be so obviously mischievous that opposition to it is unnecessary. You are, therefore, urgently requested to communicate at once with your representatives in the legislature. Explain to them that from the time when Harvey discov-

ered the circulation of the blood 'by frequently looking into many and various living animals' down to the present day, when the discovery of the antitoxin treatment has robbed diphtheria of almost all its terrors, nearly every important advance in medicine has been rendered possible by knowledge acquired through the careful study of the phenomena of life as revealed by what are popularly known as 'vivisections.' Point out to them that such investigations are at present conducted with every precaution against unnecessary suffering and by men who do not admit for a moment the claim of any society to be actuated by motives more humane than those by which they themselves are guided, and that, as there is no abuse to be corrected, the proposed legislation is totally uncalled for."

THE MALE TRAINED NURSE.

ONE of the daily papers devotes a column to the subject of training men for nurses, and gives a very glowing picture of the career of the male trained nurse. We are informed that more than four hundred applicants for positions in the New York Training-School for Male Nurses were turned away last year, and that the popularity of the profession is increasing. The newspaper account also says that none of the trained nurses make less than \$40 a week, and the best frequently earn from \$80 to \$100. We are even told that many medical students select this profession rather than undertake the practice of medicine. Our contemporary makes one further statement, which we can confirm with hearty emphasis, namely, that there are not more than a dozen really good and competent male nurses in the city to-day. Some might go even farther and say that there is no such thing as a good trained male nurse, but this is, perhaps, somewhat too radical. The fact is, however, that men do not make good trained nurses, and they are merely tolerated as necessary evils by those members of the profession who recommend their employment. There are certain classes of cases which men alone can properly manage, and for this reason there must be trained male nurses. The profession is, therefore, a legitimate and useful one, but the range of usefulness is not very wide and the field is not a great one. The qualities which make a man a good trained nurse are such as would usually make him a more successful worker in a pleasanter field. Therefore the most desirable men rarely continue long in this profession; indeed, many of them use it simply as a stepping-stone to graduating in medicine later. While male nurses do get large wages, their employment is not certain, they often have long periods of inactivity, and this irregularity of employment tends to irregularities and intemperance in living.

The *Maryland Medical Journal* is responsible for the statement that out of the three thousand doctors in New York City only six hundred were born in this country. How this information was secured we do not know, but it does not appear to us to represent the truth. We should say rather that about six hundred were not born in this country.

SHEDDING OF THE SKIN.

It is a well-known fact that after severe dermatitis, such as that occasioned in susceptible subjects by the use of quinine and other drugs and at times by other causes, epidermic casts of the hands and feet have been observed. Any severe inflammation of the surface is apt to result in general desquamation, and this now and then may take the form of large flakes or sheets of dead scarfskin. It is seldom, however, that one meets with an account of such extensive peeling and of such perfect casts as that given in the *Florida Times-Union*, February 23, 1896.

A boy six years of age stuck an orange thorn into his hip, causing a severe inflammation followed by a swelling of the whole body, which reached decided proportions. When the swelling subsided and recovery took place, according to the report, almost immediately after this "the skin began to flake off in strips and patches until he had completely shed his entire cuticle, as a snake at moulting-time, including that over the palms of his hands and soles of his feet, which came off whole and resembled somewhat a cast-off shoe, being quite as hard and thick. There is a perfect cast of each of the feet, showing the lines of the skin, and it has about the consistency and much of the appearance of a thin layer of dried glue."

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE *Columbus Medical Journal*, in noticing the announcement of the next meeting of the Congress of American Physicians and Surgeons, comments on the fact that all the officers of the executive committee live in the East, and that neither the Sunny South, the Great Northwest, the Land of the Setting Sun, the Mississippi Valley, or the Great Divide have received any recognition. The *Journal* should remember that, after all, these are only officers of the executive committee, and that the officers who head the different sections and who organize the scientific work will, no doubt, show a much wider geographical distribution. Even if this were not so, we see no reason why the congress should not be called "American," for New York and the other States represented may still be considered as American commonwealths. If we chose to be captious ourselves, we might, in the same way, turn to the records of the meeting of the American Medical Association and call attention to the fact that hardly any of its officers represent the East and that especially few come from the State of New York, which contains one-sixth of the population of the United States. Yet we do not wish to call the American Medical Association a "Western Medical Association." The fact is, both the association and the congress have proper fields for work, and they need not in any wise antagonize each other. We hope there will never be any Schomburgk line among American medical associations.

Dr. M. Armand Ruffer has been appointed professor of bacteriology at the medical school of Cairo.

News of the Week.

Influenza is reported to be epidemic at Paulsboro, N. J. Pneumonia also is quite prevalent, though of mild type. Children especially are the victims.

The Charles Carroll Lee Ward.—The directors of the Post-Graduate Medical School and Hospital have named one of their wards in memory of the late Dr. Charles Carroll Lee, who was for many years a professor in the institution. They have placed a tablet in the ward, giving the names of those who combined to contribute the ten thousand dollars which was required for the purpose of the memorial. These names are as follows: Dr. Robert Abbe, Dr. L. Bolton Bangs, Mrs. James Beales, Dr. Stephen S. Burt, Miss Caldwell, Dr. Charles L. Dana, Dr. Bache McE. Emmet, Dr. George H. Fox, "A Friend," Dr. Horace T. Hanks, Mr. and Mrs. Eugene Kelly, Mr. and Mrs. Henry J. Lamarche, Dr. Daniel Lewis, Mr. and Mrs. William Lummis, Mr. and Mrs. Frank A. Otis, Dr. Clarence C. Rice, Mr. Eli K. Robinson, Mr. Nelson Robinson, Dr. D. B. St. John Roosa, Mrs. Eliza M. Sloan, Dr. Andrew H. Smith, Mrs. M. E. Sparks, Dr. Reynold W. Wilcox. It will be seen that the faculty of the institution participated largely in the memorial gift.

Mortality in New York State.—The bulletin of the Board of Health of the State for the month of January shows that there were 10,176 deaths reported during the month, and an estimated death rate of 18.50, there having been an average daily mortality of 328 against one of 305 in December and of 354 in January, 1895. Compared with the preceding month there was an increase in mortality from scarlet fever, measles, and cerebro-spinal meningitis, and a small decrease in that from typhoid fever and diphtheria. Compared with January, 1895, there were considerably more deaths from scarlet fever, measles, and typhoid fever. Consumption caused 100 more deaths than in December, but 100 fewer than in January of last year. Acute respiratory diseases caused 2,000 deaths, an increase of 250 over December, but 570 less than in January, 1895, and less than in this month for five years. There were 687 reported deaths from diseases of the urinary system, which is an unusual number. Other local diseases caused about the same mortality as in December. The large increase in mortality which for several years has been reported in January over December, due to grippe, has not occurred, and the usual annual occurrence of grippe, which appears to have set in in December, has been far milder than any of the series, not more than 500 deaths being attributable to it this month. There has been a remarkable epidemic of jaundice in the Hudson Valley district, and the reports of death from jaundice elsewhere in the State indicate its probable more widespread distribution.

Dr. Walter F. Chappell writes: "My attention has just been called to the MEDICAL RECORD's report of my remarks at the academy on 'Laryngeal Tuberculosis.' I am made to say that I cured two cases after

three weeks' treatment. I said I had succeeded in arresting the disease in two cases after three months' treatment. Laryngeal tuberculosis is such a terrible disease that I fear my veracity will be questioned if it goes forth that I claim a cure in that short time."

State Board of Undertakers.—The undertakers, usually so demonstratively meek and with a business training calculated to repress outbursts of temper, are now clamoring for a State board of control for the higher and more æsthetic performance of their various and lugubriously officious duties. None but qualified practitioners are to be admitted to the guild. Each applicant must stand the test of an examination, mental, physical, and moral, for the obvious reason that the corpse is forced "by circumstances over which he has no control" to rely entirely on the ability of the practitioner to make him a properly presentable object lesson to the mourners.

Prevention of Tuberculosis.—At a joint meeting of the State Board of Health and the New York City Board of Health, held on February 28th, a committee was appointed to draw up a petition to be submitted to the legislature and the government, explaining the importance of the tuberculosis question and asking for a larger appropriation to crush out the disease. The committee appointed consists of Mr. Wilson and Drs. Prudden, Fowler, and Biggs.

The Manhattan State Hospital.—The New York City Insane Asylum passed under the care of the State last month and on February 28th became legally the Manhattan State Hospital. The reports state that some friction has already developed between the city and the State authorities. The superintendent issued an edict that no patient sent from the city to the Manhattan Hospital should be received unless he had been supplied with a new suit of clothes and underwear, this being a measure intended to save expense to the State and to prevent the introduction of contagion. As it was impossible to supply new suits of clothes at once, the charity commissioners, upon the advice of the corporation counsel, secured a mandamus compelling the State hospital to receive the patients.

"**Skiagraph**" is the best name that has yet been suggested for the process of photographing by the "X" rays. The term "radiograph," which has been considerably used, is utterly wrong etymologically. The Anglicized expression, "shadowgraph," is one which is sufficiently justifiable and, since it still appears that the process is one done by rays having the nature of light, the term "photograph" is not an incorrect one.

The "X" Rays.—The *British Medical Journal* for February 22d gives a very good reproduction of a photograph of an injected kidney and of the injected vessels of the hand.

Discovery by Means of the "X" Rays of a Bullet Lost in the Wrist.—Mr. Robert Jones and Prof. Oliver Lodge, of Liverpool, report in *The Lancet* the case of a boy, twelve years of age, who had shot himself in the left hand just above the deep palmar arch.

The bullet could not be found except by injudicious probing; therefore a "skiagraph" was taken, and the position of the foreign body accurately determined by it.

Penetration of Bone by Roentgen Rays.—DR. W. J. MORTON, of this city, has succeeded by the Roentgen rays in locating a needle embedded in the fleshy part of the ball of the foot and behind the bone, demonstrating the fact that the bones may be penetrated by the Roentgen radiation, so that metallic objects within and behind said bones may be pictured. The case will be reported in our next issue.

A School of Medicine for Women, at St. Petersburg, has already an annual grant of \$50,000 from the government and of \$12,000 from the city, while from private sources the sum of \$360,000 has been raised. With this money there certainly should be established an excellent medical school for women.

The Texas State Medical Association is to meet at Fort Worth on April 24th, and it is pleasant to learn from the *Texas Medical News* that there will be no "scrapping" there this year. A committee is to report upon "harmony" and "medical legislation." The Texas doctors want two things: first, a law regulating the practice of medicine, and second, a State board of health. We have great faith that the Texas doctors will get what they want or else the fur will fly.

Hospitals and Tuberculosis.—Professor Jaccoud has come out with an emphatic statement to the effect that tuberculosis is not communicable from tuberculous to healthy patients in hospitals, and he asserts that in all cases of alleged consumption the victims had previously local tuberculosis.

The Effect of Cemeteries upon Health is a subject that has been frequently discussed by the advocates of cremation, just as the effects of health upon cemeteries have been frequently discussed by the medical profession in general. Professor Petri, of Berlin (*Boston Medical and Surgical Journal*), some time ago stated that no ill effects are traced to cemeteries, provided they are properly conducted. The matter has again been tested by the Imperial Board of Health of Germany, the work having been entrusted to Dr. Losener. He found that in the buried cadaver typhoid bacilli were found only up to the 96th day after burial; cholera germs lived 28 days; tubercle bacilli 95 days; tetanus bacilli 234 days; anthrax germs a full year. Dr. Losener concludes that Petri's observations are correct, and that even wetting of graves by soil water in porous soil does no harm, provided this soil is surrounded by good filtering material of the ordinary character.

Switzerland is rapidly becoming a centre for temperance agitation. One of the most unique manifestations of this is an appeal from the Swiss students to the French students to abstain from excess in alcoholic drinks.

The Medical Record's Thirtieth Birthday.—The MEDICAL RECORD completed its thirtieth year on Saturday last, the first number having been issued March 1, 1866.

Prof. Lewis A. Sayre's Nineteenth Birthday.—Our distinguished townsman, Prof. Lewis A. Sayre, although seventy-six years of age on Saturday last, had reached at that time but his nineteenth birthday, it coming only in leap years or on February 29th. When Professor Sayre celebrated his eighteenth birthday in 1892, the Rev. Dr. William R. Huntington, pastor of Grace Church, sent him the following poem:

"Dear Doctor Sayre, and is it true,
That Nature set her clock for you
Some four and fifty years too slow?
How clever of her to foreknow
That you would keep yourself so young,
So firm of heart, so stout of lung;
That she would never be detected,
Or you so much as e'en suspected
Of being older by a day
Than leap-year records seem to say!
Eighteen, dear friend, or seventy-two,
Which e'er it be, good luck to you!"

"So say we all of us." Thousands of his professional brethren on both sides of the Atlantic, his numerous friends and patients, and all his old associates wish him many returns. Few are privileged to get the better of their birthdays in this way and receive the twice-doubled congratulations that attend them. You are welcome to all, old friend. Smell the flowers while you can.

The Late Dr. Cornelius G. Comegys, who died recently at Cincinnati, was a son of Cornelius P. Comegys, who was governor of the State of Delaware from 1837 to 1841. Dr. Comegys was graduated from the University of Pennsylvania in the year 1848 and began the practice of medicine in Cincinnati, where in 1849 he rendered excellent service during an outbreak of cholera. At the organization of McMicken University, now the University of Cincinnati, he was elected a trustee and served continuously in that capacity until up to the time of his death and for a number of years as president of the board.

"**Knockout Drops**," so called, and such as are mixed with liquors to produce a stupefying effect, are said to be composed of chloral hydrate in the proportion of ten grains of the drug to a teaspoonful of water and can be purchased at many drug stores without a physician's prescription, as shown by a reporter of the New York *Sunday Journal*.

New York's Death Rate.—For the week ending at noon February 29th there were 893 deaths in the city, 335 being in cases of children under five years old. The causes of death were: Measles, 21; scarlet fever, 16; diphtheria, 47; whooping-cough, 8; typhoid fever, 5; malarial fever, 2; meningitis, 3; diarrhœa, 11; heart disease, 35; croup, 6; bronchitis, 36; pneumonia, 161; phthisis, 95; Bright's disease, 73; violence, 70; other causes not given.

A New Inspector for Barren Island.—The State Board of Health at its recent meeting in this city decided to revise the rules governing the inspection of factories on Barren Island and also to dispense with the services of Inspector Arthur Hollick after April

1st. Upon the recommendation of President Daniel Lewis, Orville Lewis was appointed in Hollick's stead. The place carries a salary of \$5,000 a year. The new appointee is a relative of Dr. Lewis.

Shadow Pictures of Soft Tissues by Roentgen's Rays.—Dr. H. L. Smith, of Boston, using a faradic battery, has, it is said, succeeded in photographing the soft tissues of the body and in making "shadow-graphs" of the intestines.

The German Dispensary.—At the last scientific meeting of the attending physician to the German Dispensary, February 18, 1896, Dr. F. Schwyzer read a paper on "Blood Diagnostics and Some of the Recent Important Discoveries in this Field." During the dinner following the meeting a loving-cup was presented to Dr. Ludwig Straus in recognition of his twenty-five years' service in the German Dispensary.

Proposed New Acts of the Legislature of the State of New York.—A bill has been introduced making it lawful for town boards of any town in which a hospital giving gratuitous treatment is situated to include in its annual tax levy a sum not exceeding \$1,500 in any one year for the benefit of such hospital. Also a bill forbidding the cutting and sale of ice for family or domestic purposes from any river. This is a sweeping measure and is hardly likely to be passed. Also a bill relating to licensing for the practice of pharmacy, requiring four years' experience or certificate from any licensed board of pharmacy. Also a bill specially relating to the counties of Onondaga, Oswego, Madison, and Cortland and to the warden of Auburn State Prison, in relation to the disposition of corpses in the public institutions of said counties and providing for the obtaining of cadavers by educational institutions.

Increase of Tuition Fee in the University of Pennsylvania.—Philadelphia may well be proud of her University of Pennsylvania and the medical profession of its medical department. The last dozen years have marked a wonderful advance in the growth and development of this institution, which promises to be surpassed only by its future achievements. The increased and increasing importance of the university has given it a foremost place among the great colleges of this country. Reference has been made previously to certain changes having in view the elevation of the standards of entrance requirements in the medical school and concerning which further information has been given out. Among other things it has been proposed to raise the tuition fee from \$150 to \$200 per annum, the same that is charged by the medical department of Harvard University and by the College of Physicians and Surgeons of New York. Heretofore graduates from medical schools requiring attendance upon three courses of lectures in different years were allowed to enter the fourth-year class of the university upon passing an examination in therapeutics and obstetrics. Hereafter, however, such students, as well as those who have attended three courses of lectures in schools requiring four years of attendance, will be obliged to pass examinations in general and medical

chemistry, materia medica and pharmacy, the elements of general pathology, the entire subjects of anatomy and physiology, applied anatomy, general and special pathological anatomy, therapeutics, surgery, obstetrics, and gynecology. Graduates of four-year schools will be admitted to the fourth-year class upon passing examinations in therapeutics, pathology, and obstetrics. Graduates in pharmacy and dentistry, who have hitherto been admitted to the second-year class upon condition of making up during the year certain first-year studies, must hereafter take the examinations required for entrance into the freshman class.

The New York State Civil Service Commission finds great difficulty in securing suitable candidates for the position of woman physician in the State hospitals. The position is a desirable one, paying from \$1,000 to \$1,500 per year, besides giving ample opportunity for practice and study in nervous and mental diseases, with pleasant home and associations. The examination advertised in January failed for lack of applicants. Application for this examination should be made to the secretary of the State Civil Service Commission at Albany.

Effect of Ovariectomy on the Nervous System.—A correspondent asks in how large a percentage of cases can it be fairly said that ovariectomy makes a nervous wreck of a woman?

A Stricken Town.—The daily papers report that in the village of Basking Ridge, N. J., which has a population of about three hundred, a large proportion of the inhabitants are sick with either measles, diphtheria, or typhoid fever. Within the last seven days there have been 9 deaths—1 from diphtheria, 3 from typhoid fever, and 5 from measles. The fever epidemic is said to have originated from foul water, and an officer of the State Board of Health who examined the water ordered four of the wells closed. The three physicians are very much overworked. Trained nurses are helping them.

Diphtheria Antitoxin in Chicago.—Of 629 cases of diphtheria treated in Chicago with antitoxin 591 recovered; 38, or six per cent. of the whole number, died, but there were no deaths among the cases treated within twenty-four hours after the disease had made its appearance. Of 437 persons exposed to contagion and immunized, not one contracted the disease.

The Successors of Verneuil.—Dr. E. Monod has been elected to the section on surgical pathology of the Paris Academy of Medicine to fill the vacancy created by the death of Verneuil, and Dr. Lannelongue has been chosen to fill the vacancy in the Academy of Sciences arising from the same cause.

Pennsylvania State Board of Medical Examiners.—Dr. A. H. Hulsizer has been reappointed by the governor a member of the State Board of Medical Examiners.

Epidemics in Western New York.—Many of the schools in Wayne County, N. Y., have been closed on account of the prevalence of scarlatina and diphtheria.

Throughout the entire county there are many cases of these diseases, and reports made by registers of vital statistics throughout Wayne County show a large increase in the mortality rate, deaths being due principally to throat and lung disorders and scarlet fever.

Stray Animals as Carriers of Disease.—In a recent address President Haynes, of the New York Society for the Prevention of Cruelty to Animals, called attention to the fact that nearly all stray animals are diseased and therefore a continual danger to healthy animals. "But that is not the only danger," he said, for "human diseases are undoubtedly propagated in the same way. In cases of diphtheria, small-pox, scarlet fever, measles, and diseases of the skin in general, no disinfection of houses or rooms can be effectual if dogs and cats which inhabit them are not likewise disinfected; and in the opinion of many competent physicians the spread of contagious diseases must be in many instances attributed to this cause."

Eye Strain.—A most interesting paper on "The Disabilities Due to Eye Strain," as viewed by the general physician and by the ophthalmologist, was read by Dr. S. Weir Mitchell at a recent meeting of the section of ophthalmology of the College of Physicians. The case was detailed at length of an able lawyer and important man of affairs whose life was made miserable and whose usefulness was impaired by reason of derangement of balance of the external ocular muscles to such an aggravated degree as to induce intense headache for long periods, during which he was incapacitated from work. Treatment at the hands of distinguished ophthalmologists with lenses, prisms, and tenotomy yielded only transitory benefit, the distressing symptoms returning after each period of comparative relief. An interesting "Discussion on the Subject of Intracranial Tumors," participated in by Drs. Mills, Lloyd, Dercum, Norris, de Schweinitz, Thomson, Keen, and Da Costa, took place at a special meeting of the college on February 19th, and while little that is new was brought out the consideration of the subject in its various aspects proved most instructive.

Sale of Quinine in Tobacco Shops.—A bill has been introduced into the Italian Chamber of Deputies to add quinine to the other government monopolies of salt and tobacco, and to confine its sale to those who have a government permit. If this became a law the druggists would be forbidden to sell the drug and those who wanted it would be obliged to procure it from a tobacconist.

Destroyed a Hospital.—The *Diario de la Marina* of Havana contains an account of the destruction of a hospital by the Spanish troops in Cuba. The eight patients, wounded insurgents, escaped, but the Spaniards captured the hospital and destroyed it, after taking away the instruments, medicine chest, and other portable property.

Tuberculosis in Paris.—The proportion of deaths from tuberculosis in Paris is 490 per 100,000 inhabitants. In the Department of the Seine, whose population, including that of Paris, numbers over three mil-

lion, the average mortality from tuberculosis, during the period comprised between 1889 and 1893, was 14,565.

A Prohibitive Tax on Cigarettes.—The South Carolina House of Representatives, in keeping with its other vagaries, has passed a bill imposing a tax of twenty-five cents on each package of ten cigarettes sold in the State, with a proportionate tax on a larger number.

The Plague is reported to have reappeared in the native quarter of Hong-Kong. There have been many deaths from this cause within the past few weeks.

Maragliano's Tuberculosis Antitoxin.—Dr. de Renzi, of Naples, reports that in twenty-two cases where he has used Maragliano's treatment for tuberculosis he has found a distinct improvement and that in some he has cured the disease.

Bacteriological Work of Philadelphia Health Board.—The report of Dr. B. Meade Bolton, the chief of the bacteriological division of the Philadelphia board of health upon the work of his department from the time of its organization, May 20, 1895, to the end of last year, contains some interesting information. During this period 3,363 cultures were made and studied, 215 with negative and 1,207 with positive results. The last occasioned 1,942 secondary cultures. Of the 1,207 cases diphtheria bacilli were found in 775. A clinical diagnosis was made by the attending physicians in 705 cases, of diphtheria in 557, which was confirmed in 502 by bacteriological examination. In 460 cases in which diphtheria bacilli were found the interval from the beginning of the disease to the disappearance of the bacilli varied from 7 to 96 days, the average being 28.3 days. The division has not yet issued diphtheria antitoxin for distribution because a serum of sufficient strength has not thus far been secured. According to the report of Dr. William M. Welch, the physician in charge of the Municipal Hospital, whose service is restricted to the care and treatment of contagious diseases, 1,297 patients were received during last year, 757 of whom suffered from diphtheria. The antitoxin was employed in the treatment of 302 of the last named, 85 of whom died, a mortality of 28.14 per cent. Among the cases treated without the antitoxin the mortality was 25.99 per cent.

Dental and Medical Students at War.—The students of the Philadelphia Dental College and those of the Medico-Chirurgical College attend lectures in the same building but do not dwell together in unity. The bad feeling culminated a few days ago in a pitched battle between a number of the students of each institution. The encounter took place in one of the halls and became so serious that a squad of police was called in to stop the disturbance. One medical student was knocked down and rendered unconscious and several others were more or less seriously injured.

The London Death Rate.—The number of deaths in London last year was 85,138, equal to an annual rate of 19.4 per 1,000, the population being about 4,392,000.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for the week ending February 22, 1896. February 19th.—Medical Director P. S. Wales placed on the retired list from February 27th; Surgeon D. M. Guiteras detached from the *Montgomery* and granted six months' sick leave; Passed Assistant Surgeon L. W. Curtis detached from duty at Indian Head Proving Ground and ordered to the *Montgomery*; Assistant Surgeon L. Morris detached from the Naval Hospital at Philadelphia and ordered to the Indian Head Proving Ground. February 21st.—Medical Inspector Dwight Dickinson ordered as member of the retiring board, February 28th.

Changes in the Medical Corps of the U. S. Navy for the week ending February 29, 1896. February 27th.—Assistant Surgeon J. C. Rosenbleuth, detached from the Naval Laboratory and ordered to the *Raleigh*. Assistant Surgeon E. M. Shipp, detached from the *Raleigh* and ordered to the *Vermont*.

Preparatory Medical Education.—Another bill whose object is to change the present medical law, and known as the Stanchfield bill, is now before the Assembly at Albany. The bill aims to change the requirements for preparatory medical study, so as virtually to remove these requirements altogether; that is to say, the law will name the general subjects in which proposed medical students shall be examined by the faculties of the different colleges, but the amount of knowledge upon these subjects which such students must possess will be determined by the faculties of the medical schools. Some of our medical colleges assert that the present law does not secure any higher grade of education among medical students by reason of its provision for preliminary medical education, but that, on the other hand, it tends to drive medical students from the State. *A propos* of this question, Drs. A. Walter Suiter, M. J. Lewi, and J. M. Winfield, the committee on legislation of the New York State Medical Society, have sent a communication to the members of the society throughout the State, in which they say:

"Should this bill become a law, preliminary education of medical students, on which New York has justly prided itself, will become a farce. Our State Medical Society year after year has protested against any such change in the law, and has warmly supported the existing protections against incompetence in practitioners, or against mercenary motives in those who would make cheap the degree of M.D. There would be little objection to the four-year course proposed were it added to the existing law, but here it seems designed chiefly to cover up and carry 'riders' against which the best medical sentiment of the State will be unanimous.

"You will note that Section 2, while naming several studies for examination, prescribes no standards for passing, and thus leaves every medical school absolutely free to matriculate every applicant who goes through the form of an examination.

"Section 3 is so worded that any one put on the list of matriculants by any medical school becomes ex-

empt from examination, and each matriculating officer is left free to determine for himself what are reputable colleges or high schools of the first grade, thus evading entirely any State control of standards.

"Section 5 does away with all the safeguards as to age, moral character, and satisfactory instruction that have been provided, after a generation of study and experience, by those having at heart the best interests of the medical profession in New York.

"Section 6 wipes away the restrictions for matriculants till next year, while Section 7, under an indefinite blanket clause, can be construed as authorizing the disregard of many of the most essential features of our present wholesome laws."

Small-Pox in London.—The cases of small-pox notified in London during 1895 were 979, against 2,813 and 1,192 in the two preceding years.

The Nose as a Microbe Destroyer.—According to some recent experiments there are in each particular pint of air which the adult takes in with inspiration about 15,000 microbes. In some localities, to be sure, this number reaches up to the million, but the average city number is about as stated. This microbe-laden air is taken into the air passages. When the air is thrown out it is quite sterile. The air has further been found to be sterile in the naso-pharyngeal cavity. The inference is, therefore, that the nose is a most powerful microbe destroyer, and also that, in order to destroy the individual 15,000 microbes, it is important to draw the air through the nasal passages.

Serum Therapy per Rectum.—M. Chantemesse states that the immunizing serums can be employed in the form of enemata with the same result as when given subcutaneously.

Prof. Cesare Lombroso, who has long held the chair of legal medicine in the university of Turin, has been made ordinary professor of psychiatry in the same school.

Vivisection in the Public Schools.—A bill to prohibit vivisection in the public schools is now before the legislature at Albany. One of the advocates asserted that "Jack the Ripper" was an example of the modern vivisectionist.

"Inherited Surgical Dilettantism."—In Paris a man recently appealed against a sentence of two years' imprisonment passed on him for cutting off children's ears. He would go up to a boy in a lonely place and say to him: "What's the matter with your ear? It's bleeding. Just let me see it." Then he would take hold of the ear and with a razor which he carried concealed in his coatsleeve, cut off as much of it as he could—in some cases the lobe only, in others the whole ear. On the appeal it was stated that his father and grandfather were employed in dissecting-rooms. On his behalf his counsel pleaded mania and that he suffered from inherited surgical dilettantism. In the result the tribunal added three years to the original sentence.

Cobra Bite Cured by Serum Therapy.—Some of M. Chalmette's prepared serum for the treatment of snake bite had been sent from the Pasteur Institute to Mr. Hankin, the government bacteriologist at Agra. It has recently been used by him with success. A native bitten by a cobra was cured, and a number of sheep poisoned with snake venom were also saved from destruction. The serum is the result of a long series of experimental investigation involving vivisection.

The Insane of Massachusetts under Supervision at the end of the year 1895 were 6,768, of whom 5,763 were in asylums and hospitals, 803 in town almshouses and in many cases not only not receiving suitable care but sometimes even being cruelly neglected, and 202 in private families. During the year acts of the legislature have been passed establishing an asylum for insane criminals and a hospital for epileptics.

The Fourth Session of the Obstetrical Society of France will be held in Paris from the 9th to the 11th of April next. The following are the subjects for discussion: (1) "Artificial Dilatation of the Os Uteri at the End of Pregnancy or During Labor," and (2) "Treatment of Post-Partum Hemorrhage."

Addison's Disease.—Dr. Osler reports a case of Addison's disease greatly benefited by the use of suprarenal extract.

The Denver Health Department.—At the meeting of the Denver and Arapahoe Medical Society held January 28, 1896, the following resolutions were passed:

"Whereas, The death rate in Denver has, within five years, been lowered about one-half; and

"Whereas, It cannot be reasonably doubted that this extraordinary reduction has been due to the active and intelligent administration of the public health service; and

"Whereas, The medical profession is in a position to assert the great aid to the prevention of disease and the saving of life afforded by the health department through the application of modern methods, particularly as regards bacteriological procedures; be it

"Resolved, That we, the Denver and Arapahoe Medical Society, view with alarm the crippling of the efficiency of the health department which must follow the reduction of its appropriation to a sum inadequate, not only to accomplish its desirable development but even to support its present staff of workers."

Vivisector and Philanthropist.—In speaking of Professor Ludwig, one of the most persistent of vivisectors, Dr. Mosso says: "Ludwig, the greatest of vivisectors, was president of the Leipsic Society for the Protection of Animals, and remained to the last one of its most active members. Germany owes it to him that her horses and beasts of burden are now humanely treated. To him is due the awakening of the true humanitarian spirit toward the brute creation that culminated in the 'Union of German Societies for the Protection of Animals.'"

The Post-Graduate School of Medicine of the District.—The act of Congress incorporating the Post-Graduate School of Medicine of the District of Columbia, which passed both houses, was signed by the President on the 7th instant and has consequently become a part of the revised statutes. The school is allowed to hold real and personal property to the amount of \$200,000. The course of teaching has been arranged and the school will be in operation shortly.

The Question of the Temperature of Vaginal Injections.—The *Leeds Evening Express* contains the report of a case tried in the Leeds County court, England, in which the principal question at issue was whether or not water of too high a temperature had been used by a medical man as a vaginal douche in the treatment of hemorrhage. Several witnesses swore that they asked the medical man if the water was not too hot and he made no reply. The witness who gave him the water swore that it was boiling and that she had told the medical man so. As a matter of fact, some large blisters appeared subsequently on the patient's body, and it was alleged that they were produced by the excessively hot water used. The county court judge found that the water used was scalding and not fit to use, and that it did cause the injuries complained of. He did not find that it was necessary to use such hot water to save the woman's life. He held that the medical man was guilty of malpractice because he did not observe that the water was scalding, and damages to the extent of £15, less the medical man's claim of £3 10s. for medical attendance, were awarded. The patient was suffering from post-partum hemorrhage.

Doctors Should Not be so Modest.—I know that there is a general feeling among physicians of the better sort that conspicuous interest in public affairs may be misconstrued and looked upon as in some sort a means of professional advertisement. And one cannot choose but to appreciate and admire the sensitiveness and high sense of honor of which this sentiment is born. But, after all, there are greater misfortunes in life than being misunderstood, and I think that the fine feeling which leads the physician so often to waive the privileges of social and public life in the interest of what he conceives to be professional ethics is capable of a richer fruitage yet, in the defiance of misconception, when impelled to whatever performance of public duty he can justify to himself.—*Dr. T. Mitchell Prudden, Address before Yale Medical School.*

Hypnotism on Exhibition.—At the Royal Aquarium, London, a man is shown in a condition of trance produced by hypnotism, in which state it is proposed to keep him for thirty days, more than twenty having already passed. The subject is twenty-nine years old and a well-built man; he was, when seen, lying flat on his back with his limbs stretched out in an easy position and his head turned a little to the right. His face was pale, with a slight pink flush on each cheek, and his appearance gave the observer the impression of a man who had been ill for some time.

His pulse was 52, quite regular, and of fair tension. Respirations were chiefly abdominal, and were eight to the minute and regular. Occasionally he gave one or two deep sighs like a man about to wake, and in these the thorax was more actively moved. His larynx was occasionally raised as the act of swallowing was involuntarily performed. Slight twitching of the eyelids and an occasional twitch of the legs were the only visible movements. The eyes were closed, and on opening them the eyeball was turned upward and outward and the pupil was dilated. His temperature was recorded to have been 97.2° F. He is fed with peptonized milk through a tube, and it was said that he is getting about a pint a day. The above is a short description of the performance, which is conducted as a public exhibition. At stated intervals in the day the hypnotist gives lectures on the subject and demonstrates the insensibility of the man to an admiring audience, and in his absence an assistant takes charge. A medical man also sees the subject at intervals and signs bulletins as to his condition.

Medical Men and Matrimony.—Doctors, like other men, are apt to rush into matrimony with as light a heart as M. Ollivier entered on the Franco-German war, and sometimes with almost equally disastrous results. No amount of good advice is likely to prevent this, for the voice of reason has little chance of making itself heard amid the whirlwind of passion. The students of the Rush Medical College, Chicago, may, therefore, be congratulated on their good sense in asking the advice of their teachers on the question of marriage, and the latter may equally be congratulated on their tact in giving advice which is in accord with the inclination of the "average sensual man," and is therefore pretty sure to be followed. The deliverances of the oracles are published in the January number of *The Corpuscle*, a journal edited by the students of the Rush College. The professors are unanimous in pronouncing that *Punch's* famous advice "to those about to marry" does not apply to doctors. It is imperative, says Dr. Haines, that doctors and clergymen should be married men "by reason of the relations which they sustain to the gentler sex." On the question of time too there is practical agreement that the sooner a young practitioner takes unto himself a wife the better it is for his professional prospects, and that he will do well in this matter not to let "I dare not" wait too long upon "I would." Prof. Henry M. Lyman, indeed, counsels prudence to the young man who has his way to make, and urges him "to fit up an attractive office and supply himself with the necessary books and instruments for the efficient practice of his profession before undertaking to invest in the paraphernalia of a feminine wardrobe." Dr. E. L. Holmes says "the young physician should wait till he has at least an income sufficient for his own support," and Dr. Fletcher Ingals insists on this with "one hundred and fifty per cent. more on which to support a wife." Dr. Cassius D. Westcott, on the other hand, testifies that "a good wife will help a doc-

tor to provide a home for two almost as he can provide for himself alone;" and Dr. James B. Herrick opines that "many a woman will be a positive saving in cash, a good financial investment." To Dr. D. R. Brower's mind "finances cut little or no figure in the matter," and indeed nothing is more remarkable in the "symposium" than the idyllic view of life taken by the professors of the Rush College. Their noble sentiments make us proud of our profession. Prof. J. M. Dodson does, indeed, hint that if the bride has an income of her own, the young doctor should not "allow a false sense of delicacy and a foolish determination to be independent to postpone her happiness and his own." The other counsellors, however, are careful not to dim the brightness of love's young dream with any whisper about the prospective father-in-law's bank book.—*British Medical Journal*.

The Effect of the "X" Rays upon Micro-Organisms.—The assertion that the "X" rays may have some therapeutic value, and may perhaps modify the course of disease when passed through the body, has been made by a number of persons and it is a claim which may easily be misused by the charlatan. Dr. T. G. Lyon, of London, recently made some experiments on the influence of these rays on cultivations of diphtheria bacilli. They were exposed in the incubators for twelve hours to the "X" rays. The bacilli continued to grow and were not in the least modified by the conditions to which they were subjected.

The State Hospital Bulletin is the title of a new quarterly journal issued by the lunacy commission of this State. It is intended to be the organ of the State hospitals for the insane and it will publish the clinical and pathological work of these institutions. The pathological department will be under the direction of Dr. Ira Van Gieson, who has recently been appointed chief of the State Laboratory. The first issue contains a number of articles upon subjects of brain tumor, typhoid fever, and thyroid feeding in insanity. The volume as a whole is a very creditable one.

Diphtheria is raging in some of the towns of Gloucester County, N. J., along the Rancocas Creek. At Delanco the public school has been closed and the churches have discontinued services. The schools at Riverside also have been closed.

Obituary Notes.—DR. LEOLF REESE, a prominent physician of Stockton, N. J., died on February 17th, from pulmonary tuberculosis. He was sixty-two years of age, and was at one time a practising physician in Chester County, Pa.—DR. R. L. SIBBETT, an eminent physician of Carlisle, Pa., and a member of the State Board of Charities, was stricken with paralysis on February 18th.—DR. CURTIS J. NICL, a resident of Philadelphia, died on February 15th, at Winter Park, Fla., in consequence of paralysis. He was in his sixty-second year, and was graduated from Jefferson Medical College in 1854. For two years he lived and practised his profession in the State of Illinois, but subsequently he returned to Philadelphia, where he continued in active practice until three years ago.—

DR. SMITH ELY, for many years a leading physician and surgeon in Newburgh, died February 27th, of heart disease, aged sixty-eight years. He studied medicine in New York, London, and Paris, and graduated from the Vermont Medical College. For a time he was one of the resident physicians at the Emigrants' Hospital, Ward's Island.—DR. LAUGHTON MCFARLANE, professor of surgery at the Toronto University, died February 29th of septic infection, contracted while amputating the toes of a patient at the General Hospital a week ago. He was fifty-four years old.—DR. EDWARD EVERITT, of Newark, N. J., died February 27th, aged thirty-eight years, of malignant diphtheria, supposed to have been contracted in attending two children. He felt a soreness in his throat on Sunday. When it became worse he regarded it as quinsy and treated it accordingly. He attended to his practice until within a day of his death. Then he called in Drs. Beggs and Moffett. They found that he had an extremely dangerous case of diphtheria, made worse by neglect. Dr. Everitt was a bachelor.—DR. NELSON FANNING died at his home at Catskill on February 28th. He was born at Gilboa, Schoharie County, in 1808, and has been a practising physician in this State for sixty-six years and was surgeon of the Eleventh Corps of the Army of the Potomac during the war. He was a prominent member of the Medical Society of the State of New York. He leaves two sons and two daughters.—DR. DAVID W. MAULL, a prominent physician of Wilmington, Del., died on February 23d, after a short illness. He was sixty-five years of age, and was a son of Dr. George W. Maull. He was graduated from Jefferson Medical College in 1853, and later served as surgeon on a steamer plying between Liverpool and Philadelphia. When the war broke out Dr. Maull entered the Delaware volunteers and became captain. When his term expired he re-enlisted and became a surgeon. He was in nearly all the battles of the Army of the Potomac. Dr. Maull was surgeon-in-chief of the Second Division of the Third Army Corps. After the war he settled in Wilmington, where he lived until his death. For six years he was city vaccine physician.—DR. OWEN JONES WISTER, a well-known practitioner and a member of a distinguished family, died at his home on the Old York Road, near Mill Street, Branchtown, on February 24th, at the age of seventy-one years. He was graduated from the University of Pennsylvania in the year 1847, and a year later entered the U. S. Navy as assistant surgeon, serving for four years. He was a member of numerous scientific bodies, and was a warm anti-vivisectionist. His funeral was attended by many prominent men, among the honorary pall bearers being Judge Biddle and Drs. S. Weir Mitchell and J. M. Da Costa.—DR. JAMES W. ELLIOT, of New York, died on February 28th, aged seventy-two years. He was born in England, graduated from the New York College of Physicians and Surgeons in 1850, and had practised in this city most of the time since. He was connected with the Cunard steamship line and the Eighth Avenue street-car line, and for many years he was an active worker in the Episcopal Church.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OBSTETRICAL SOCIETY'S ANNUAL MEETING—PRESIDENT'S ADDRESS—THE MIDWIVES QUESTION, THE SOCIETY, AND THE PRIMROSE LEAGUE—MEDICAL CERTIFICATES AND THE SCHOOL BOARD—EXHIBITS AT THE MEDICAL SOCIETY MEETING—SMALL-POX—THE QUEEN'S SPEECH—MR. COWELL—THE LATE MR. COLLUM—ANTHRAX.

LONDON, February 14, 1896.

THE annual meeting of the Obstetrical Society was held last week, when Dr. Champneys as president delivered an address. He reviewed the communications that had taken place between the society and the General Medical Council in terms which can scarcely be described as examples of good taste. He taunted the opponents of the society with having "twisted the tail of the council," and plumed himself that the result had been a victory for the society, which had now managed to get the formal *imprimatur* of the council for its examinations, which are accordingly on a firmer footing than before. Dr. Champneys proceeded to denounce a spirit of trade unionism which he considered discreditable to an honorable profession, and boasted that the certificates issued last year were more numerous than ever, being no less than four hundred and sixty-seven. There is, however, another side to the question; it is all very well for Dr. Champneys and other consultants to endeavor to run midwives in competition with medical practitioners, but, as the latter already find great difficulty in earning a livelihood, they fail to regard these consulting obstetricians as friends. It is all very well for consultants who do not wish to attend natural labor except for unnatural fees to despise those who are glad to earn honest guineas, and to object to their practice being undermined by the intrusion of women with three months' teaching, who flaunt the society's diploma in their faces. It is all very well, too, to pretend to be shocked at the spirit of trade unionism, but when professional union is complete among general practitioners they may refuse to call in consultants who have assisted in ruining their practice. The same thing applies to those who are so urgent in their desire for the registration of midwives, some of whom have actually appealed to the Primrose League to assist them in their agitation. The local secretaries of this political league have been favored with communications from Sir John Williams and Dr. Cullingworth advocating this scheme. The opportunity of advertising themselves to these Primrose dames may not prove so profitable as they imagine, considering that three-fourths of the profession are opposed to the scheme, and that the time may not be far off when the Union of General Practitioners will be driven to ostracize those who advocate the legalizing of a new competition by ignorant women, and the affected horror of trade unionism by a few consultants will prove the most powerful incentive to such union.

The resolutions carried last week at the meeting of medical men to consider the action of the school board were marked by courtesy and decision and, it is to be hoped, will lead the board to annul its action. Certificates are given to children as well as to candidates for the office of teacher without any remuneration, and then the school board has ventured to subject such certificates to revision. It looks almost as if this were an object lesson on the evil of our gratuitous system, which, as remarked by Dr. Glover, has pretty well demoralized the profession. If the certificates are to be ignored they would better be

refused, as Dr. Ward Cousins said, and as Mr. Cowell declared he had already declined to give them. Other well-known speakers expressed their disapproval of the school board's action, and there seems no reasonable excuse for the board persisting in a course which is most offensive to the profession.

On Monday there was an exhibition of clinical cases at the Medical Society meeting, among which were dislocation of the hip into the obturator foramen treated by excision of the head of the femur, and also a case of unreduced dislocation into the same foramen which it was proposed to treat similarly, though a question arose whether in this case there was not a fracture. Then there was a case of laminectomy for paralysis due to cervical caries in a girl aged thirteen. The operation was successful.

Two cases of sinus over the sacrum and coccyx were also shown, which had healed rapidly after being laid open, scraped, packed with dry wool, and duly fomented. A case of colotomy followed by subsequent enterectomy for cancer of the upper rectum, in a woman aged fifty-three, was also successful, the patient having continued well since August. A girl aged seven was also shown, in whom the interior of the left os calcis had been scraped away, as well as the outer and part of the lower walls, the cavity of which was tightly packed with decalcified bone chips and iodoform, and the skin sutured. The wound healed by first intention, and Mr. Waterhouse said he had been also successful with seven other cases and considered that the chips acted as temporary aseptic scaffolding and were replaced by new bone.

Mr. George Cowell has retired from the surgery of the Westminster Hospital and the Royal Westminster Ophthalmic Hospital, which he has served for twenty-seven and twenty-five years respectively. He has been appointed consulting surgeon to both.

Small-pox has continued stationary in London, but outbreaks have continued to occur in the provinces.

In the Queen's speech at the opening of Parliament we are promised a new public health bill for Scotland, a water bill for London, and a bill to check the importation of destitute aliens.

Mr. A. T. Collum, assistant surgeon to Charing Cross Hospital, died on Wednesday afternoon of septicæmia.

Five cases of anthrax have been admitted to Guy's Hospital, all contracted at the same factory by handling goat skins. They have been treated by excision of the primary lesions.

OUR PARIS LETTER.

(From our Special Correspondent.)

PARIS HOSPITALS AS NESTS OF TUBERCULOSIS—MICROBE OF HOSPITAL GANGRENE—MICROBE OF HEMORRHAGE.

PARIS, February 15, 1896.

MICROBES! Everywhere! Even the wards of the Paris hospitals, supposed to be the cleanest, the best disinfected, and the best swept in the world, are now incriminated as the origin of cases of tuberculosis, quite recently contracted within their walls. These cases all occurred in perfectly healthy, even robust, individuals who were entirely free from tuberculosis upon entering the hospital, and none of whose ancestors on either side had ever been known to have tuberculous taint of any kind. They were reported by Professor Jaccoud in his service at the Hôpital de la Pitié, and his report of them has given rise to sharp discussions not only at the Academy of Medicine but also among the profession at large. When we say that the Paris hospitals are the best swept in the world we at once explain all, for in their dusts the

death-dealing bacillus floats and is breathed by the unsuspecting patient or convalescent, both of whom are in perfect health so far as tuberculosis is concerned. Unfortunately tuberculous patients are put into the same wards with others, with but a very few feet separating their beds, and when we remember Villemin's experiment of causing dogs to breathe dust obtained from dried tuberculous excretions, and how those dogs all became invariably tuberculous, it is not necessary to look farther for an explanation of these startling facts. And yet there are men of eminence who still deny the contagiousness of tuberculosis—a disease that is highly contagious. Although it is impossible in every case to give the mathematical proof of contagion, because patients who have been in contact with others having tuberculosis leave the wards before the disease has had time to develop, we have been able to trace Professor Jaccoud's cases from the source of contagion to the autopsy. The mortality rate from tubercular disease among nurses and hospital attendants is far higher than is ever made known. The same mortality is also very great among students. Yet nothing seems to be done to prevent contagion. Professor Terrier informs us that at the Hôpital Bichat, the room in which the mattresses are made is situated under a ward filled with patients. These mattresses are so little disinfected that he has found lice in them. There are spittoons in the hospitals, but no one spits into them. Moreover, they do not disinfect the wards. At the Bichat Hospital the medical wards have never been disinfected. When the employees become tuberculous they are refused every kind of disinfection. The wards are absolutely crowded. Courses of lectures on hospital hygiene are delivered at the École de Médecine, but at the hospital the contrary of hygiene is practised and everything that is necessary to spread tuberculosis is done. To remedy such a condition of things it is only necessary to have wards set apart for tuberculous patients exclusively. It is true that tuberculosis is contagious and that the dust of the hospitals contains the bacilli. If then the tuberculous patients are isolated, all danger from that source is averted. On the other hand, when a patient enters the hospital it is impossible to say whether he or she is tuberculous or not, for no disease is so difficult to detect at a certain period. It would be well if tuberculin could be injected, as is done with animals, but that is impracticable in general.

In this matter city practice differs entirely from that in the hospitals and physicians would not leave healthy children in the same room with a tuberculous brother or sister. In the hospitals, as already noted, tuberculous patients are placed in contact promiscuously with others. This it seems to us could more easily be avoided than in private practice.

Microbe of Hospital Gangrene.—A treatise on this subject has just been written by M. Chauvel, who considers hospital gangrene as a specific lesion, one peculiar to the human species. Its pathogenic microbe is a special bacillus, elongated, incolorable by the method of Gram and one that cannot be cultivated. It is found constantly in the pulp of the membrane covering wounds undergoing that complication. It often exists there exclusively. Its presence shown by the microscope will be a valuable aid in making a diagnosis and in judging of the degree of infection or amelioration of wounds affected by hospital gangrene.

Microbe of Hemorrhage.—Professor Charrin was the first to call attention to the fact that the hemorrhagic function was a property common to multiple bacteria. Hlava on the contrary asserts somewhat later that hemorrhages are due to a special bacillus, which associates itself with the different

morbid agents each time that an extravasation of blood occurs. This opinion is endorsed to-day only partially—the hemorrhagic function being common to bacilli already well known, such as the coli bacillus and the streptococci.

A PLEA FOR THE POTATO.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: If the potato had tongues, instead of eyes, it would long ago have raised a cry of protest against the outrages that cookery perpetrates in its name, but with long suffering that is commendable, even in a potato, all has been borne in silence; but now that it is being so strongly condemned by some writers the climax seems to be reached. Insult is added to injury, and it behooves some one to champion its cause.

No less an authority than Edward Smith in his work on "Foods" (International Scientific Series) says: "Of all kinds of fresh vegetables grown in temperate climates, none is so valuable as the potato (*solanum tuberosum*), when we have regard to its agreeable flavor and nutritive and medicinal qualities, so that it is eaten daily by almost every family, and with the addition of buttermilk or skim milk was, until recently, nearly the sole support of a whole nation." So much for the potato fresh from Nature's laboratory. When the cook is done with it, however, it may be a very different thing—but that is the fault of the cook and not of the potato—and this seems to be the root of the trouble (as well as the trouble of the root). Let us consider the potato *per se*, unencumbered by undesirable cookery, and we have nothing at which to be alarmed. The fact that it contains very little nitrogen is no reason to condemn it, for we are prone to have a dietary of too concentrated foods, and the system demands bulk for the proper intestinal action as well as for nourishment. Here the potato is most useful. It would be unfit for the sole diet, as such large quantities would be required to satisfy at all the demands of the body, which even then would not be perfectly nourished; but combined with nitrogenous substances it is a valuable food when properly cooked. It contains less starch than rice, peas, lentils, etc., so is less harmful than they where starch is objectionable in the dietary. Again, it has less woody fibre than the other underground vegetables, which is, of course, in its favor from the digestive point of view.

It seems like a sweeping injustice to ascribe American dyspepsia to the humble potato. It certainly has not made a nation of dyspeptics of the Irish—and they have given it a severe test—and it seems unlikely that it would make any race distinction and discriminate against us. Plainly American dyspepsia must seek for some other cause than the potato *per se*.

When fried, warmed over, or transformed into Saratoga chips, croquettes, or any of the many indigestible things that modern cookery has devised, it is objectionable, but what food would not be? Even when baked or boiled it is also objectionable unless the cooking is properly done, and the fact that it so seldom is properly done is doubtless the cause of much that is said against it; but do let us lay the blame where it belongs and remedy the evil by teaching our cooks how to prepare it properly, not by eliminating it entirely or even partially from our tables.

Shorn of details, an incident that several years ago occurred in the writer's family may be cited in this matter. The baby girl of the household, when a little over a year old, began to refuse her food. In spite of tonics and a change to country air, this state continued. Many different foods were tried and all that eminent medical skill could do or suggest was

unavailing. Concentrated nourishment and stimulants kept the spark of life flickering, but even these were failing. Her temperature was below normal and death's finger seemed already laid upon the wasted baby frame, and death was coming through starvation—starvation in the midst of all the foods that modern science had given us. Finally, with death as the alternative, the physician said: "Take her to the table, and if there is anything that she will eat give it to her." And she did eat a little mashed potato!—the first food that she had taken willingly for a month. This was the turning-point. The convalescence was very slow but it was sure, and all through it potatoes were her only food, except such small quantities of other foods as could be mixed with them without affecting their flavor perceptibly. Gradually she began to take a little milk and other things, and health returned permanently.

After such an experience a word in defence of our humble tuber is only an expression of just gratitude for benefits received.

R. M. J.

NEWSPAPER DOCTORS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: For the last two months I have been on a visit to this city from the "wild and woolly" West. I have seen and heard some very strange things in this great metropolis, but I have borne everything in silence and "boiled within" until a few days ago, when your daily newspapers began to fill their columns with purely medical topics concerning the Roentgen rays. Is it not about time that some strictly medical publication raised a protest against the commercial and unethical methods of some of our brother physicians to gain notoriety and thereby more patients? The most flagrant example is the young physician who sketched a very rudimentary brain on his photograph and blamed it all on the cathode rays; a more incorrect picture of the human brain has never been seen even in some of our Western patent-medicine advertisements. Of course the experimenter was careful that his address graced the newspaper articles and he very ingenuously objected to showing or explaining his complicated apparatus, fearing that some inexperienced imitator might lose his life by endeavoring to reproduce his results. With the assistance of a medical friend I readily ascertained that this noted hypnotist and cathode photographer was a few years ago a nurse in Mt. Sinai Hospital. He then entered the New York University Medical College, but was unable to pass his final examinations and received his degree from an institution which grants medical degrees after three months' residence.

Is it any wonder that the practice of medicine in the hands of such men has fallen to mere dollars and cheap advertising, thereby casting odium on every honest physician in the city?

An evening newspaper has a medical column in which prescriptions and medical treatment are given to suffering readers. A physician paid a certain weekly stipend signs this medical column, and many druggists in this city put up the prescriptions. How can any conscientious medical man prescribe for a patient who diagnoses his own case, whom he has never seen, of whom he knows no history, and worse than all, how can you reputable physicians in New York allow such a thing to go on? I realize that we Westerners are uncouth and uncivilized, but we are not "tenderfeet" and we certainly would not allow such business out in Colorado; our remedy would be radical but certain; one dose of tar and feathers or riding on a rail would be sure to stop all further nonsense.

Just think of it! Here we have a member of the County Medical Society, a physician on the Board of Health, allowed to prescribe in the daily papers, without one word of protest from the County Society or from the medical journals. Is it any wonder that your hospital boards and charity commissions have no physicians among their members? The majority of solid business men certainly can have no regard for a profession that allows its members a free and unlimited sway to advertise by means of reading-matter in the newspapers and to make use of any pretext for getting hold of a reporter's ear. This was intended to be only a short note but I fear it has grown into rather a long sermon; but my blood is hot and in my natural, breezy Western way I have tried to make things clear, and with an innate dislike for the untrue and the unreal, I want to raise my voice in indignant protest against the dark and devious ways of the fakir in medicine.

GEORGE A. WILSON, M.D.

NEW YORK, February 17, 1896.

DR. EDSON'S ASEPTOLIN—A CRITICISM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is quite probable that we are on the eve of discovering or inventing a cure for tuberculosis which shall be entirely rational and at least as successful as the antitoxin treatment of diphtheria. For this reason the reports of all original investigation into the therapeutics of tuberculosis are eagerly read and closely criticised.

Dr. Cyrus Edson's article in the MEDICAL RECORD for February 8th will undoubtedly excite a good deal of interest and bring forth some unfavorable criticism.

In the first place Dr. Edson has not allowed a sufficiently long period of time to elapse to justify his pronouncing a single case cured. In the history of the first case he gives, treatment was begun on the 3d of September last. I am aware that he discusses conditions which might make the cure apparent, while as a matter of fact the disease is only in a quiescent state; but in summing up his two hundred and sixteen cases he says that "twenty-three have been discharged cured." Certainly two and perhaps five years should elapse after every vestige of the disease has disappeared before a verdict can be pronounced.

In the beginning of his article the doctor has drawn some conclusions which are unwarranted by the evidence. Speaking of the production of phenol within a body suffering from bacterial invasion, he says: "The increased secretion of phenol by the system during the disease is, in fact, one of nature's many devices to cure the underlying condition, to destroy the germ infection." Now, there is not one scrap of evidence to show that a sufficient quantity of phenol has been produced within a diseased body to destroy the parasites producing the disease. The implication here is very strong that a germ disease ceases when the body has produced sufficient phenol to destroy the germ or inhibit its growth. Buchner, however, found (Gunther's "Bakteriologie," S. 185) that during the course of a self-limited bacterial disease a certain albuminous body is produced which destroys the disease germ. He found that this substance was in solution in the blood serum, that it could be removed by dialysis in the presence of water, and that it destroyed the same bacterium that produced the disease in an artificial culture medium. Indeed, the efficacy of the serum therapy depends entirely upon the production of these albuminous substances. It is well known, too, that an attack of a self-limited bacterial disease confers immunity upon the subject attacked. Sometimes this immunity is perpetual and sometimes it lasts for only a few months. If the phenol were

the agent effecting the cure, it would produce no immunity, for it is not cumulative; on the other hand, it is very diffusible and is eliminated within twenty-four hours (Bartholow's "Therapeutics").

"This reasoning," says Dr. Edson, "naturally led me to think that phenol was selected by nature for the cure of some, if not all, of the so-called germ diseases. Of course the conclusion was obvious, but the corollary of that conclusion, which assumed a great importance in my mind, was this: If nature herself provides phenol during disease, then it cannot be possible that she will not tolerate the administration of the agent in effective dosage." (!) These are certainly amazing statements to be made with that deliberation which should characterize the language of a thoughtful scientific investigator. It is difficult to conceive of reasoning more inane or childish than this. Sugar is a useful article produced by the diseased condition known as diabetes mellitus; but that does not signify even the remote possibility of sugar being a useful agent in the treatment of diabetes. The amount of uric acid excreted is increased in all bacterial diseases attended by an elevation of the temperature, but this fact certainly has no therapeutic significance.

Furthermore, it is as firmly established as any fact can be established by experiment that the internal administration of no germicide is efficient in the cure of disease unless it can be given in quantity sufficient to make a solution of the circulating fluids of the body strong enough to prevent the growth of or to destroy the parasite outside of the body. The fluid used by Dr. Edson, injected hypodermatically, contains not quite $\frac{3}{4}$ per cent. of phenol. Of this solution he administers from 70 to 120 minims per day—from 1.91 gr. to 3.30 gr. Now, a man weighing, say, 130 pounds would have circulating fluids to the total amount of 10 pounds or 70,000 grains avoidupois, estimating the fluids at one-thirteenth of the total weight of the body, which anatomists have found to be approximately correct. A maximum dose of Dr. Edson's "aseptolin" would therefore in such a case make a solution of his bodily fluids of a strength of 1 to 21,212—less than 1 to 20,000. But phenol is destructive of bacteria only in solutions of a strength of from 1 to 30 to 1 to 20, the weaker having little effect and the stronger a not very rapid effect upon cultures outside of the body. Clearly, then, Dr. Edson's remedy does not derive its value from the amount of phenol it contains. The doctor has not told us whether any phenol is produced in the body by the action of the tubercle bacilli. It is not likely, however, that an amount is produced sufficient to interfere with the conclusions drawn here.

As to the pilocarpine, no facts are at hand to warrant a conclusion regarding its value as a germicide. The amount given, .013 gr. to .021 gr., seems insufficient (estimating $\frac{1}{80}$ to $\frac{1}{40}$ gr. a therapeutic dose) to possess much power for good or for evil. Accepting the phagocytosis theory of Metschnikoff, and the statement that pilocarpine increases the number and activity of the two kinds of phagocytes, it may be a valuable agent in the treatment of tuberculosis; but, so far as the writer knows, sufficient evidence has not yet been adduced to warrant an unreserved acceptance of Metschnikoff's theory. If, therefore, Dr. Edson's remedy for tuberculosis should, after three or four or five years, prove to be as valuable as he would have us now believe that it is, its value will probably be found not to reside in either the insignificant amount of phenol or in the scarcely less insignificant amount of pilocarpine which it contains; but in a by-product of their combination or their combination with some other substance or substances in the fluids of the body.

A word more as to the doctor's criticism of creosote

as a remedy for tuberculosis. The writer believes that the doctor is not warranted in denominating this justly valued agent in the cure of tuberculosis a fad. Certainly the fact that it is irritating to the stomach is a serious objection to its use; but this objection is by no means fatal. The writer believes that he can collect indisputable evidence to prove that creosote has cured a great many cases of tuberculosis and that it possesses a greater value as a therapeutic agent in this disease than any other agent or, indeed, a combination of all the other agents thus far used for that purpose. It is impossible to read the reports of Sommerbrodt, Guttman, and Bourget without being convinced of this fact. The writer admits that his personal experience with the remedy has been very limited, but his success has been quite gratifying. And patients tolerate creosote in larger quantities than is generally supposed. If a properly prepared emulsion is made, relatively very large quantities of it may be taken without producing any gastric disturbance. A good deal of the indigestion produced by the exhibition of creosote does not come because of its local irritative action upon the gastric mucous membrane, but from neutralizing the peptic ferment of the gastric juice; for in cases in which the digestive powers were reinforced the amount of local disturbance was always much less. The writer has at the present time a patient under his care who has taken forty-five grains of creosote every day (except two or three) since November 25th (now February 17th). The patient at that time weighed a little less than 110 pounds. This amount is sufficient to saturate the fluids to a strength of 1 to 1,400. On two occasions he had slight gastric embarrassment, but only for a day each time. His improvement has been quite marvellous, he having gained as much as two pounds in weight in a single week while taking the creosote. We shall be obliged to stop the exhibition of the remedy for a while, because of the appearance of albumin in the urine. JOHN MADDEN, M.D.

63, 64 SENTINEL BUILDING, MILWAUKEE, WIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I was fortunate enough, when working with Dr. Déclat in Paris in 1871, to learn from him his treatment of consumption by the hypodermatic injection of

Water (H ₂ O).....	98
Phenol (C ₆ H ₄ O).....	2
Total.....	100

In the *American Practitioner*, Louisville, Ky., March and April, 1887, pp. 225-230, 257-264, I published an article entitled "Pulmonary Tuberculosis: Its Antiseptic Treatment." An analysis of seventy-two cases treated by the carbolic (phenol) method, with the following results, was given:

- First stage of the disease, 31; all cured.
- Second stage of the disease, 35; $\frac{3}{4}$ recovered or improved.
- Third stage of the disease, 6; no improvement.

On my return from Paris on February 24th I read in the daily papers of aseptolin, Dr. Edson's cure for consumption. I found his article in your issue of February 8th, pp. 185-191.

His interesting analysis of aseptolin (Mott, chemist) is, p. 186:

Water (H ₂ O).....	97.2411
Phenol (C ₆ H ₄ O).....	2.7401
Pilocarpine-phenyl-hydroxide (C ₁₁ H ₁₁ N ₃ O ₂ OH.C ₆ H ₅)..	0.0188
Total.....	100

the composition of pilocarpine-phenyl-hydroxide deduced by calculation being as follows:

Pilocarpine (C ₁₁ H ₁₆ N ₂ O ₂).....	53.92
Phenol (C ₆ H ₇ O).....	46.08
Total.....	100

The process employed in making the phenic acid of Dr. Déclat has been imitated in producing aseptolin.

Aseptolin differs from phenic acid in containing a salt of pilocarpine, only one part of the alkaloid in 10,000 parts of water.

Of this alkaloid his daily injection contains from .5 mgm. to 1.67 mgm., while the accepted dose hypodermatically varies from 10 mgm. to 20 mgm., given not once but twice or thrice a day.

Even if the advisability of giving pilocarpine in phthisis be admitted, the small dose given and the statement of the discoverer of aseptolin that "phenol was selected by nature for the cure of some at least, if not all, of the so-called germ diseases" (p. 185) would seem to indicate that reliance could be placed upon phenol alone.

The claim is made that aseptolin, in the treatment of malaria, is "a specific and of even greater efficiency than quinine," p. 188.

Since 1871 I have successfully treated hundreds of cases of malarial fever by hypodermatic injections of a two-per-cent. solution of phenol, when both quinine and arsenic had failed.¹

My readers can judge of the newness of the discovery.

GHISLANI DURANT, M.D., PH.D.

12 WEST FORTY-SIXTH STREET.

THE DAILY USE OF QUININE IN MALARIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of February 15th, I noted a paragraph headed "The Prince and Malaria." In it mention was made of the daily use of quinine as a preventive in malarial districts in Africa. Permit me to state some inferences which are the result of eighteen months' experience as surgeon to l'État Indépendant du Congo. I was located at Sukungu, 300 miles inland from the west coast and ten miles south of the Congo River, in south latitude 5° 01' 22", east longitude 14° 16' 37".

My inference is that African malarial poison is much more virulent than the same poison in southern New England; the depression is greater whether the patient be foreigner or native; the temperature is higher and less susceptible to the influence of drugs; also, the so-called "remittent" fever is more common in proportion to the number of cases.

A second inference is that quinine is a preventive against the severer forms of African malarial poisoning. Among twenty foreigners—Americans 7, Englishmen 3, Swedes 2, Belgians 8—each one of whom took five grains daily, there was not a single case of the "remittent" type in fourteen months.

The "intermittents" seem always susceptible to quinine, if an anticipatory dose of from fifteen to twenty-five grains is exhibited from six to ten hours before the expected paroxysm. I always gave fifteen grains at the close of the sweating stage, both to anticipate a possible quotidian and as a tonic. Another experience was that quinine taken daily never prevented "intermittents," although it undoubtedly reduced every phase of their intensity.

Again, when quinine is given during a certain temperature that temperature is almost invariably maintained until the cinchonism has subsided. In my own case, with a temperature of 103.4° F., forty grains were exhibited in two doses within three hours. The same

¹ Vide New York Medical Journal, December 6, 1884, p. 644.

temperature was maintained for twenty hours, but there was no remission.

While using quinine daily in five-grain doses I have repeatedly been drenched by rains and in rivers, have been forced to make a day's journey on foot and with an empty stomach, in fact subjected to all manner of exposure, without experiencing a severe malarial fever.

GEORGE H. JACKSON, M.D.

NEW HAVEN, CONN., February 25, 1896.

PERMANGANATE OF POTASSIUM IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am under obligations to Dr. H. B. Garner and Dr. J. B. Leeson, of Traverse City, Mich., as their article upon this subject, published in the MEDICAL RECORD, February 22, 1896, is a confirmation of my article published in the MEDICAL RECORD July 13, 1895. I therefore take the liberty of claiming undeniable priority.

Since the publication of my article several physicians of New York and Brooklyn in treating tuberculosis have tried permanganate of potassium and salicylic acid with excellent success. As yet I have not heard of any failure.

My article gives also the reasons which induced me to make use of the remedies mentioned. These reasons were strengthened by a very interesting article by Dr. Prudden, published in the *New York Medical Journal* at about the same time as mine in the MEDICAL RECORD and stating the result of his researches, to the effect that the characteristic bacilli of tuberculosis are the outcome of this disease and that ptomaines cause it.

I would suggest the trial in other grave diseases of the remedies mentioned and especially in those of a septic nature. I should not wonder but it might have a good effect even in hydrophobia, meningitis, cerebro-spinalis, and eclamptic convulsions.

Physicians are warned not to mix permanganate-of-potassium solutions with syrups or any other vegetable matter, as such a mixture will cause an explosion.

L. BARKAN, M.D.

122 FIRST PLACE, BROOKLYN.

"AMATEUR SURGERY."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Quite frequently at the public gatherings of medical men, when scientific and practical questions are advocated and discussed, one is treated to "facts," sentiments, and fancies that are not always relevant in so far as the subjects proper are concerned. Such facts, sentiments, and fancies being rather out of their proper place and time, they are not taken up for discussion or rebuttal. These facts, sentiments, and fancies dropped by the way are often amusing, sometimes instructive from a number of points of view, and sometimes shockingly disappointing, not so much in themselves as because of the sources from which they come. We can, all of us, with a little patience and less trouble become erudite; but only few, in spite of ever so much trouble and hard work and patience, can become inventive to good purpose, that is, to set free the potential abilities of the rest of our fellow-workers. With a little patience and a certain amount of well directed practice, coupled with more or less opportunity, a great many of us can acquire sufficient technical skill to allow us justly to assume the rights and privileges of surgeons, at least from a mechanical point of view. But a true surgeon is a good deal more than an expert manipulator of the scalpel,

needles and threads, and aseptized dressings, although, alas, sometimes it is certainly not easy to see that surgeons are expert in anything else than technique. Old Hippocrates undoubtedly loved his profession, and if he was an egotist he was the right kind of an egotist. He was ready to call the physician (and in his day the physician was a surgeon too) Godlike only conditionally. And that condition was that he be a philosopher! And when may the physician, the surgeon, be called a philosopher? When he knows so much of what other people have opined as to be without an opinion of his own? No. It is when he has learned that effects have causes, that is, when he has become a reliable diagnostician. All else in medicine is mere mechanics and imagination.

The other evening at the Academy of Medicine a creditable surgeon, who is a good diagnostician and an ingenious technician, used a phrase which he meant to be severely condemnatory. He spoke of professional men doing "amateur surgery." Coming from a man of his standing the phrase lacks grace and is odd. An amateur is one who does what he likes as an avocation, just for the fun, or pleasure, or exhilaration, or edification there is in it, often as a relief from serious and laborious vocations. Who ever heard of a professional man cutting even a simple abscess for the fun of doing so? If our great men, or those who would be our censors, talk of "amateur surgery," why shouldn't they talk of amateur physicians? There is such a thing as reprehensible surgery as there is a shilly-shallying medicine; but surgeons, and especially those who are teachers and professors, ought not to accuse their *confrères* of being amateurs. A surgeon may be incompetent and an ignoramus, or criminally negligent; but just because surgery is his vocation, and especially because the professor helped to make surgery his profession, he cannot be looked down upon as an amateur. Surgical and medical amateurs are found in farmyards, among cowboys, on old-style sailing-vessels and coasting-steamers, but not in the ranks of the profession. Moreover, amateurs have done good and immortal work—it would take too long to write out a catalogue of their deeds. What many of us, who are willing to sit quietly and be instructed, wish is that our great men and censors would stick closely to the dictionary meanings which we ordinary mortals are obliged to talk by. Misunderstandings are unpleasant, and when our leaders lay themselves open to misunderstandings the rank and file are sure to go wrong. Let even our professors call a spade a spade. And now, Mr. Editor, if you have had the patience to bear with me thus far, be glad to have me end by allowing me to ask two questions: 1. Is there really such a bastard entity as a professional amateur? 2. Do our professors and our colleges admit his existence and take pride in having created him?

ADOLPH RUPP, M.D.

406 WEST THIRTY-FOURTH STREET,
February 23, 1896.

Medical Men to Avoid.—The one who has acute exacerbations of insanity when exposed to any new fad. The one who is always successful with all his difficult operations. The one who always sees hundreds of cases of a rare disease. The one who can always match your case and improve on your treatment. The one who always finds you have omitted something in the examination of your case. The one who thinks he can talk well and is always ready to discuss any paper of the evening. The one who is always the first to do the new operation. The one who is in a chronic fear of being anticipated in his important discoveries. The one who in consultation feels it his conscientious duty to explain to the patient why he differs with the attending physician.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 24, 1896.

EDWARD D. FISHER, M.D., PRESIDENT, IN THE CHAIR.

Conservative Surgery upon the Uterus and Adnexa by the Vaginal Route.—DR. H. N. VINEBERG read a paper on this subject. Mention was made of the advance of our knowledge of pelvic diseases and of their treatment during the past ten years or more, and the later custom of removing the uterus where both tubes and ovaries had to be sacrificed. While this had resulted in relief in a greater number of cases than before, it must be admitted that even so radical a measure did not always free the patient from pelvic pain and other symptoms. This was due to the fact that some pelvic tissues must always remain, however radical the operation, and the disease process may have extended beyond the uterus and adnexa to them. Conservative surgery, therefore, was indicated, if by it the uterus and the whole or a part of the adnexa could be saved and the patient be relieved of her symptoms. He made a distinction between palliative and conservative pelvic surgery. The former implied letting out of pus through an opening in the vagina, a secondary operation being necessary sooner or later; it was a procedure, however, which was not to be despised, as it had saved many lives which would have been sacrificed had a more severe operation been performed in the first instance. Conservative pelvic surgery implied removal of diseased tissue short of complete sacrifice of adnexa and uterus.

Opening through the abdomen was always attended by immediate danger and also by the remote danger of stitch abscess and ventral hernia. These facts had prevented operation in the past until the disease had made considerable advance, usually preventing conservative work. Conservative pelvic surgery had received a strong impetus since the introduction of the vaginal method, which rendered it but little more dangerous than curettage of the uterus. It might justly be called prophylactic pelvic surgery.

Dr. Vineberg then read the histories of some cases illustrative of different types from a total number of about forty. The first was in a woman who had borne a child thirteen months before and was suffering from pelvic pain, etc., found to be due to gonorrhœal endometritis and urethritis. The latter was relieved, the endometritis was not. After some months of palliative treatment which did not effect a cure, and a pelvic tumor being felt, he made vaginal section, drew down the left ovary, and punctured some small cysts; he then returned it, drew down the other ovary and tube, and removed them because the ovary was disorganized and pus was present. The woman then made an uneventful recovery. Had he waited longer the other ovary would have become disorganized and might have demanded removal. Another case was that of a working-girl aged twenty-two, disabled from work by pelvic trouble; the uterus was displaced backward and the ovaries were prolapsed; pessary and non-operative treatment had failed. He made a longitudinal incision in the anterior vaginal wall, drew down the ovaries and tubes, punctured small cysts in the ovaries, and excised one of the larger cysts; he then returned the appendages, and made vaginal fixation of the backwardly displaced uterus, thus holding it forward. The patient was completely relieved. It was safe to predict that had she been allowed to go on a year or two longer both appendages would have become so

disorganized that a conservative operation would have been impossible. In another case a small subserous uterine fibroid was removed through vaginal incision. The work of A. Martin and other authors was quoted to show the value of conservative vaginal surgery.

Dr. Vineberg had found that the appendages could be easily drawn down through a longitudinal vaginal incision unless there were adhesions. In the latter case one should be prepared to make an abdominal opening if it became necessary after doing vaginal exploratory operation. The longitudinal incision was preferable to the transverse one because of freedom from endangering the ureters in front or the rectum behind. Then the anterior incision permitted of vaginal fixation of the uterus at the same sitting, for there was commonly posterior displacement of that organ. He preferred to open the abdomen in extrauterine pregnancy because the uterus in these cases was friable and easily injured in vaginal work. He laid special stress upon the necessity of keeping the patient abed, say, three weeks. Ten days was too soon to allow her up.

Dr. W. R. PRYOR thought the discussion turned on the choice between the abdominal and the vaginal operations. He could see no reason for changing his views of some years ago. As a basis for judgment the cases could be divided into those of disease of the pelvic organs with abdominal associations and those with only pelvic associations. In the former celiotomy was indicated, in the latter usually vaginal incision. If, for instance, there were tubal disease associated with appendicitis, the abdominal operation was assuredly indicated. For exploratory purposes he would choose the vaginal route. In all localized suppurative pelvic troubles and in pyosalpinx without abdominal complications one should operate through the vagina. There were, however, cases of disease of the uterus and appendages in which an abdominal opening was indicated, as he had already suggested. In doing vaginal work he made the opening in the posterior cul-de-sac.

Dr. H. J. BOLDT, who had not heard the entire paper, said he understood by conservative pelvic surgery plastic work on the pelvic organs for the purpose of restoring their utility. He believed that this could be done on the ovaries and tubes through the abdomen better than through the vagina. If, on the other hand, one meant removal of pelvic disease, such as pyosalpinx or ectopic gestation, he held that it could be done as easily through the vagina and without certain risks attending abdominal section. All knew that if there were unilateral disease high up it was better to operate through the abdomen, and large fibromata could be removed better through an abdominal opening. In nulliparæ the vaginal route would be attended by more bruising because of the small size of the vagina. It was not always necessary in suppurative disease to remove all of the diseased structure, yet the patient would recover sooner than if the abdominal route had been chosen. The uterus should be removed whenever it became necessary to remove the appendages of both sides.

Dr. EGBERT H. GRANDIN said all were agreed that conservatism in surgery is a desideratum. There was no doubt that for exploratory purposes the vaginal route should be selected whenever possible; if necessary the abdomen could be opened afterward; vaginal operation was always indicated for disease within the pelvis. If the disease was above the pelvic brim, aside from doing whatever was possible through the vagina the operation must be completed from above. If there were pus tubes, we should operate through the vagina. If adhesions existed above, or there were appendicitis, etc., we should make a supplementary abdominal incision. It need not be a

large one. It was simply a question of the locality of the disease, whether high or low. The primary shock, the pain, the length of convalescence, especially if forceps were used, were about as great in the vaginal as in the abdominal operation. The duration of the operation and the risk were a little less in the former when the disease was low in the pelvis.

Dr. E. B. CRAGIN thought that in a society like this doctors should be able to find a common ground of agreement, and on the present occasion all would probably admit that masses lying high should be attacked from above, masses lying low might be attacked from below or from above. The mode of operating could be called conservative under two conditions: 1, When chosen in preference to other modes of operating in order to conserve the patient's strength; 2, when chosen as a means of saving the pelvic organs. An example of the first was seen in puerperal infection, when it was better to open a collection of pus through the vagina and postpone a more radical operation, should it become necessary at all, because of the patient's present low state and one's inability to judge of the extent of the disease. In his opinion plastic work on the appendages, to save the child-bearing function, could better be done from above than from below, although he had had experience with both routes. In vaginal work he preferred posterior incision in most cases. Each case had to be decided on its own merits.

Dr. VINEBERG did not think one was capable of judging of vaginal plastic work on the appendages who had operated only through the posterior cul-de-sac.

Non-Nocere in Obstetrics.—Dr. JULIUS ROSENBERG opened his paper with the statement that one of the most noted papers read at the International Medical Congress at Rome was by Dr. A. Jacobi, entitled "Non-Nocere." In it he showed that not infrequently our desire to aid resulted in harm to our patients. This seemed to Dr. Rosenberg especially true in obstetrics. Labor was a physiological process, and ninety-five per cent. of all labors terminated normally when permitted to take their course. But not infrequently in our desire to do something we brought about a pathological condition. Puerperal fever stood foremost among diseases of childbirth artificially produced. While the mortality from this cause had been much decreased, it was far from *nil*. The author then quoted several authorities to show that the vaginal secretions and the bacteria normally present there were destructive to pathological bacteria, and practical experience had shown that puerperal sepsis developed more frequently when labor had been preceded by the vaginal douche than when this had been omitted. All that was required was disinfection of the external genitals and of the hands of the accoucheur. In his own practice he had had no cases of puerperal sepsis, but had seen a number in women attended by other physicians.

Time permitted him to touch upon but one other point illustrative of injurious consequences from interference. It related to fibroids complicating pregnancy. He had had six cases and not one had resulted in serious complications. All the mothers lived, five of the children lived. Such results were far superior to those where there had been operative interference, for the latter showed a maternal death rate of twenty-five per cent. He claimed, therefore, that with few exceptions myomatous tumors of the uterus had better be let alone until the commencement of labor.

Dr. SIMON BARUCH opened the discussion. He thought the question of antiseptic vaginal douches before labor had been settled against such interference

in a discussion before the academy many years ago. He believed the method now adopted by most advanced gynecologists in abortion was to empty the uterus completely, introduce a curette, and scrape out everything, claiming that this was the only safe way. His own experience was entirely opposed to such interference unless there were some signs of beginning sepsis or there were hemorrhage. He believed in letting the uterus alone, disinfecting as well as possible, and letting it expel its own contents.

DR. A. F. CURRIER thought the term meddlesome midwifery had outlived its usefulness. The value of antiseptic midwifery could not be questioned. In all cases of parturition the vagina and external genitals should be most carefully examined for lesions, and if any existed they should be closed. Gonorrhœa might exist, and one should always examine for suspicious discharges. If present, antiseptics could not be too efficient. Where sessile or otherwise obstructive fibroids existed in the uterus they were likely to cause abortion or interfere with labor, and operation was indicated. In other cases he agreed with the author, and would wait until labor commenced. He thought twenty-five per cent. was a high mortality rate for interference.

DR. GRANDIN endorsed the first part of the paper. He disagreed with Dr. Baruch as to non-interference in abortion. The uterus should be cleaned out thoroughly and antiseptics observed.

DR. R. W. MURRAY thought there was no more occasion for speaking of meddlesome midwifery than of meddlesome surgery or meddlesome medicine. It had been abundantly proven that asepsis could not be secured without antiseptics. Where harm had resulted from attempted antiseptics it was due to failure to carry out the principle. Necessarily there would be lesions and germs would be present also; if the latter were absorbed they would cause sepsis. He believed in cleaning them away. It was more important, however, to clean the external genitals. The napkin should be applied as soon as the child was born; expulsion of the placenta should not be waited for.

Resolutions on Bills before the Legislature.—On motion of DR. W. R. PRYOR the society adopted a resolution opposing Bill 727 before the legislature, entitled "An Act to Incorporate the Optical Society of the State of New York," etc. It would prohibit anybody besides opticians and physicians from prescribing glasses.

DR. LEWIS said it was especially objectionable because the examining power did not rest with the regents.

On motion of DR. GRANDIN the Stanchfield bill, tinkering with the law demanding preliminary education of medical students, was condemned.

On motion of DR. DANIEL LEWIS Assembly Bill 906, "An Act to Abolish the Office of Coroner," etc., was endorsed.

Cycling is said to greatly mitigate the symptoms of hay fever, relieving the eye irritation and keeping off the paroxysms of sneezing.

If one cannot ride with the mouth closed, the point of the tongue should be pressed against the upper front teeth, so as to break the force of the inspired air and make it warm.—MENDELSON.

Violent cycling tends to produce hypertrophy of the heart. Chafing of the labia may be in part prevented by tilting the saddle well backward. Virtue must be at a low ebb if such a cause can disintegrate it.—CARRINGTON.

The philosopher sees in the bicycle and the bloomer the inciters of the same diseases and the same immoralities as followed in the wake of the roller skate.—MARTIN.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 27, 1896.

WILLIAM R. PRYOR, M.D., CHAIRMAN.

The Indications for Alexander's Operation.—Dr. Paul F. Mundé was announced to read a paper on the indications for Alexander's operation, Dr. Edebohls on the indications for hysterorrhaphy, Dr. Vineberg on the indications for vaginal fixation, but each one intruded more or less on the province of the others.

DR. MUNDÉ said that since he performed his first Alexander operation, December 12, 1884, he had so frequently had occasion to express his views that he could add little more to-day. He had operated altogether ninety-seven times, and had become even more strongly convinced of the value of the method when resorted to in cases to which it was adapted. The indications were based on clearly drawn lines, as originally stated by Alexander: 1. In retroversion or retroflexion of long standing, in which pessaries either did not maintain the uterus in position or could not be worn because of pain. 2. In retroversion or retroflexion of long standing associated with relaxation of the uterine ligaments, pelvic floor, and vaginal wall, and consequent greater or less prolapse. 3. Prolapse of uterus with vagina, in which the Alexander operation was preceded by trachelorrhaphy or amputation of the cervix and followed by anterior and posterior colporrhaphy and perineorrhaphy. 4. Desire of the patient to be cured of her complaint, pessary and non-operative measures failing. 5. To keep the uterus in normally anterior and elevated position after adherent uterus and appendages had been loosened and restored to normal mobility. If the adhesions had been overcome without opening the cul-de-sac a pessary might answer.

Contraindications: 1. Adhesions of the uterus or appendages. This was an absolute and positive contraindication. 2. The possibility of retaining the uterus and appendages in normal position and making the patient perfectly comfortable with pessary, unless she insisted on a cure. 3. Prolapsus of the uterus and vagina of the third degree.

Dr. Mundé had had no deaths, and he felt sure that eighty-seven of the ninety-seven cases had remained permanently cured. He preferred the Alexander operation to ventral fixation because it was safer and left the uterus in normal, not abnormal, position. It did not interfere with gestation. As to vaginal fixation, it was being discarded in its birthplace, Germany.

Indications for Ventral Fixation of the Uterus.

—DR. GEORGE M. EDEBOHLS opened his paper with the remark that he thought the discussion of the different methods of lifting and retaining the uterus must be carried to a higher plane than one of mere technique. The uterus could be held forward by the different methods, but the chief point to consider in making a choice was what influence had the operation upon pregnancy and labor?

Regarding the influence on pregnancy of vaginal fixation of the uterus, Strassmann had observed the following disturbances: 1, Pain in the vaginal cicatrix; 2, abortions, twenty-five per cent.; 3, vesical pain and disturbances of micturition. The same author and others had reported the following disturbances during parturition: 1, Severe hemorrhage from rupture of vaginal cicatrix; 2, necessity for the Porro operation, death; 3, version rendered impossible, Cæsaean section done, death; 4, version rendered dangerous and difficult; 5, craniotomy. These difficulties had been due to abnormal fixation of the cervix below the pelvic brim, causing tendency to undue expansion.

sion and thinning in the posterior uterine wall and firm fixation in the pelvis of the anterior wall, with hypertrophy of this portion of the uterus. The latter constituted the obstacle to delivery.

Milander had collected fifty-four cases of labor after ventral fixation of the uterus, with eleven difficult labors, two requiring Cæsarean section. The whole number of pregnancies was seventy-four; six terminated in abortion; ten had not yet been delivered; one had died. The latter was a case of Dr. Edebohls'; death was due to long-standing heart disease on the eve of confinement, and had nothing to do with the ventral fixation. Dr. Edebohls' own experience had been negative, he having performed ventral fixation seventy-three times. Eight of the women had become pregnant; one produced miscarriage upon herself at the second month; one died of heart disease, as just stated; a third died near term from sepsis due to retention of a dead fœtus, in no way connected with ventral fixation, as stated by Dr. Coe and Dr. Hanks, who had attended her; the remaining five of the eight cases were easily and safely delivered, one by forceps. Two anomalies had been reported by authors, namely, thickening of the uterine wall at the site of fixation and ballooning or compensatory dilatation of the posterior uterine wall.

In pregnancy, after shortening the round ligaments, a slight drawing pain, beginning with the eighth month of pregnancy and attributed, whether correctly or incorrectly, to traction on the ligaments, had been noticed in a few cases. Beyond this nothing had been observed.

The following conclusions were reached: 1. Vaginal fixation of the uterus does not come within the sphere of legitimate operations in women liable to future pregnancy. 2. In women liable to become pregnant the indications for ventral fixation should be limited to the utmost degree. 3. Ventral fixation is never indicated in uncomplicated retroversion. 4. Inability of the operator to perform shortening of the round ligaments may be an indication for ventral fixation, but not in the case of one claiming to be a specialist in gynecology. 5. Ventral fixation is indicated as an adjuvant in operations for prolapsus uteri et vaginæ. 6. Ventral fixation is indicated as a conclusive step in all cœliotomies in which the appendages are removed and the uterus left. 7. It may be indicated in aggravated sharp retroflexion, but he had seen no case of the kind which could not be relieved by the Alexander operation. 8. Ventral fixation is indicated under certain conditions in uterus unicornus.

Indications for Vaginal Fixation.—DR. HIRAM N. VINEBERG felt that his paper had been largely anticipated by the two previous readers. Nevertheless he took a different view of vaginal fixation. Like every new operation, vaginal fixation had at first been carried to the extreme and applied to cases to which it ought not to be applied. On the other hand, the reaction was going to the opposite extreme, which was also but a repetition of common experience. The percentage of disturbances at labor had not been greater than in ventral fixation, nine in fifty-two cases against eleven in fifty-four. Personally he had not met with disturbances of pregnancy or labor. In his first cases he did not open the peritoneum, but during the past six months he had entered the peritoneum through an anterior longitudinal vaginal incision, broken up adhesions, lifted the retroverted uterus, and fixed it by suture to the vagina. Out of twenty-nine cases operated upon in this manner there had been failure in none. He recognized but one contraindication, congenital retroversion with adhesion, in which it was doubtful if any operation would give good results.

In fifty-two cases of labor following vaginal fixation there had been difficulty in nine—one Porro, one Cæsarean section, two cervical incisions, five versions.

The difficulties arose chiefly from the circumstance that the fundus of the uterus was too firmly and extensively attached to the vaginal wall at the expense of the posterior uterine wall—what one might expect from Dührssen's method, or transverse incision in the anterior vaginal wall and firm fixation of the uterus by several sutures, the method which was practised in all but one of the nine cases. Dr. Vineberg's own experience and that of others had taught him that when certain points were observed in technique vaginal fixation would cause no disturbance during gestation or labor. It was indicated in all backward displacements of the uterus with or without adhesions, and with or without disease of the adnexa and in which surgical interference was demanded. It was particularly indicated when backward displacement was complicated by moderate prolapse of the uterus and vagina, and it found an undisputed field in women with very fat abdominal walls, and also, in opposition to ventral fixation, in women whose abdominal walls were very yielding. It could be done in nulliparæ and even in virgins. The only contraindication was congenital retroversion with adhesions, and in such cases no method was successful.

DR. CHARLES P. NOBLE, of Philadelphia, said he had been anticipated by Dr. Edebohls. Two cases of his own of disturbance during parturition following ventral fixation had led him to ask for the experience of others. He was not yet ready to draw conclusions. In one of his cases the woman was confined by Dr. Norris, who found that the adhesion and thickening of the anterior wall of the uterus constituted a tumor obstructing the brim of the pelvis. The woman was delivered with great difficulty. A similar condition existed in the other case, to which Dr. Noble was called in consultation. They waited for labor pains, only with the result that the woman became septic. Delivery was impossible and he did Porro's operation, but the woman died.

In his opinion shortening the round ligaments was the proper operation if the uterus was at all movable. He had had best results from hysterorrhaphy in procidentia, supplemented by plastic operations. Most of these women had passed the child-bearing period. If he sacrificed the appendages he also removed the uterus. He did not feel disposed to try vaginal fixation.

DR. H. J. BOLDT thought no operation was comparable with shortening the round ligaments in posterior displacement with mobility. If we attempted to break up adhesions without incision we might be deceived, and then on doing the Alexander operation find it to fail. For posterior adherent displacement he would perform ventral fixation after breaking up the adhesions. Vaginal fixation might find a place in some cases of vaginal work. Its origin had been attributed to-night to Makenrodt, but Dr. Boldt held that Schucking first performed it and that recent work was but a revival.

Has Abandoned Alexander and Vaginal Fixation.

—DR. ILL, of Newark, thought the indications for operation were very plain. It should be done in all cases of retroflexion or retroversion when the uterus could not be kept in place by other means, or when the patient lived at a distance and could not be looked after while wearing a pessary. He had employed the three methods but had given up two of them—Alexander's operation and vaginal fixation. He had performed ventral fixation ninety times with good results. He could report three cases of pregnancy. They had terminated all right. Nothing had been said to-night of hernia following the Alexander operation. Dr. Coley had told him that he had operated on fifteen cases of hernia of this origin during a very brief period last winter. Dr. Ill had seen one case of hernia after ventral fixation.

DR. J. R. GOFFE had had experience with the three methods, and had welcomed vaginal fixation because it did away with the scars left by Alexander's method. His anatomical cures had been satisfactory, but he had had no experience with pregnancy following vaginal fixation. Disturbances had been reported abroad.

DR. E. B. CRAGIN had performed vaginal fixation fifteen times and had had a number of failures which might have been due to his technique, for only in the last three cases had he opened the peritoneum. He was about ready to give it up.

DR. A. P. DUDLEY thought there was only one condition in which the Alexander operation was indicated, namely, where the operator could assure himself that the uterus and appendages were perfectly movable and not diseased. This was hardly possible, and the operation, therefore, was one which was performed in the dark. He would prefer to do laparotomy and fix the uterus. In many cases the adhesions could be broken up with or without incision in the posterior cul-de-sac, and then on replacing the uterus and packing with gauze, in case of operation, a scar would form which would keep it in place without necessitating Alexander's operation or ventral fixation.

DR. H. L. COLLYER had but one fault to find. It was that the views of different speakers represented extremes. The different methods had certain objections. Many cases could be cured by massage, etc.

DR. BRETTAUER had never been favorably impressed with vaginal fixation. The only class of cases in which he thought of trying it was that in which Dr. Vineberg had advised against it, congenital retroflexion with adhesion.

DR. WHITE recited some experience.

DR. GALLANT had known patients to have worse dragging pain over the symphysis after than before the Alexander operation.

The chairman, DR. PRYOR, had done the operation which bore his name, fixing the corpus uteri to the curve of the bladder, in six cases before it became his custom to remove the uterus whenever he removed the appendages. He might resort to it again when women refused to have the uterus taken out with diseased adnexa.

The authors made some closing remarks.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 29, 1896:

	Cases.	Deaths.
Tuberculosis.....	125	112
Typhoid fever.....	7	5
Scarlet fever.....	116	16
Cerebro-spinal meningitis.....	2	3
Measles.....	523	21
Diphtheria.....	274	47
Small-pox.....	0	0

The Club Doctor.—Labor leaders may say what they will, the struggle for existence is keenest by far in the ranks of the professional class. Go lower, and you will rarely find the determined stand against contending odds which, for instance, the struggling doctor makes to earn a wretched living for himself and family. Few follow in Dickens' footsteps and write the quaint, pitiful romance of the shabby genteel, and yet there is infinite pathos in their sad efforts to keep the wolf from the door and their heads above the social slough into which Mrs. Grundy is longing to

plunge them. Club doctors are the slave class of the medical profession. For a fixed salary of at most £100 they are bound down to a slavery from which there is no respite day or night. The members of the club may number some eight or nine hundred, and some of these or their families are in constant need of medical attendance. Ever at their beck and call, summoned on the most trifling occasions, their doctor must tramp the streets at all times and in all weathers. His bell is always jangling, and he comes home only to set out again. Backward and forward he plods along the grimy streets of the wretched suburb where his practice lies, passing only from one scene of squalid sickness to another, and forced to use his poor remedies where rest and generous diet are alone needed. All the year round he keeps at his work with a desperate pathetic courage; he dares not leave it, for he is never without rivals ready to take his wretched clients from him, and he is far too poor to pay a substitute. No wonder that nature sometimes takes her revenge for an overworked body and exhausted brain, and that the club doctor finds his hands and head at fault and takes a life where he has saved thousands. If he were but an overworked signalman, a thousand voices would cry "Shame!" But he is only a doctor, and has no right to share the mortal weakness he must cure in others. Ruin and disgrace will be his portion, and the scathing comments of the public press on his "criminal carelessness" will block his way to gaining a living by his profession for the future.—*St. James Gazette.*

The Oldest Prescription.—A French medical paper prints what is believed to be the oldest known medical recipe. It is for a tonic for the hair and its date is 4000 B.C. It was prepared for an Egyptian queen, and required dogs' paws and asses' hoofs to be boiled with dates in oil. The modern hair restorer requires asses' heads.

Fractures of the Elbow Joint.—1. All fractures of the lower end of the humerus, once in position, are held in place if the forearm is kept acutely flexed. 2. Such flexion can be used without danger to the limb or undue distress to the patient. 3. The only force required being one of flexion, no rigid apparatus is needed, it being sufficient to strap the forearm to the arm. One of the strong points of this treatment, therefore, is its perfect simplicity. 4. The points to emphasize are: Be sure to replace fragments as flexion is made, taking great care that the internal condyle is as low as possible and the joint not widened by effusion between fragments. If the condyle is kept down, no gunstock deformity can occur. 5. In cases thus far treated the amount of motion gained has been slightly greater than after ordinary methods. The amount of deformity has been very much less.—SMITH.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

ATLAS OF TRAUMATIC FRACTURES AND LUXATIONS, WITH A BRIEF TREATISE. By H. Helferich, M.D., with one hundred and sixty-six illustrations after original drawings by Dr. Joseph Trumpp. 8vo, 230 pages, comprising 64 full page chromo-lithographic plates, with descriptive text. Muslin; price, \$3.50. Wm. Wood & Co. New York.

EPIDEMIC OPHTHALMIA; ITS SYMPTOMS, DIAGNOSIS, AND MANAGEMENT, WITH PAPERS UPON ALLIED SUBJECTS. By Sidney Stephenson, M.B. 8vo, 278 pages, illustrated. Macmillan & Co. New York. Price, \$3.00.

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Original Lectures.

MIDDLETON-GOLDSMITH LECTURES¹—ON THE RELATIONSHIP BETWEEN INFLAM- MATION AND SUNDRY FORMS OF FI- BROSIS.

By J. GEORGE ADAMI, M.A., M.D. CAMB.,

PROFESSOR OF PATHOLOGY, M'GILL UNIVERSITY, MONTREAL.

MR. PRESIDENT AND GENTLEMEN: I cannot proceed to the delivery of these lectures without in the first place extolling the beneficence of him through whose regard for this society and generosity it has been made possible for you to institute this series of lectures—of him whom thus you are bound to keep in ever green remembrance. And in the second place I owe it not only to you but, to myself to give utterance to my very sincere gratitude for the honor done me in inviting me to attempt to fill a position in which already the great pathologists of this continent have one after the other added new leaves to their laurels. For myself I cannot hope to vie with my illustrious predecessors. I can but exceed them in appreciation of the honor done to me, and through me to the city and university of my adoption. I feel acutely your kindness in thus inviting to deliver these lectures one who is a stranger among you, one who as yet can scarce feel himself other than a stranger to this continent. For my university it does not need that I should be specially empowered to announce to you how, striving toward higher things, that university appreciates and is encouraged by every act of recognition from the larger world.

It might, perhaps, sir, be expected by that larger world that I should here make due and telling reference to my presence among you at the present epoch. I am inclined to think that when the universality of science and our common brotherhood in it are so obvious to all of us, and the insistence thereupon is to us so much of a truism, it were almost an insult to your intelligence and good will did I say anything, however much I may personally appreciate your kind invitation at this especial juncture. The most I dare venture is to express the fervent wish that the same fellowship may bind together the nations which now unites all those striving after good works in all branches of science.

Throughout the days of this generation, and to an increasing extent in these latter days, there has been and there continues to be a lively discussion as to what is and what is not to be included in the scope of inflammation. And as of late among a narrow sect of surgeons or surgical pathologists there has been manifest the revival of what, were I a theologian, I should denominate a (not unqualified) heresy, but what, as a pathologist, I prefer to describe as, in my opinion, a serious misconception, I have thought it well, not only from the interest excited by the subject in our body but also from the recrudescence of this misconception, to select as the subject of these lectures this matter of

inflammation and the relationship existing between it and fibrosis or fibrous hyperplasia in its various forms.

Even at the best this is a subject involved in difficulties. How involved I did not wholly realize until some months ago I was called upon by my friend, Prof. Clifford Allbutt, of Cambridge, England, to discuss the matter succinctly in the course of an article upon the "Pathology of Inflammation in General," and was forced to face the matter straightly. As I doubt not, most here present have found it is one thing to have general opinions, another to place them in logical sequence upon paper. When I came to attempt the latter, and again to consult the accounts given in the leading articles and text-books, I discovered not only the inconsequential nature of many of my previous views but also that most of what had already been written read like the writing of scribes rather than of those having authority; and after having written the article or section of an article already referred to I cannot but feel that what is there stated merits the same reproach, and since the manuscript left my hands the more I have deliberated the more dissatisfied have I felt over my own writing. I am glad to have this opportunity to revise and advance my views upon the subject, and even before the article in question is published to amend it and carry to a more logical conclusion the treatment of the principles upon which the article is based. I cannot hope to solve all or any of the problems that a study of this relationship between inflammation and fibrous-tissue growth opens up; at most, suggesting rather than dictating, I may possibly help others toward solution and may indicate the lines along which future research would seem to promise satisfactory results.

We are accustomed to employ the termination "itis" with the prefix "chronic" in almost if not quite every case in which there is replacement of the cell elements proper of a tissue by new fibrous-tissue growth. That is to say, we assume all these conditions to be of like origin, to be manifestations of chronic inflammation, or as the attempt at repair following upon acute inflammation.

Fibroid areas in the heart muscle are all grouped together under the convenient term of chronic interstitial myocarditis. Fibrosis of the valves of the heart with its sequelæ we speak of as chronic endocarditis. Arteriosclerosis is indifferently spoken of as chronic arteritis or endarteritis. Whatever the form of fibroid change occurring in the kidney, it comes under the heading of chronic interstitial nephritis. In the case of the liver it is true the conveniently non-committal name of cirrhosis is in English-speaking countries the term most usually employed to denote fibroid change, yet there are not wanting those who speak of chronic interstitial hepatitis.

I might similarly pass in order organ after organ of the body, with its chronic "-itis." Lax indeed is the employment of this common denomination of chronic inflammation, and its sole merit is its convenience in cloaking our ignorance of the exact causation of most of the conditions to which it is applied. In these lectures I wish to discuss how far and in what cases we are justified in the employment of the term, and to what extent the development of fibrous

¹ Delivered before the New York Pathological Society.

tissue in the more noble organs of the body is the result of inflammatory disturbance.

In such a discussion everything depends upon the definition of inflammation which is found acceptable, and the conclusions reached must stand or fall in the exact ratio in which the definition enunciated commends itself to other workers. Thus, first, it will be absolutely necessary for me to state clearly and distinctly what I understand by the term "inflammation."

Two courses, it seems to me, and only two are open to us with regard to our appreciation of the term. Either we can, with Thoma, agree that it is so unsatisfactory and that the discussions which have arisen as to its scope, or, more truly, as to the processes that are rightly to be included under the term, are so barren and profitless that we decide absolutely to expunge it from our vocabulary; or, on the other hand, we must determine to include in our idea of inflammation all processes having a like origin and tendency. There is no logical intermediate course unless it be to confine the term strictly to its primitive meaning and to determine that there can be inflammation only where there is "flaming," where there is redness and heat. No one is prepared nowadays to take this course, for this necessitates physiological active congestion of a superficial organ being considered as inflammatory. Nor again are there many who, wedded to tradition and cardinally virtuous, with Celsus only see inflammation when rubor, calor, dolor, and tumor are present. For these cannot deny that identical processes may occur when one or two or more of these cardinal symptoms are wanting. Thus, nowadays, those who would define inflammation etymologically are non-existent, while the partisans of tradition are "minished and brought low," forming a small and an impossible remnant. Hence, to return to my previous statement, there are but two logical courses open to us. Can we accept the first alternative and banish the idea of inflammation? I trow not—the suggestion is too quixotic. It is not within the power of any workers in any one branch of our science, even if that branch be pathology, to expunge at will a term of universal employment, a term that has come down to us through the ages—a term which, however loosely and variously employed, does nevertheless for all cover a greater or less number of processes of common occurrence. We cannot in a widespread science suddenly create a "tabula rasa" and start anew. Just as were we to do away with the plutocracy and start equally endowed with worldly possessions, while in twenty years the old plutocratic families would perchance be non-existent as such, yet the amassing of money and possessions in the hands of a few would inevitably be manifested, so were we to banish "inflammation" from our vocabulary, in the same time or even less some other word would be surely in common employment to denote the same idea. It cannot be done, and as a consequence the adoption of the second alternative is our only practical course.

We have, that is to say, so to employ the term that it will embrace all processes having a like origin and like import. Thus, then, starting from the generally accepted basis that the process is in its essence local and that the prime cause of all inflammations is injury to the tissues, if we are prepared to admit that one common or allied train of results follows upon all injuries, we must as our provisional definition state that inflammation is the series of changes constituting the local reaction to injury.

This is to all intents and purposes Burdon-Sanderson's definition and is that which for the last quarter of a century has been most generally accepted. For myself I cordially accept it as a good working definition; but at the same time I cannot but consider that the researches made since 1880 have materially added

to our comprehension of the phenomena associated with the process and of their tendency, and permit us now to acknowledge the import as well as the origin of the process. Those researches have shown us that a very definite meaning is to be attached to the main vital processes which follow injury to a part. They have proved that the accumulation of leucocytes in the injured area is purposeful; that, whether by intra- or extra-cellular action, these cells are capable, up to a certain extent, of counteracting the irritant and of removing dead and effete material; they have satisfactorily proved that the inflammatory serum possesses both digestive and bactericidal powers greater than the serum of the circulating blood; they have demonstrated that the migration of the leucocytes into the inflammatory area is not a passive process, but an active one directly dependent upon the extent of the stimulus exerted upon these cells by chemical alterations in their environment; they have demonstrated that the amount of fluid exuded into any one region of the body varies *inter alia* directly according to the intensity of the irritant—the more intense the irritant the greater the extent to which it is diluted; while, further, the part played by the fixed cells in the immediate neighborhood is equally evident and equally purposeful, tending manifestly to result in the cutting off of the damaged area from the surrounding healthy tissue and again to replace the tissue that has undergone destruction. Hence I am impelled to define inflammation as the local attempt at repair of injury, or, more fully, inasmuch as there is a certain small class of cases in which all the symptoms of inflammation are present as a consequence of nervous disturbance wholly unassociated with previous local injury,¹ as *the series of changes which constitute the local attempt at repair of actual or referred injury to a part*. So that needless objections be not raised, let me emphasize the fact that I do not regard inflammation as synonymous with repair. Attempt at repair and repair are two very different things, and no more to be confounded than attempted suicide and suicide, or, not to approach too closely to a very delicate subject, than the Emperor William's recent telegram to the Boers and actual war between two considerable European nations.

This, then, is the definition I am inclined to lay down. Save in the small matter of the wording, I do not claim any originality, for others in different lands have given forth definitions embracing the same idea. Thus Neumann, in Germany, defines inflammation as "the series of local phenomena which are developed in consequence of primary lesions of the tissues and which tend to heal these lesions."² Bland Sutton, in England, is somewhat more restricted. "It is," says he, "the method by which an organism attempts to render inert noxious elements introduced from without or arising within it."³ I doubt whether Sutton is right in speaking of it as a method and to me the larger view appeals, not simply of counteraction against the irritant but also of attempt to bring about a return of the region toward a functional condition—but the definition contains the same recognition of the purposive nature of the process. And lastly, here at home, Councilman acknowledges the same. In his most lucid article in Dennis' "System of Surgery" he defines inflammation as "the sum of the phenomena

¹ The most striking example of this class is to be seen in the experiment which has been frequently repeated, among others by my colleague, Dr. James Stewart, of assuring a susceptible individual under hypnotic influence that the hand or other region has been burned or blistered, when within a very short period the part becomes reddened, swollen, and, it may be, the seat of marked serous effusion.

² Ziegler's "Beiträge," v., 1889, p. 347.

³ I here quote from Professor Senn, not having been able to discover the original passage.

which take place in the tissue as the effect of an injury. The object of these various phenomena is to overcome or to diminish the effects of the injury."¹

Whatever justice there might have been a few years ago in the objection that this view of inflammation is teleological, now, with the facts at our disposal, the objection is no longer valid. As well may the statement that the function of the heart is to propel the blood into the arteries be condemned as teleological, or objection be taken to the statement that digestion is the series of processes whereby matters received into the alimentary tract tend to be converted to the uses of the tissues of the body. We are ready enough to admit the deductions drawn from physiological experiments; we must equally accept the results of experimental pathology.

But the definition here enunciated is altogether too broad for many to accept, and ever since Hüter propounded the view that the term inflammation ought to be restricted to those conditions in which there is infection by micro-organisms, with pus formation, there have not been wanting adherents of the narrower view. And as what is to follow must largely stand or fall according to the acceptance of the definition herein set forth, and inasmuch as this confounding of infection and pyogenesis with inflammation appears to be growing more and more popular upon this continent, I needs must for a short time discuss the propriety and soundness of the movement.

I do this, sir, with some hesitation, for I feel that I am reverting to very elementary pathology; nevertheless it is just because the matter is so elementary, so fundamental, so all-important for a right comprehension of all pathology, and because the distinction with which you have honored me affords an almost unique opportunity for calling attention to this matter, that I make bold to utilize this opportunity to urge a broad and logical consideration of the subject. Dr. Senn, professor of the principles of surgery in the Rush Medical College, Chicago, whose writings have obtained a wide circulation and whose influence in the North and West perhaps transcends that of any other surgeon, states in his "Principles of Surgery" that inflammation, in the widest and most comprehensive meaning of the word, should be made to embrace pathological conditions which are caused by the action of pathogenic microbes or their ptomaines upon the histological elements of the blood and fixed-tissue cells, and that "true inflammation is always caused by the presence of one or more kinds of pathogenic microbes," a statement which, it may be added in parenthesis, does not prevent him from employing figures from Hamilton and others to illustrate the stages of the process, although those figures represent the results obtained by the use of chemical and not bacterial irritants.

Dr. Roswell Park, professor of surgery in the University of Buffalo, in a straightforward address read before the American Surgical Association in May of last year² is inclined toward the same opinion, and, as he at the onset especially invites kindly criticism, I may say that his challenge has perhaps more than anything else led me to take up the subject here. He urges first the revolutionary thesis that the combination of the four cardinal symptoms should not be regarded as indicating inflammation. We should dismiss from our minds the associated idea, and should refer to the redness and heat as hyperæmia, the swelling as exudation, the pain as the result of pressure. Only when these become developed or modified by the growth of micro-organisms in an injured area or by the action of their products should we venture to speak of inflammation. And the term should then

comprise not only the local but also the general effects produced by the growth of the micro-organism. In fact, the existence of these general effects (as, for example, the rise of bodily temperature associated with the appearance of a small furuncle upon the nose) is given as a distinction between what Dr. Park regards as true inflammation and the non-inflammatory reactions of the tissues to non-microbic lesions.

While epitomizing Dr. Roswell Park's argument, I believe that I have accurately stated his main contentions.

Let us see what is the logical outcome of this idea. First and foremost the frequent association of redness, swelling, heat, and pain which may result from microbic invasions of the body is not in itself to be regarded as symptomatic of inflammation. The association is common to microbic and many other lesions. Only the extension of this series of symptoms in special directions under the continued influence of bacterial irritation is to be considered as inflammatory; or, to carry this view to its logical conclusion, the surgeon must no longer depend upon the presence of cardinal symptoms; he must only call a region inflamed when he has either personally or through a bacteriologist determined the existence of bacteria therein. There is no attempt made by Dr. Roswell Park to limit inflammation to pyogenesis, and while this view of inflammation for surgical purposes, in the main, undoubtedly separates suppurative from other lesions, it is in the terms of this definition impossible to regard suppuration in itself as an inflammatory manifestation, simply because, as is well known, suppuration may be induced by caustics and severe chemical and physical irritants, apart from the action of bacteria. As above stated, the bacteriological is to become the sole sufficient test of inflammation. While it is true that the general adoption of this view would result in rendering it absolutely necessary that every general practitioner should continually practise himself in elementary bacteriology, or else should banish the term inflammation from his diagnostic vocabulary—a not undesirable consummation, it may be—I cannot but fear that the general practitioner will still continue to speak of the inflammation of scalded surfaces, of black eyes, and of fractured limbs; for he will still require some useful and generally accepted term to embrace the train of symptoms following upon every-day injuries. This attempt on the part of members of one branch of our profession to delimit our idea of inflammation largely for practical purposes must fail when put into practice.

Or let us examine the proposal from another side. "Without infection," says Dr. Roswell Park, "no genuine inflammation; with infection, inflammation and, what always goes with conflagration, more or less destruction. Congestion and exudation provoke little, ordinarily no constitutional symptoms; inflammation always does. . . . I would," he states later (after discussing hyperæmia, congestion, and "cirrhotic" changes) "in an entirely distinct chapter and in an unmistakably separate way, take up the matter of inflammation—*i.e.*, infection." To all intents and purposes Dr. Roswell Park would substitute a word which, I think most will agree, has wisely been restricted to local disturbances for a word which has shown itself most useful as indicating the changes which may occur in the organism at large in consequence of microbic invasion. Up to the present time inflammation has been understood to indicate the local changes following upon an injury; fever and infection to indicate the more remote effects upon the organism at large. And I am forced to point out to Dr. Roswell Park that in "infection" he has a most useful word which will indicate everything that he wishes to include in his restricted idea of inflammation, and, that

¹ Dennis' "System," vol. i., 1895, p. 144.

² MEDICAL RECORD, New York, i., 1895, p. 705.

being so, there can be no valid reason why he should, with those "big, merciless hands" attributed by the late poet laureate to one of our surgical brethren, appropriate a word to which can be given a wider and at the same time a more exact use. The terms "wound infection," "local infection" and "general infection," and "infective inflammation," are in common and satisfactory employment and there can be little or no doubt as to their meaning. I beg Dr. Park to consider this before urging further the adoption of his proposals.

But while one is only too glad to have a word "infection" capable of covering the series of local and general effects induced by the presence and growth of micro-organisms within the body, its employment in nowise tells upon the fact that every change in the blood elements and tissues brought about by microbes and their products may be induced by irritants of another nature. While it is true that micro-organisms frequently lead to pus production and that suppurative inflammation is almost entirely induced by these agents, it is equally true, as was first clearly proved by Councilman, that sundry chemical substances can occasionally set up an identical process. And as Leber has shown, the purulent fluid produced by this latter means has definite powers of breaking up and digesting proteid matter; no clear distinction can be made between the septic and the aseptic pus save that the one is of microbic origin, the other not. A broad idea of inflammation to include all like processes throughout the higher animals must take cognizance of these facts.

Nor again, may I add, is it possible to distinguish one series of micro-organisms as essentially pyogenic. To attempt this is to draw a line between human and comparative pathology. While it is true that certain forms in man are peculiarly liable to induce abscess formation, those same forms by no means necessarily exhibit the same liability in other animals, and even in man they do not always lead to pus formation; in short, suppuration is the expression, not of the presence of certain specific microbes, but of a definite grade of intensity of irritation, or, in other words, it is a phenomenon representing a certain ratio between the virulence of the irritant and the resisting powers of the organism. Increase the virulence of a micro-organism or diminish the resisting power of the organism, and in members of the same species similarly treated we may have every grade of acute inflammation, from local hyperæmia and slight diapedesis of leucocytes through local abscess formation, to spreading sero-purulent cellulitis and general septicæmic infection. Much has been done experimentally to prove the truth of this statement, while the recent work in the laboratories of this continent upon cases of typhoid and gonorrhœa has abundantly shown how micro-organisms which in ordinary are not pyogenic can be the prime causes of abscess formation. Indeed it may be said with some truth that the main bacteriological work of the past year has been in the direction of confirming this statement and in demonstrating in case after case this liability on the part of bacteria ordinarily non-pyogenic to lead to abscess formation.

If this be so and if bacteria can thus be the cause of a series of reactive changes on the part of the tissues, advancing by imperceptible gradations from the simplest transient local inflammatory change up to the most profound generalized septicæmic disturbance, and if again, as all must admit, they can induce either profound local destruction of tissues or well-marked local tissue overgrowth, then surely it is impossible to separate the lesions produced by micro-organisms from the parallel and identical series capable of being produced by other noxæ.

I trust, therefore, that I have made it clear that we are compelled to range together the series of changes induced locally in the tissues as the result of injury under the common heading of inflammation, and this irrespective of the nature of the irritant.

For pathologists in general, for those studying not merely gross anatomical lesions but finer also, for those dealing with lesions of internal organs as well as with lesions having an outward manifestation, for those whose pathology and study of medicine is not confined to man and who strive to base their knowledge of disease and its processes upon a study of the same throughout the animal kingdom, no other course is open and practical.

Following this train of thought it becomes evident that we must regard as of inflammatory origin all those changes in the tissues which we can prove to result from direct injury to those tissues, whatever the nature of the irritant, and which we can regard as tending toward repair. We can separate the various degenerations of the tissues, for these form a well-defined series of changes from the inflammatory lesions proper; we may regard them as associated with but not inherent in the inflammatory change.

Of these local attempts at repair the most durable and, when the process has come to an end or when, being of moderate intensity, it has continued for some little period, the most evident is the formation of fibrous tissue. Now, in studying this formation and the broader subject of fibrosis¹ in general, the first point to be settled, one which will materially affect our whole comprehension and classification of the fibroses, is whether it is possible to distinguish between new connective-tissue formation which is directly the result of injury and that which is indirectly the result, and if we can determine this we can with greater freedom attack the question of the classification of the fibroses in general and can more surely state which of them are to be considered of inflammatory origin and constituting chronic "-itides," which non-inflammatory.

The first question is one of peculiar difficulty, and the problem presented for solution may perhaps be best approached by a consideration of two widely separated cases. A study of the various stages of the development of a tubercle demonstrates that in man and most mammals the first result of the lodgment and growth of the tubercle bacilli in the tissues is to stimulate tissue formation. Only at a later period, with continued action of the products of the germs and associated disturbed nutrition of the central area of the granuloma, does tissue destruction become manifest. There is perhaps no better demonstration than this, unless it be that afforded by lepra nodules, of injury leading directly to connective-tissue growth.

On the other hand, we may consider the processes which occur in the central nervous system following upon atrophy and destruction of ganglion cells or upon separation of axis-cylinder processes from their trophic nerve cells. The results can best be seen when the injury affects secondarily all the members of an ascending or descending tract, and they are to be summed up as consisting of degeneration of the fibres forming the tract with replacement by fibrous tissue. Here there has been no irritant circulating in the lymph bathing the fibres and leading directly by its action to their destruction. The degeneration and

¹ Here let me state that I have no liking for this mongrel term "fibrosis"; nevertheless, I know of none which can satisfactorily replace it. The terms "sclerosis" and "cirrhosis" indicate only the secondary consequences of fibroid overgrowth, and "fibrous hyperplasia" is a little clumsy, while "fibrosis" undoubtedly conveys clearly its meaning; and in its favor (although two blacks do not make one white) it may be urged that in common usage we have such other mongrel terms as "fibroma," "fibro-enchondroma," and so on.

atrophy has followed upon injury inflicted at a distance, an injury to another region of the body. If any irritant be present it is of intrinsic origin. All the same, we see that the atrophied fibres become replaced by connective tissue.

Are we to regard this "replacement" fibrosis as a form of chronic inflammation? Against so regarding it it can be argued that, as already stated, no specific irritant of external origin can be adduced as having acted upon the tract of degeneration, and that in case after case where the degeneration has been gradual none of the ordinary symptoms of inflammation are recognizable, neither the coarser conditions of hyperæmia and exudation nor those finer ones of determination of leucocytes (though this phenomenon is at times quite distinct), multiplication of capillaries and other microscopical evidences of removal of destroyed tissue, and active new growth. Almost imperceptibly the atrophied nerve fibres are replaced by connective tissue, and it may be that of all the accompaniments of ordinary inflammation the sole distinguishable is the "functio læsa."

But there is another aspect of the condition that we are forced to regard, and I may best approach this indirectly. What satisfactory distinction, it may with justice be asked, can be drawn between this more insidious replacement fibrosis and the grosser replacement occurring in the case of infarcts? In the latter the normal course of events is, that, infective agents being absent, the necrosed area becomes surrounded by a zone of hyperæmia, the dead tissue undergoes disintegration and absorption and is replaced by new fibrous tissue. In such a case, it is true, we can recognize the distended peripheral vessels, the invasion by leucocytes, the formation of new vessels, all the main microscopical and most of the macroscopical signs of inflammation. But, as in our previous example, no extrinsic agent has set up the disturbances. It is difficult, indeed impossible, to arrive at any other conclusion than that the products of necrosis act as the irritant and that they must be regarded as the cause of the inflammation and subsequent fibrous-tissue development. It is competent for us to assume the existence of a cryptic inflammation in the former case, and to hold that a like cause, namely, tissue necrosis, has led to a like effect, namely, fibrosis. And indeed if we adhere to the definition of inflammation that I have laid down, both of these cases of replacement fibrosis so obviously represent the local attempts at repair following upon injury to the tissues, that unless we further define what is meant by injury we are forced to regard them as equally of inflammatory origin.

We see thus that two different types of fibrous-tissue development, one hyperplastic, the other, as I have termed it, replacement, may be of inflammatory origin, and the more one examines into the subject the more difficult is it found to recognize inflammatory fibroses by their histological characters. While it is true that in certain cases we have histological evidence of progressive inflammation—the presence of newly formed vessels, of an increased number of extravascular leucocytes and small round cells, and it may be of a certain amount of exudation—in cases of the same nature at a later date all these signs may be wanting, and again, in other allied cases, from the very onset both microscopical and macroscopical indications of inflammation may be peculiarly rare. We cannot depend upon histological evidence alone. At the most we can classify the various forms according to the evidence in our possession as to their origin and tendencies.

[To be continued.]

Prof. Moriz Benedick has recently celebrated his jubilee. Professor Benedick has now been forty years in the practice of medicine.

Original Articles.

PNEUMONIA AS A COMPLICATION OF DIPHTHERIA IN CHILDREN.¹

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I HAVE been led to give interested attention to pneumonia as it occurs in diphtheria by the experience that in hospital practice by far the largest number of deaths from this disease are due to this complication. Thus the brilliant results otherwise obtained by the use of antitoxic serum in true diphtheria are materially diminished.

Dr. John W. Brannan, in an admirable statistical study of the results obtained in the Willard Parker Hospital from the serum treatment of diphtheria during nine months of 1895, found that out of one hundred and twenty-four deaths occurring during this period, sixty-six were due to broncho-pneumonia. To this must be added a case of pulmonary gangrene, which occurred during my service and which began as a broncho-pneumonia, so that more than fifty-four per cent. of the deaths from diphtheria were due to broncho-pneumonia. Sturges and Coupland found in autopsies on one hundred fatal cases of diphtheria that in twenty the lungs were unaffected, in eleven the lungs were congested, thirty-five showed pulmonary collapse and emphysema, in twenty the lesions of broncho-pneumonia were present, and in fourteen those of lobar pneumonia.

In private practice also this complication is primarily or secondarily the cause of death in a very large proportion of the fatal cases, and is also present in a considerable percentage of cases that recover in spite of the severity of the affection.

While I do not think it would be profitable to go into an exhaustive consideration of the pathology, symptomatology, etc., of a condition as well known as pneumonia, consideration of certain special features of the disease as a complication of diphtheria should prove of interest.

In order to avoid repetition it will be well to take up these data in the following order.

1. Etiological factors that enter into the occurrence of pneumonia in diphtheria.
2. Bacteriological and pathological data.
3. Clinical points of interest and data for prognosis.
4. Treatment—preventive and curative.

Etiological Factors.—Pneumonia may occur as a complication of any stage of diphtheria. I have recently seen a case of pneumonia in a child three years of age, complicating a diphtheritic tonsillitis. There was a history of sore throat for two days. On the other hand I have repeatedly seen in hospital practice a child convalescent from diphtheria, no more membrane being visible in the throat but Loeffler bacilli being still plentiful in cultures obtained from the throat, become affected by broncho-pneumonia, and this as late as the third week from the beginning of the disease.

A curious fact at the Willard Parker Hospital in this connection has been shown by Dr. Brannan, namely, that in 1895 the cases that died of broncho-pneumonia as a complication had had an average of 13.7 days of hospital care, while those that died in 1894 of this complication had had an average of two days of hospital care, which would seem to show that the antitoxin treatment had enabled even the most virulent of cases of diphtheria to resist the occurrence of this serious complication for a longer period than patients treated in 1894 by the old methods.

¹ Read before the N. Y. Academy of Medicine, March 5, 1896.

Sturges and Coupland found that where the lung became inflamed immediately after tracheotomy in cases of croup the complication was apt to be broncho-pneumonia, while lobar pneumonia is more apt to occur where the complication sets in a long time after the operation, when the child has practically recovered from the surgical lesion. Thus they report three fatal cases of lobar pneumonia in children occurring as a complication of tracheotomy for croup, one nineteen days and two twenty-four days after operation. The broncho-pneumonia which is one of the causes of death in some fatal cases of post diphtheritic paralysis is necessarily a very late sequel rather than a complication of diphtheria. But apart from these cases experience has taught that pneumonia may complicate a case of diphtheria as long as it remains diphtheria, that is, as long as there are Loeffler bacilli in the throat.

A variety of causative factors can be considered as determining the occurrence of pneumonias and other lesions of the lungs as complications of diphtheria.

First. In diphtheria of the larynx, the diphtheritic process can spread by direct continuity from above downward through the bronchi into the air cells, false membranes being found in the finest ramifications of the bronchi.

Second. Minute pieces of false membrane may be drawn by aspiration into the farthest ramifications of the bronchi, thus setting up a local bronchitis or diphtheritic broncho-pneumonia, there being no membrane in the trachea or intervening bronchi.

Third. In diphtheria of the larynx, where intubation has been practised, minute particles of liquid food may pass through the insufficiently protected tube into the trachea, and by aspiration into the bronchi, and thus start up a pneumonia called by the Germans "Schluckpneumonie." In tracheotomized cases minute foreign bodies may be drawn into the trachea and thus produce an inflammation of the deeper bronchi followed by a pneumonia; finally diphtheria of the larynx and trachea, by partially occluding these passages, will prevent the proper expulsion of the secretions below the seat of the diphtheria, and thus set in motion the series of processes that terminate in a more or less inflammatory condition of the lung.

It will be seen that all of these causes are chiefly mechanical in their action, depending upon gross physical changes for their explanation. They can from their very nature only be considered as productive of the pneumonias complicating diphtheria of the upper air passages.

But another more general causative agency in the production of this complication has been revealed by our recent knowledge of the bacteriology of diphtheria and pneumonia. It is the influence of infection. This is by far the most frequent cause of the occurrence of pneumonia as a complication of diphtheria, and is active not only in diphtheria of the larynx and trachea but also in diphtheria of the nose and pharynx; in fact, in any diphtheritic infection of the body. As will be seen when we come to discuss the bacteriology of this form of pneumonia, the streptococcus is the germ most universally present in these cases. Mamorek¹ and other authorities have shown that the streptococci present in various human maladies are really identical. "Each produces indifferently the whole series of the streptococcus maladies depending entirely upon the virulence of the germ and its point of entry." It must be remembered that human beings are more sensitive to the action of these germs than any other living being, that the slightest scratch opens the door to the entrance of these omnipresent cocci, giving rise to inflammations of the various organs to which they are carried, and that streptococci are natu-

rally present even in conditions of health; it will be readily understood, therefore, how in diphtheria, a disease in which the air passages are naturally the seat of irritation, these germs are carried to the lungs. Not only do they there exert their own specific action, but, as Dr. Funck,¹ of Brussels, has shown, vastly increase the baneful activity of the Loeffler bacillus, making the latter far more virulent than in cases of diphtheria the result of a pure infection by the Loeffler bacilli. Dr. Vetter,² in a series of bacteriological studies of broncho-pneumonia occurring in adults and children, found streptococci present in every case of broncho-pneumonia complicating diphtheria, and this authority thinks, that while the infection in broncho-pneumonia is, as a rule, an auto-infection from the mouth and nose, yet the germs here have probably come by contagion originally. It would seem highly probable therefore that the mixed infection of a case of broncho-pneumonia complicating diphtheria can be carried from one to another. This factor is of especial importance in diphtheria hospitals, where children with broncho-pneumonia and diphtheria lie in cots adjoining those that have diphtheria alone. To this cause is probably due the much greater frequency of this complication in diphtheria hospitals, and, above all, the frequent occurrence of broncho-pneumonia in those convalescing from diphtheria in such institutions. Furthermore, cases that have been subjected to operation for membranous croup, either by tracheotomy or intubation, especially where the latter operation has been done under difficulties, are necessarily more disposed to absorb streptococci through the wounds caused by these operations. Without doubt the vastly better results yielded by intubation are due to the greatly diminished danger of the absorption of streptococci in the latter operation as compared with the large wounded surface necessarily the result of tracheotomy. The virus of such a mixed infection reaches the lungs partly by aspiration and partly through the lymphatics. The bacteria thus absorbed become centres for broncho-pneumonia. We believe, therefore, that this complication is produced by auto-infection, or infection from without, or even by contagion. A curious confirmation of contagion as a factor in the production of complicating broncho-pneumonia is my own observation in private practice that when several cases of measles occur in the same family at the same time they do very badly, often developing pneumonia, if they are kept in the same room. I have, therefore, in recent years strenuously insisted upon isolation for each case in spite of the fact that the disease was the same.

As a final element in the causation of broncho-pneumonia as a complication of diphtheria we have the hygienic surroundings of the patient, together with the constitutional condition of each individual. These elements are so well understood as important etiological factors in the production of such a condition as broncho-pneumonia that they require hardly more than mention here. We must not refrain, however, from calling attention to the especial importance of proper air space for individual cases in hospitals devoted to the treatment of infectious diseases. No element is so fruitful in disseminating evil complications as overcrowding. Experience has shown that a floor space of from one hundred and ten to one hundred and twenty square feet is required for each patient in a ward, the height of the ceiling being at least fourteen feet. The temperature of the ward is also of the utmost importance in the treatment of pneumonia. Recent experience in the Willard Parker Hospital seems to show that increasing the air space for each patient

¹ Zeitschrift für Hygiene und Infectious-Krankheiten, Bd. xvii., H. iii.

² Archiv für Kinderheilkunde, Bd. xvii., H. iii.-iv.

¹ Annales de L'Institut Pasteur, July, 1895.

and regulating the temperature to which the air of the wards is artificially raised to not higher than 70° F. has diminished the frequency of and lessened the mortality from pneumonia.

Pathological Considerations.—I have found different varieties of inflammations of the lungs complicating diphtheria. They may be grouped under the following heads: congestion of the lungs, broncho-pneumonia, lobar pneumonia, and gangrenous pneumonia.

Congestion of the lungs, pure and simple, is rarely, if ever, found alone, but it is frequently present as an accompaniment of a localized broncho-pneumonia or bronchitis; this is illustrated by the following autopsy:

Autopsy No. 10.—Subject, M. A——, age seventeen months.

Clinical diagnosis.—Broncho-pneumonia, right apex; diphtheria.

Anatomical diagnosis.—Broncho-pneumonia, right upper and middle lobes.

Lungs.—Left lung well aerated throughout; moderately congested; bronchi filled with pus.

Right lung, upper and middle lobes consolidated; surface of pleuræ covered with delicate layer of fibrin. Pleuræ seat of minute petechial hemorrhages. Cut surface finely granular. Color gray, with reddish tinge in upper portion. Bronchi filled with pus. Lower lobe only moderately congested.

Trachea and larynx contain a little mucus, in which there is a little pus. True vocal cords slightly roughened.

Broncho-pneumonia is the form of pneumonia most frequently found as a complication of diphtheria in children. There are some authorities who doubt whether this is not the only form of pneumonia which ever occurs. While I do not agree with those who hold the latter view, I believe and the autopsies at the Willard Parker Hospital seem to confirm the opinion that almost all of the pneumonias complicating diphtheria are of the broncho-pneumonia type. Nevertheless, I believe that lobar pneumonia does occur as a result of mixed infection. Never can this form of pneumonia occur as a result of the extension of the diphtheritic process into the bronchi and thence into the lungs. Pneumonia which occurs as a result of such extension is invariably broncho-pneumonia. Furthermore, broncho-pneumonia may also occur in discrete or confluent areas scattered throughout the lungs or involving one or both lungs, and yet not as a result of extension of the diphtheritic process into the bronchi by continuity, the larynx and trachea being entirely free, as was shown under the head of causation.

Of cases due to direct extension of the diphtheritic process from the bronchi into the lungs the following autopsies made at the Willard Parker Hospital will serve as examples:

J. P.—, eighteen months.

Clinical diagnosis.—Diphtheria and broncho-pneumonia.

Anatomical diagnosis.—Diphtheria and broncho-pneumonia.

Pleura.—Few petechial hemorrhages.

Lungs.—Left lower lobe, posterior two-thirds, broncho-pneumonia, gray stage. Upper lobe, lower half, also seat of broncho-pneumonia, gray stage. Remaining portions of lung slightly oedematous. Bronchial glands considerably enlarged.

Right lung.—Bronchi contain rather more muco-pus than those of left lung. Posterior two-thirds of lower lobe completely consolidated and also posterior one-fourth of upper lobe showing gray stage of broncho-pneumonia. Remaining lung tissue oedematous. Bronchial glands considerably enlarged.

Pharynx, posterior lateral walls roughened but no

membrane; lower portion much congested. Larynx lined throughout by fairly thick layer of yellowish-white membrane, which is very adherent. Trachea and beginning of primary bronchi lined throughout by thin layer of loosely adherent patchy membrane.

Autopsy No. 11.—Subject, J. K——, eight months.

Clinical diagnosis.—Pharyngeal and laryngeal diphtheria, broncho-pneumonia.

Anatomical diagnosis.—Tracheal and laryngeal diphtheria, broncho-pneumonia.

Left lung.—Lower lobe, broncho-pneumonia; bronchi contain pus; bronchial glands enlarged.

Right lung.—Consolidation of posterior portion of upper lobe. Lower lobe congested, with a few scattered areas of broncho-pneumonia; consolidated areas of a reddish color.

Pharynx, larynx, trachea, and tonsil covered with membrane. Epiglottis much swollen and covered with membrane.

In these cases of extension of the diphtheritic process into the lungs, the finest bronchioles and air cells may be found lined with false membrane; here the diphtheria exudation is of almost fluid consistency.

The following autopsy is an example of broncho-pneumonia complicating diphtheria. In this case the lung was the seat of tuberculosis in addition to the complications due to diphtheria:

Autopsy No. 9.—Subject, E. S——.

Clinical Diagnosis.—Diphtheria, broncho-pneumonia.

Anatomical diagnosis.—Broncho-pneumonia, complicated by tuberculosis.

Left lung.—Posterior three-quarters of lower lobe consolidated; lesion presenting appearance of broncho-pneumonia, gray stage. Lower portion of upper lobe contains a few areas of consolidation, portions of which appear to be due to simple broncho-pneumonia; other portions appear to be tuberculous; anterior border of lung shows marked emphysema. Largest blebs one centimetre in diameter. Bronchi contain small amounts of muco-pus.

Right lung.—Same as left, except that the consolidation is less complete; contains only a cheesy nodule near anterior border of upper lobe, one-half centimetre in diameter and partly surrounded with calcareous material.

Pharynx, larynx, and trachea perfectly normal. Some of the bronchial glands are enlarged and calcareous.

This is a case in which the pneumonic process was not the result of extension of the diphtheritic process downward into the lungs, but was independent in origin and due to mixed infection spread by the lymphatic channels, or circulation, or even by aspiration of microbes into the deeper portion of the lungs.

James H. McKee¹ reports a number of cases of lobar pneumonia in children, this in contradiction to the frequently expressed doubt as to the occurrence of such a condition in childhood. Sturges and Coupland found in one hundred fatal cases of diphtheria in children fourteen of lobar pneumonia. While the autopsies made during the past year at the Willard Parker Hospital do not show any cases of death from diphtheria with croupous or lobar pneumonia, yet the clinical course of several cases during my service last summer led me to make the diagnosis of lobar pneumonia. The sudden onset, the well-outlined area of consolidation and the presence of bronchial breathing only in this area, the absence of the signs of bronchitis, generally the absence of diphtheria in the air passages, and the resolution by crisis; all these symptoms point to the probable diagnosis of lobar pneumonia. I am as sure that lobar pneumonia occurs

¹ Archives of Pediatrics, p. 727.

as a complication of diphtheria as I am that it occurs as an idiopathic disease in children.

Finally we come to the cases of diphtheria in which the complicating pneumonia is of the gangrenous variety. Of this variety of pneumonia I saw two cases in 1894 and one case in 1895 at the Willard Parker Hospital. The diagnosis is made by the presence of the usual symptoms of broncho-pneumonia together with the presence of a most frightful odor. Alfieri¹ reports a case of fetid broncho-pneumonia complicating diphtheria, of which he studied the bacteriology. Bernardi reports two cases of the same.

This complication may be the result of large infarctions in the lung, which are sometimes found in diphtheria.

The following is the report of the autopsy of the case seen by me at the Willard Parker Hospital in the summer of 1895.

Autopsy No. 2.—Subject, A. F.—, three years.

Clinical diagnosis.—Diphtheria.

Anatomical diagnosis.—Septic pneumonia, broncho-pneumonia, necrosis, convalescence from diphtheria.

The lower lobe of right lung consolidated, grayish-white, and granular; fibrino-granular pleurisy. Upper lobe contains a number of necrotic cavities filled with thick muco-pus. These occupy most of the lobe. Left lung shows numerous areas of broncho-pneumonia. Parenchyma of organs all show degeneration.

Brain and membranes seem normal and also the spinal cord.

The differentiation of these four varieties of pneumonia—that is to say, (1) broncho-pneumonia resulting from the extension of the diphtheritic process into the lung; (2) broncho-pneumonia occurring as a complication of diphtheria but not as a result of extension; (3) lobar pneumonia, and (4) gangrenous or purulent pneumonia—is important from a prognostic standpoint.

The most important part of our study in the light of present advances in serum therapy is the bacteriology of this complication. It has come to be recognized that pneumonias complicating true diphtheria are not due to the action of the Loeffler bacilli upon the bronchi and air cells, but are rather the result of a mixed infection.

Dr. Vetter² found in seven cases of broncho-pneumonia complicating diphtheria in children that the streptococcus was always present in the lungs. In three cases it was accompanied by the staphylococcus aureus, in one by the pneumococcus, in one by the Friedländer bacilli. Loeffler bacilli were found in four out of these seven cases.

Prudden and Northrup, 1889, found in seventeen children dead of pneumonia complicating diphtheria, streptococci in the lungs as well as in the pseudo-membrane. When pure cultures of these streptococci were injected into the trachea of rabbits, broncho-pneumonia was produced in every case. Whatever may be the causative relation between the diplococcus and lobar pneumonia, it is certain that in every case of broncho-pneumonia pyogenic streptococci are present.³

Mya and also Roux and Yersin showed that injections into rabbits of cultures of Loeffler bacilli and streptococci were far more fatal than diphtheria bacilli alone. Injections of impure cultures of streptococci and staphylococci with Loeffler bacilli were almost caustic in their action, while the general effect was a most virulent one. Injections of pneumococci with diphtheria bacilli show a great increase in the local exudate as compared with that present in animals injected with the Loeffler bacilli alone.

Dr. Funck,¹ of Brussels, injected into guinea-pigs previously immunized to diphtheria by antitoxin, pure cultures of diphtheria bacilli; the result was negative, owing to the immunization. Pure cultures of streptococci also gave a negative result, while the injection of pure cultures of streptococci and diphtheria bacilli resulted in severe sickness and death of the animals. He also found that even the animals injected with the mixed bacteria cultures did not die when the immunization serum had been previously injected in much larger dose than necessary for the quantity of Loeffler bacilli subsequently injected.

From this experiment it appears that an excessive dose of antitoxin would seem to diminish the severity of the effects of even mixed infection.

These experiments also prove the much greater virulence of mixed infection as compared with infection by the Loeffler bacillus alone.

Concetti² injected pure cultures of Loeffler bacilli and obtained the usual results. Other animals he injected with pure cultures of streptococci and staphylococci with negative results, but a third set of animals were injected with a mixture of pure cultures of Loeffler bacilli, streptococci, and staphylococci and the effect was extremely virulent and fatal. From these and other similar experiments the following conclusions are warranted:

1. Streptococci with Loeffler bacilli and with or without other cocci are the bacteriological cause of the pneumonia complicating diphtheria.

2. That mixed infection not only causes this and other complications, but increases markedly the virulence of the action of the diphtheria bacillus.

Even in cases in which the pneumonia is the result of the extension of the diphtheritic process into the finer bronchioles, the active factor in the production of the pneumonia is probably not the Loeffler bacillus, but the pneumonia is the result of the action of the streptococci upon the diseased respiratory mucous membrane.

Platini found that when he subjected animals to inhalation of pure cultures of diplococci, pneumonia did not result unless the mucous surface of the air passages was abraded. Such minute lesions of continuity are produced by the diphtheritic exudate and become the point of entry for the streptococci into the lymphatics and blood.

Symptoms which Characterize the Occurrence of this Complication in a Case of Diphtheria.—The clinical picture of pneumonia is so classical that it would scarcely be in place here to do more than to call attention to such points of interest in the symptomatology of this affection as appear to be of especial diagnostic importance. It is well known that severe and even fatal cases of diphtheria and especially of diphtheritic laryngitis run their course with very little or no rise of temperature. But it may be laid down as an axiom that the occurrence of broncho-pneumonia as a complication of diphtheria is always ushered in by a rise of temperature which remains to a greater or less figure above the normal while the complication lasts. So universally is this true that whenever in a case of diphtheria a sudden rise of temperature occurs, and when a careful examination shows no complication in the kidneys, in the ears, or inflammation of glands, I am led, even before absolute physical signs show the lungs to be involved, to suspect very strongly the occurrence of pneumonia as a complication. If the rise in temperature be accompanied by relatively excessively increased rapidity of respiration and slight cough, I would feel warranted in making a diagnosis of pneumonia long before the physical signs gave any proof of such a condition.

¹ Riforma Medica, Naples, February 3, 1894.

² Archiv für Kinderheilkunde, B. xvii., H. iii.—iv.

³ Mya, XI. Internat. Cong., Rome. "Ueber die Pathologie der Diphtheria-Infection."

¹ Zeitschrift für Hygiene und Infectious-Krankheiten, Bd. xvii., H. iii.

² XI. Internat. Cong., Rome, Section for Dis. of Child.

Indeed, the two most important symptoms of pneumonia complicating diphtheria, outside of those obtained by auscultation and percussion, are the rise of temperature and rapidity of respiration greater than would be called for by the increased action of the heart. Of the physical auscultatory signs, those which show the presence of a local capillary bronchitis are extremely important, particularly when this bronchitis is found at the base of the lungs posteriorly. Crepitant and subcrepitant râles in this situation with rapid breathing and rise of temperature indicate when occurring with diphtheria the presence of a broncho-pneumonia. I say this in spite of the fact that I persistently look for bronchial breathing and the percussion note of consolidation. Where the pneumonia begins in the deeper portions of the lungs, signs of consolidation cannot be obtained before the third or fourth day and frequently we do not get them at all, and he who seeks confirmation of his diagnosis by this means will often not find it confirmed until the signs of resolution, moist and subcrepitant râles, defervescence of the fever, etc., show where the lungs have been involved or, in the case of death, the autopsy proves it even more positively.

The most important and, if heard, absolutely pathognomonic physical sign in the early stages of a broncho-pneumonia is one obtained by auscultation. It consists of fine crepitant râles heard on deep inspiration over the inflamed lung tissue. It can be heard in crying infants during the deep inspiration between the cries. Heard once it is so characteristic that a diagnosis of pneumonia can be positively made. The ear of the auscultator should be firmly pressed against the chest, care being taken to exclude the crepitant sound made by the hair of the auscultator rubbing against the chest of the patient. Even if the incipient inflammation be in the deepest part of the lungs and no bronchial breathing or dulness is heard, owing to the overlying healthy lung tissue, this crepitation will be heard on very deep inspiration. It is, of course when certified to by a competent auscultator, absolutely pathognomonic. This crepitation is probably due to the entrance of air through the viscid inflammatory products which partially fill the finest bronchi and air cells in the early stages of pneumonia.

Especially difficult will it be to obtain the classical physical signs in cases of disseminated broncho-pneumonia, for here comparatively healthy lobules surround diseased areas of lung tissue and mask the physical signs, but if one will be guided by the symptoms already given, namely, rise of temperature, increased rapidity of respiration, and the presence of capillary bronchitis, and, best of all, the crepitant râles heard on deep inspiration, he will rarely be deceived in his diagnosis. It is of the utmost importance from a prognostic point of view to attempt to make the differential diagnosis between those cases of broncho-pneumonia which have been caused by an extension of the diphtheritic process through the trachea and bronchi into the lungs and those cases in which the lungs have become inflamed in greater or less areas without the respiratory mucous membrane intervening between the seat of disease in the throat and that in the lungs being affected by diphtheria. Fortunately it is generally easy to follow the course of disease in those cases of laryngeal diphtheria in which the process spreads downward through the trachea and bronchi into the lungs. There will be the coarse bronchial râles in disease of the bronchi, then fine sibilant râles showing its progress into the capillary bronchioles and almost at the same time crepitant and subcrepitant râles indicating the involvement of the lungs. If a considerable area of lung tissue has become involved, the prognosis in these cases is extremely fatal. Indeed, even when at first but a small

portion of lung tissue is involved the process is apt to extend very rapidly. Some portions of lung tissue which do not become inflamed are apt, through the closing of their terminal bronchioles and consequent imperfect inflation, to be the seat of atelectasis. Furthermore, vesicular emphysema is apt to incapacitate portions of lung tissue that have remained healthy so far as the inflammation was concerned, so that in these cases the prognosis is almost certainly fatal.

Isolated patches of broncho-pneumonia, even when of considerable size, provided the larger bronchia are not the seat of diphtheria, as a rule give a much better prognosis than broncho-pneumonia the result of extension of the primary disease as above described.

Lobar pneumonia, although its occurrence as a complication of diphtheria is much rarer than lobular pneumonia, has a comparatively good prognosis, more favorable than that of broncho-pneumonia even of the latter variety. It resolves by crisis and, as a rule, in much shorter time than broncho-pneumonia. Septic or gangrenous pneumonia, it is unnecessary to say, is absolutely fatal.

Furthermore, the prognosis depends upon the severity of the diphtheritic process, the stage of the disease in which the pneumonia has occurred, the surroundings and strength of the patient, and finally as to whether the case has been operated upon or not. Pneumonia complicating tracheotomy is, as a rule, almost certainly fatal, but in pneumonia complicating cases that have been intubated, while the prognosis is very grave, still it is better than in similar cases that have been tracheotomized.

While we can only accentuate the gravity of pneumonia complicating diphtheria, it is but proper to remember that, taken all in all, a great many cases recover from even this serious condition.

Treatment, Prophylactic or Preventive.—This being a disease due primarily to bacterial infection, it necessarily follows that cases of broncho-pneumonia complicating diphtheria should be isolated from other children having diphtheria. Indeed it would be perfectly proper to go further, were that the object of this paper, and lay down the general rule that all cases of pneumonia should be isolated from persons in health in order to prevent infection. The fact that broncho-pneumonia is so much more prevalent in diphtheria hospitals than in private houses where single cases of diphtheria occur is probably due, first, to this contagious element in broncho-pneumonia; second, to the fact that the air of the hospital ward in which many cases of diphtheria lie becomes surcharged with bacteria, especially with streptococci. Hence it follows that cases of broncho-pneumonia occurring in diphtheria hospitals should not only be isolated, but that even cases of diphtheria uncomplicated by broncho-pneumonia should have allowed a much larger air space for each patient than is given in general hospitals to each bed. The ventilation should be perfect, the air of the ward being frequently changed without the production of a draught. The temperature of the ward should be kept at 70° F. in order to avoid weakening the patients by too warm an atmosphere. The latter precautions as to ventilation and temperature should be followed in private houses also, wherever a case of diphtheria is being treated.

Cases that have been intubated and above all those that have been tracheotomized should be carefully guarded from contact with cases of broncho-pneumonia, for, as I have already said, micro-organisms are generally active in the production of this complication when the mucous membrane of the respiratory tract has undergone a lesion; this is apt to be the case in intubation and it certainly occurs in tracheotomy. In intubated cases it is further necessary that great care be taken in feeding, that liquid particles of food do

not regurgitate into the larynx and thus produce "Schluckpneumonie." This can be, to a great extent, prevented by feeding the child in the supine position, with the head thrown well back over the edge of the couch or the lap of the nurse.

Curative Treatment.—We can do nothing locally to treat the seat of disease. I say this in order to discourage the treatment of broncho-pneumonia by inhalations of antiseptic vapors. I do not think that such vapors retain any of their germicidal properties when they reach the seat of disease in the finer bronchioles and air-cells. In spite of the fact that comparatively weak solutions (vaporized) of various antiseptics destroy the streptococcus, the germicidal treatment of broncho-pneumonia is impracticable. Inhalations of oxygen, however, are useful, partly as heart stimulants, partly to enable the crippled lung to do the work of a healthy one by absorbing oxygen in a more concentrated form than in the ordinary air. For the reduction of temperature antipyretic drugs should be avoided; the cold pack is by far the best antipyretic agent. Children can be wrapped in sheets wrung out of ice water every half-hour until the temperature is reduced to a proper degree. These cold sheets act not only to reduce temperature but stimulate the patient. Furthermore, they have a local effect upon the lungs to reduce the inflammatory congestion. With this object in view I order the chest of children with pneumonia in the earlier days, in whom the temperature is not very high, to be wrapped in cold compresses wrung dry from ice water, regularly every hour or as often as they become warm. Counterirritants of various kinds applied to the chest are also useful. Poultices should never be used. At the instance of my colleague, Dr. Brannan, who tells me that he owes the suggestion to Dr. Seymour, of Troy, we are accustomed at the Willard Parker Hospital to raise the foot of the bed of children that have been intubated to the extent of ten or twelve inches, with the object of draining away the discharges, etc., by gravity into the pharynx. Of constitutional remedies we have a great many, the object being to support the vitality of the patient by food, stimulants, etc., and such drugs as maintain the action of the heart, such as ether, nitroglycerin, caffeine, and alcoholic stimulants, for a temporary effect, and digitalis and strychnine for more continued action. In addition to all this antitoxin and other remedies for the diphtheria of which the pneumonia is a complication must be used. In view of the fact that excessive doses of antitoxin have been shown experimentally in animals to protect to a certain extent against even mixed infection, cases of broncho-pneumonia complicating diphtheria should have extra large doses of antitoxin administered.

Here, however, I wish to consider an entirely new remedy that has been used in Paris to a limited extent in broncho-pneumonia complicating diphtheria, as well as in other streptococcus diseases, and that is the use of the antistreptococcus serum. It is self-evident that the application of the serum treatment to the cure and prevention of this complication depends upon the certainty of our knowledge that pneumonia as a complication of diphtheria is caused not by the Loeffler bacillus but by a mixed infection in which the streptococci take a very important and constant part. Of those who have sought to find an antistreptococcus serum as well as an antitoxic serum for the poison of the streptococci, the best work has been done by Dr. Alexander Marmorek.¹

He proves first that different forms of streptococci are varieties of a single microbe. Thus, he believes that Fehleisen's erysipelas streptococcus can not only

produce erysipelas, but when sufficiently virulent can produce meningitis, pneumonia, abscess, and septicæmia. It depends upon the degree of virulence of the streptococcus as well as upon the point of its entry into the body as to what disease shall be produced. To demonstrate this his first care was to increase the virulence of a given form of streptococcus.

As a culture medium for streptococcus he used one part of human-blood serum obtained from the fluid of ascites and two parts of beef bouillon, or two parts of horse's or mule's serum and one part of bouillon. To increase the virulence of the streptococcus it is necessary to inoculate a sensitive animal with a fatal dose of the pure culture of the streptococcus. A second animal is then injected with a fatal dose of culture from the blood or juices of the organs of the first animal, and so on uninterruptedly. After two months the virus has become so strong that a single microbe introduced under the skin of a rabbit is fatal to the animal. This is necessarily the physical limit to which the virulence of the streptococcus can be increased. These latter virulent cultures of streptococci killed sensitive animals by septicæmia irrespective of the disease from which the streptococcus was originally obtained.

This streptococcus culture thus enormously increased in virulence is used to render immune less sensitive animals, as the horse. Man is one of the most sensitive animals to the action of the streptococcus, and it is evident that in the search for a curative serum against this microbe we shall have to use the blood of animals immunized against the most virulent streptococci. The ideal serum will be that obtained from animals immunized against streptococci infinitely more virulent than any to the action of which man can by any possibility become subject. The smaller sensitive animals will not support the injection of such virulent streptococci, and it is found that the horse is the best animal for the purpose; being less sensitive he supports without a fatal result more virulent and larger doses of streptococcus cultures. The process of immunization consists in injecting under the skin of the horse small doses of a culture of an extremely virulent streptococcus, which is followed by more or less reaction and sickness. The animal is permitted to recover its health; then another injection is made, increased in quantity and sufficiently large to be followed by an energetic reaction. Thus, a young horse weighing 240 kilograms received 5 c.c. of a pure culture of an extremely virulent streptococcus followed by a rise to 40° C. in temperature; this quantity was doubled at each subsequent injection; so in five months this pony received thirteen injections, in all about 195 c.c. of pure culture. Then the serum of the animal gave satisfactory results.

The serum should not be taken from an immunized horse for therapeutic or even experimental laboratory use until three or four weeks after the symptoms of reaction, such as fever, etc., following the last injection have subsided.

It is apparent that these animals are immunized against the streptococcus and not against the toxin produced by the streptococcus, so that the curative and protective serum obtained from these animals is not a streptococcus antitoxin but an antistreptococcus serum. The attempt has been made to immunize horses to the toxin produced by the streptococcus, but it is very difficult to obtain a toxin sufficiently virulent to be of any use in immunizing horses. Until such is obtained a streptococcus antitoxin will be out of the question.

That the antistreptococcus serum is also antitoxic in its action, however, is shown by the fact that a rabbit injected with 1 c.c. of the strongest streptococcus toxin prepared in the laboratory had at the same

¹ Annales de l'Institut Pasteur, July, 1895.

time an injection of 5 c.c. of the antistreptococcus serum, and death did not occur.

It will be readily seen that for the purpose of treating pneumonia complicating diphtheria the serum of a horse immunized to the action of diphtheria toxin and streptococci cultures would be ideal, inasmuch as such a serum would have diphtheria antitoxic as well as antistreptococcus properties. The attempt has been made by Marmorek to immunize a horse to both streptococcus and diphtheria toxins. It has been found that horses already immune to diphtheria toxin can stand very much larger doses of the streptococcus culture than horses not thus immunized. Such a serum has been experimented with in Paris, but the results are as yet insufficient to warrant any real conclusions.

The strength of the antistreptococcus serum is measured by the quantity necessary to render a rabbit insensible to the action of ten times a fatal dose of pure culture of streptococcus, the protective serum having been injected twelve to eighteen hours before the culture. The strength of the serum prepared by Marmorek has been such that 100 c.c. has been a potent dose. This dose has been repeated in twenty-four hours if improvement has not set in. Marmorek has used the antistreptococcus serum in scarlet fever, in erysipelas, in pseudo-membranous pharyngitis and tonsillitis, and in diphtheria cases in which Loeffler bacilli and streptococci were shown to be present. In erysipelas the death rate was reduced by one-half as compared with cases not treated by the serum. In scarlet fever complications were very much diminished in frequency.

The bacteriological laboratory of the New York Health Department is now engaged in the production of an antistreptococcus serum as well as a streptococcus antitoxin. As soon as a serum of sufficient protective power has been obtained, it will be possible to use it for clinical purposes. The use of such a serum in diphtheria will be, however, principally on a different basis from the use of the diphtheria antitoxin, for while the latter is used to cure an already existing diphtheria, the antistreptococcus serum or antitoxin will find its chief use in preventing such complications of diphtheria as broncho-pneumonia. I believe, therefore, that, with isolation of pneumonia cases in diphtheria hospitals, and with the use of antistreptococcus serum or antitoxin in cases in which a bacteriological examination shows the presence of streptococci of Loeffler, the present mortality from diphtheria and the frequency of broncho-pneumonia as a complication of this disease will be very much diminished.

245 SEVENTH STREET.

Told in Chicago.—Freddie had the croup and Mr. Burton dressed hastily with the help of his wife, who insisted upon his taking his revolver, and rushed out for the doctor.

The night was very dark and in going around a corner Mr. Burton collided heavily with some one and then jumped backward.

"Excuse me," said the man and walked on.

Burton grasped his weapon, thought a moment, felt for his watch; it was not there, the man had taken it.

Burton drew his revolver and shouted: "Stop, or I'll shoot." The man stopped. "Now," said Burton, "give me that watch." The robber handed it over.

Burton returned and related his adventure, only to learn that his wife had removed the watch before he went out. A half-hour later the doctor came in somewhat agitated and explained that while returning home from an urgent case he had been held up by a most villainous-looking highwayman and robbed of his watch.

Clinical Department.

A NEEDLE IN THE FOOT DEMONSTRATED BY ROENTGEN RAYS.

By WILLIAM JAMES MORTON, M.D.

OPERATION AND ITS DESCRIPTION BY RAMON GUITÉRAS, M.D.

History.—Mrs. I. W.—, aged thirty-six, on July 4, 1885, pushed her foot along the carpet of the floor and felt a needle puncture the foot and break off. She pulled out about two-thirds of this needle, leaving the other third. It was a very fine cambric needle and the part broken off and in the foot was the sharp end. By December she experienced much pain in her foot and she had suffered much pain ever since. The pain frequently woke her in the night. She frequently removed her shoe to relieve pain, as, for example, when at the theatre or while riding in the street or elevated cars. She had never been able to locate the site of the needle within several inches, but thought it might be at about the centre of the ball of the foot. No attempt under these circumstances had been made to extract it by surgical operation.

Shadowgraph.—The case seemed a most unpromising one to attempt. The needle had been in the foot eleven years and might be very much oxidized. It was, moreover, an extremely small object and might be located on top or beneath the bone. I resolved to expose long enough to entirely obliterate the shadowgraph of the bones themselves, hoping to leave a shadowgraph of the needle only. To obtain a picture of the bones would be easy, but if the needle happened to be on top of or behind a bone it would not be revealed.

A static machine with Leyden jars was employed to excite the vacuum tube. This was not a Crookes' tube, but a bulb devised by myself for this work, having one or more external electrodes of tinfoil. The plantar surface of the foot rested upon the plate-holder containing a 6x8 inch plate, while the vacuum tube was supported above the dorsal surface. To ensure obliteration of the skeletal bones an exposure of one and one-half hours was given.

Upon developing the plate I could see nothing of moment upon it in the dark room, except that the radiation had in truth freely traversed the bones, but after washing the negative and holding it up to the light to examine it, the needle showed up plainly and in quite an unexpected position. Taking the negative for comparison, I pressed my thumb nail into the flesh of the plantar surface of the ball of the foot at the spot indicated by the shadowgraph, and the patient at once flinched and exclaimed, "Oh, that is the spot! It hurts when you press upon it just like the prick of a needle." The discovery of this location was entirely unexpected by the patient, for she had never before realized any especial sensitiveness in that particular spot.

The foreign body having been localized, the patient was anesthetized and the foot prepared for operation. An incision was then made by Dr. Guitéras over the outer border of the metatarso-phalangeal articulation of the fourth toe. This extended through the skin and plantar fascia down to the layer of superficial muscles. The margins were then retracted, displaying a mass of fatty tissue. This was carefully dissected away and the deeper structures were brought into view, that is, the flexor longus and brevis digitorum and the arteries and nerves going to this toe. The end of the finger was then inserted and an attempt made to locate the needle by the touch. A hard wiry body was felt just to the outer side of the tendons, which was clearly appreciable when pressure

was made against the ends of the bone going to form the metatarso-phalangeal joint. We at once concluded that this was the needle and proceeded to approach it with great care. The tendons going to the toe were carefully drawn to the inner side by retractors and the wiry body was seized with the thumb forceps and examined. It did not prove to be a needle, however, but an enlarged and indurated nerve going to the outer side of the fourth toe. The incision was, therefore, made a little longer and deeper, so as to extend between the bellies of the interossei muscles, and a part of the transversus pedis muscle was cut through. This gave a better view of the field where the needle had been located by the photograph. The nerve about which there was a dark discoloration could now be clearly seen. The capsular ligament over which the nerve ran was also discolored in this area and was very much thickened.

A careful dissection was now made about the ends of the metatarso-phalangeal bones going to form the joint of this toe, but there were no further evidences of a foreign body.

It seemed probable, therefore, that the needle had been embedded for a long time in the tissues between the interosseous muscles on the outer side of the plantar surface of the capsular ligament covering the metatarso-phalangeal articulation of the fourth toe, along which region the fifth digital nerve passes; that time had served to cause a chemical decomposition of the needle, thus producing the localized discoloration, and that the constant irritation excited by the foreign body had set up a chronic inflammation of the nerve, resulting in a thickening and an induration, the pressure on which had caused considerable pain.

Accordingly about three-quarters of an inch of the nerve was excised and the wound was closed.

Comments.—The location of the needle based upon pressure and the sensation of the patient and the operation itself demonstrated that the needle, or rather its corroded and oxidized remains, was situated directly behind the bone. That is to say, the bone intervened between the vacuum tube and the sensitized plate. To delineate this needle the bone itself had to be penetrated by the Roentgen radiation. That it was so delineated opens out greater possibilities of the utility in surgery of the Roentgen process, for we may be able not alone to detect foreign bodies behind or within bone tissue but also to picture morbid processes inside of the bone.

That the needle had become oxidized and corroded to a mere line of oxide is corroborated by the experience of several physicians I have talked with who have removed needles resident a much shorter time in living tissue and yet even then showing this condition.

Under the circumstances of thickness of tissue, of smallness of the object sought, and success in picturing and removing its remains, the case teaches us more than if the foreign body had been of greater size.

Varicose Veins.—J. E. Summers (*Transactions of the Neb. Med. Soc.*) says that, according to Trendelenburg and Willie Meyer, if a limb be elevated and stroked toward the body a dilated vein collapses. If pressure is then made and maintained over the internal saphenous vein below the saphenous opening, the limb may be lowered without a return to the varicose condition, as the weight of the column of blood is removed. Following up this idea, they apply a ligature to the vein at its entrance into the saphenous opening, and in severe cases remove the main trunk and enucleate or ligate a large part of the vessels in several places above the knee, and also the branches entering it.

A CASE OF ABSOLUTE LOSS OF SMELL AND TASTE.

By A. SCHIRMAN, M.D.,

NEW YORK.

A. M.—, aged twenty-nine, a stout workman in an iron factory, was struck on the head while at work by some pieces from a burst emery wheel. He was thrown backward and fell on the ground. He had an immense contused and lacerated wound with ragged edges on the scalp in the region of his right temporo-occipitalis over the eminences, but more toward the front. The wound bled profusely and the surrounding tissues became swollen. The patient lay unconscious, with stertorous breathing, but there were no convulsions or spasms of the facial muscles nor was there any paralysis of the masseteric or mimetic muscles of the face. There was no indication of hemiplegia. An ice bag was applied to the injured head of the patient by surrounding friends until he was restored to consciousness.

When I came to his home I found him in a state of great nervous prostration, being disinclined to reply to my inquiries, but he gradually became wonderfully improved and answered my questions about his case more readily. After the occurrence of the catastrophe, as I was told, he was taken in an ambulance to a hospital, where he remained in the emergency ward three hours only, not desiring to stay there longer.

After my examination I dressed the lacerated wound over the frontal eminence and ordered absolute rest in a dark room, with applications of dry cold over the bandage by aid of an ice bag. After eight weeks' treatment the patient recovered, to all appearances perfectly, having no irregularity in respiration, pulse, or temperature. His appetite, the secretions, and the power of sleep were in good order. The external wound, which penetrated to the pericranium, healed entirely in less than a month. But many weeks after his apparent recovery the patient noticed that his sense of taste was nearly gone. He recalled then that during his illness all the drugs and medicines and even the food which he had taken seemed to be tasteless. And now he began to realize that this defect of the sense of taste was independent of his previous ailment. He observed also that the sense of smell was lost.

I was told by the patient that after the loss of his senses occurred he was advised to try insufflation of snuff as well as of other sternutatories and to take bitter drugs, but he obtained no relief whatever from their use.

Upon careful examination I noticed that the scar previously mentioned was adherent to the cranium along a distance of four or five inches; it was slightly tender on pressure. The man had no paralysis nor any contraction of the facial muscles. There was neither anæsthesia nor hyperæsthesia present. The salivary secretions were of normal quality and quantity and the tongue could be extended without deviation to either side.

Examination of the sense of taste revealed the following: Whenever a moderate solution of salt, vinegar, quinine, or sugar was applied to the tongue, the patient felt a very slight gustatory impression, though these substances were distinguished correctly. With concentrated solutions of the same materials the patient (with closed eyes) was doubtful or else he failed entirely to determine their character.

The sense of touch was intact. It was noticeable, when the periods between my investigations were of longer duration and the patient after each trial rinsed his mouth thoroughly, that he was able to define more distinctly the taste or the bouquet of any par-

ticular kind of food by applying it at the front part of the tongue.

I did not have the chance to try the acuteness of the gustatory sense by the galvanic method, as suggested by Dr. Newman. This test is well appreciated in the examination of pathological cases.

Examination in regard to the sense of smell showed that the sense of touch in the nasal mucous membrane was normal, for he felt all irritating, caustic substances, which he evidenced by sneezing after insufflation of tobacco, inhalation of ammonia, etc., but the sense of smell was entirely absent.

With closed eyes, he even by forcible inhalation could not differentiate the odor of volatile oils, of eau de cologne, camphor, or St. Ignatius' beans. Upon irritating the upper part of the nasal septum (where the olfactory nerves end) with a strong aroma, he felt an unpleasant tickling sensation, accompanied by a flow of tears from the corresponding eye.

The other special senses did not exhibit any abnormal character.

The above-described case was, therefore, one of unilateral ageusia and bilateral anosmia as a result of a cranial injury.

In deciding which nerves governing the functions of smell and taste were affected by the trauma we must exclude the chorda tympani and the lingual branches of the trigeminus, for there was no loss of ordinary sensation nor of the power of motion in the tongue.

Examination of the tongue revealed a loss of gustatory sensation on the back part of the dorsum of the tongue, where the ends of the glosso-pharyngeal nerve are distributed.

Therefore, excluding the branches of the fifth and seventh nerves, we must accept as the cause a derangement of the first and twelfth or of certain points of the brain substance connected with them.

The hypothesis of a derangement of the olfactory and glosso-pharyngeal nerves is here unlikely, because their cerebral origins are found anatomically far apart in the intervals and separated by various nervous centres. As a result of injuries of these adjacent centres there should be more grave symptoms symmetrically associated with two points in each hemisphere (four in both). Here this was not the case. Therefore we are forced to locate the trouble in the cerebral centres governing the senses of smell and taste. These senses of smell and taste have been located in that part of the brain which is called the gyrus hippocampi. This has been shown experimentally by Claude Bernard, Magendie, Meynert, and others. By destroying these centres the two special senses were completely lost. So we can conclude that the trouble was more probably a lesion of certain cerebral parts rather than of the first and twelfth cranial nerves. In this case the patient suffered with bilateral anosmia. For this occurrence a probable explanation may be found in the fact asserted by Meynert, that in the anterior commissure there is a crossing of the filaments of olfactory nerves; that this crossing can be seen very distinctly in the lower animal (dogs, cats, rabbits, monkeys, etc.), in which the olfactory lobes are much more developed than in man. Thus, if we admit a connection between the two olfactory centres, there would be no wonder that the patient with cerebral destruction in the hippocampal gyrus of one side should suffer at the same time with some disturbances on the other side.

Gratifying to Smokers.—Professor Hajak, of Vienna, says smokers are less liable to diphtheria and other throat diseases than non-smokers in the ratio of one to twenty-eight. Dr. Schiff tells us that smoking is forbidden in bacteriological laboratories because it hinders the development of the bacteria.

GUNSHOT WOUND OF THE NECK FOLLOWED BY ANEURISM—DEGLIGATION OF THE LEFT COMMON CAROTID—RECOVERY.

By E. C. CARTER, M.D., ASST. SURG., U. S. A.

J. C——, private, Troop "D," 10th Cavalry, aged twenty-three, was shot by a comrade with a revolver, calibre 38, about 6:30 P.M., June 13, 1895.

The ball entered the back of the neck one and one-half inches to the left of the median line and one and one-half inches above the seventh cervical vertebra, and ranged horizontally forward. The aperture of exit was one-half inch to the left of the median line of the lower jaw and one-half inch below the mental tubercle.

The ball passed between the vertebral column and the great vessels of the neck, wounding some of the latter. There was great shock with irregular action of the heart—at times slow, at times rapid and tumultuous, due probably to injury of the pneumogastric nerve. There was considerable hemorrhage from the aperture of entrance, perhaps a pint or more. This hemorrhage was easily checked by pressure. A tumor three by four inches formed under the left angle of the inferior maxilla. When shot the man fell on his hands and knees, asked "Who shot me?" and became unconscious. He remained unconscious and in convulsions for some hours. Next morning his condition was more satisfactory. The wound healed rapidly superficially. The size of the swelling under the jaw diminished gradually, but a small pulsating tumor about the size of a pigeon's egg remained. Surgical interference was contemplated, but after consultation with Dr. C. F. Kieffer, U. S. Army, who gave me valuable aid throughout the case, it was decided to wait, keeping the patient under observation. About July 10th the patient was considered to be in sufficiently good condition to make a railway journey of some hundred miles to appear before a United States court.

After his return the symptoms gradually became graver. He was losing flesh, becoming weaker. He suffered pain in the left side of head and neck. Hearing in the left ear was about one-half, vision of the left eye two-thirds. Ptosis of the left eyelid developed. On protrusion the tongue was deflected to the left side. The pulsating tumor was increasing in size, but apparently was working away from the carotid artery and jugular vein. On July 30th it was decided to operate. The patient was carefully prepared. Ether was given and under strict antisepsis the sheath of the left carotid was exposed. The track of the ball was visible passing beneath and very close to the carotid about its bifurcation. The lingual artery seemed to have been injured at its origin. Pressure on the common carotid caused the pulsation of the aneurism to cease. The sheath of the common carotid was exposed and two strong silk ligatures were firmly tied round the artery. About six ounces of blood were lost, owing to the cutting of some veins of the thyroid plexus.

The patient's heart action was quite weak until a hypodermic injection of atropine was given, after which he rallied well. The wound healed fairly rapidly. The ligatures did not come away until October. The man has been returned to duty, and except for a slight degree of ptosis seems to be as well as ever.

My thanks are due to Assistant Surgeon C. F. Kieffer, to Stewards Erck and Stoddard, U. S. Army (who aided in the operation), and to Assistant Surgeon P. R. Eagan, U. S. Army, who informed me of the final disposition of the patient.

RESECTION OF THE PYLORUS WITH ANASTOMOSIS OF THE INTESTINE AND STOMACH WITH THE MURPHY BUTTON.

By M. H. EVERETT, M.D.,

LINCOLN, NEB.

J. J. H—, aged thirty-five, native of Bohemia. Eleven years ago he began to have indigestion and pain in the stomach and back; from that time he was never free from distressing symptoms in his stomach that were but little relieved by treatment. Five years ago the disease gradually increased so that he began to vomit daily and the pain in the stomach and back was most distressing. The vomiting would give him relief for a few hours. In November, 1894, he came under my care, when his condition was found to be as follows:

Height, 5 feet 2 inches; weight, 95 pounds; very much emaciated and with a melancholic expression. Complained of pain almost constant in the back and stomach; he had but little appetite and frequent eructations of gas. The stomach was much dilated, and a tumor could be felt through the thin abdominal wall a little to the right and above the umbilicus; the vomiting usually occurred in the late afternoon or evening and ceased when the stomach was empty. The nature of his trouble was explained to him and an operation proposed, to which he readily acceded. He was very weak and it was with difficulty that he could move around. It was feared that he had not strength to stand the operation, but he insisted, saying that if I did not do something for him he would take his life, as he could no longer stand the continual suffering.

On December 18th the abdomen was opened in the median line above the umbilicus and the tumor with a part of the intestine brought out; the stomach had been previously washed out. The growth was found to be as large as a hen's egg; no adhesions were found; the tumor embraced about two inches of the intestine and projected into the stomach, the walls of which were thickened for some distance from the tumor. The omentum was ligated as far as necessary; the incision in the stomach was made one and a half inches from the growth and the stomach was closed with the Czerny-Lembert suture. The growth with about two inches of the intestine was then removed; a new opening was made in the posterior wall of the stomach about two inches from the sutured end and the intestine was joined to the stomach with the Murphy anastomosis button, certainly not more than five minutes being occupied in making the anastomosis. The stomach was dropped back and the abdomen closed. He left the table with a pulse of 106 and soon rallied from the shock of the operation. The temperature never rose above 99° F. Water was felt to pass through the button on the fourth day, which had the effect of dispelling the man's melancholy; his appetite soon returned and before he was allowed to get out of bed he was ravenously hungry in spite of the liberal feeding that had been allowed after the first few days. The button was passed a few hours before the end of the fourteenth day.

The result of the operation was truly gratifying; he soon began to gain in weight and now weighs 152 pounds, a gain of 57 pounds. He is now at the end of one year in absolute health and is not conscious that he has a stomach. I feel certain that the happy outcome of the operation was secured by the use of the Murphy button. In his weakened condition the patient could hardly have survived the increased time that would have been necessary if the anastomosis had been made by suture. The growth proved to be a fibroma embracing the whole circumference of the pylorus and completely closing it.

Progress of Medical Science.

The Diagnosis of Syphiloma.—Professor v. Esmarch, according to *Medicine*, assures us that he has sometimes mistaken syphilomata for malignant tumors on account of the great physical similarity between these two diseases, and assumes that many others have done likewise—in fact, he quotes such cases from the published experience of others. He regards as untrustworthy the diagnosis of malignant tumors: (1) When the patients have symptoms of syphilis present or past, or where the history shows that they, their parents, their brothers, or their sisters have suffered from this disease; (2) when the tumors develop in the voluntary muscles, for syphilomata occur in the muscles much more frequently than do other forms of tumors—they are most frequently found in the sternomastoid (one-third of all the observations), then in the muscles of the abdominal wall, the back, the legs, and finally in the tongue muscles; (3) when the tumors (sarcomatous) return shortly after extirpation—perhaps to this class belong the recurrent fibroid tumors of Paget; (4) when the tumors disappear after the use of iodide of potassium, mercury, and Zittmann's cure. An example of such mistaken diagnosis is the case of a patient whose earlier history has only recently been brought to light. In 1886 a man aged forty-two presented himself with a number of ulcers of a syphilitic character and numerous scars, the evidence of repeated extirpations and erasions. The physicians of California had regarded his disease as carcinoma, which was supposed to have arisen as the result of a hammer stroke upon the penis, and they removed the diseased tissue and the recurrent masses. Finally the penis, the scrotum, and the testes, as well as large pieces of the abdominal skin, were cut away. Esmarch observed the opening of the urethra at the apex of a skin mass at the side of the median line and subjected the unfortunate fellow to an energetic antiluetic cure, and after the use of a considerable quantity of mercuric ointment and iodide of potassium all the tumors were cicatrized. Professor von Esmarch also states that he regards as genuine the cases of sarcomata reported by Dr. William B. Coley, of New York, as having recovered under the influence of erysipelas and prodigious toxins, for the reason that they all bore much the same clinical appearance and because the carcinomata, which are not so readily confused with syphilis, were not at all affected by the treatment.

Congenital Atresia of the Hepatic Duct with Cirrhosis of the Liver.—Dr. McCallum has reported the case of a male infant four months old, born at term, with a history of jaundice dating from a fortnight after birth. The discoloration had progressively increased despite medication. At the age of eleven weeks the left eye became severely inflamed, leaving a scar upon the cornea. For a week there had been cough. The child had always taken the breast greedily, but for two days it had vomited curdled milk. The bowels were constipated and the evacuations were pale, as a rule yellow, but sometimes greenish. The urine stained the napkins a coffee color. There was no history of hemorrhages and no cause could be assigned for the condition; a history of syphilis could not be elicited. The liver was enlarged and an umbilical hernia existed. Later the child was seized with convulsive movements and vomited coffee-grounds material. Death took place two days after the little one came under observation. Upon post-mortem examination, in addition to the general icteric discoloration the lungs presented numerous deep-blue patches, some of considerable size,

extending into the pulmonary structure, in the case of the larger ones to an appreciable depth. Similar isolated patches were also present in the midst of the pulmonary tissue. These were found to be hemorrhagic areas. The liver was of a deep-brown color generally, but its upper surface was paler. The organ presented a finely granular aspect. The gall bladder could not be seen projecting from the anterior edge, and careful examination revealed in a recess on the under surface only a greatly shrunken and flaccid structure. A bristle introduced into the papilla in the duodenum passed freely upward toward the transverse fissure of the liver. The duct was found to be continuous with the cystic duct, passing onward with a sigmoid curve to the empty gall bladder, which was found collapsed and misplaced. No trace of hepatic duct could be found except a thin, white cord. The liver, which was tough on section, presented no appearance of dilatation of the ducts. In the neighborhood of the duct and of the transverse fissure of the liver were a number of enlarged glands presenting a deep-brown color resembling that of the spleen, and there were also glands in the abdomen not so much enlarged but similarly colored. Microscopic examination showed an extraordinary degree of cirrhosis of the liver.—*Archives of Pediatrics*.

The Relationship between Auto-Intoxication and Neurasthenia.—According to *The Practitioner* Dr. Alvis Pick accepts Baumann's discovery of the presence of certain aromatic bodies (indol, scatol, paracresol, phenol, etc.) in the urine of man and some animals, and discusses at length their mode of production in the body. Indol, which he takes as a type, is found in such conditions as intestinal obstruction, atony, paralysis, etc. It is eliminated partly in the feces and partly in the urine. These bodies act as poisons in the blood and produce auto-intoxication. The manner in which auto-intoxication is modified or prevented is next discussed, stress being laid on the anti-putrefactive properties of the HCl in the gastric juice. The biliary and pancreatic juices also have a preventive property, so also have the fatty acids, resulting from splitting up of the carbohydrates. If these natural safeguards fail, blood poisoning results. Uræmia is possibly a form of auto-intoxication. Possibly this may result from an excess of normal urinary constituents, but von Noorden states that uræmic poisons do not exist in the normal constituents, "but that, primarily from reaction upon the tissue in retention, opportunity is given for the production of poisonous substances from natural metabolic products." The author next discusses the *modus operandi* of certain articles of food (shellfish, strawberries, etc.) on some persons as poisons. There is reflex action, but this is the path of morbid action, not its cause. There must be (1) individual predisposition; (2) poison introduced into the blood from (a) improper ingesta (decomposing sausage, fish, etc.), or (b) it may originate in the intestine from the combined action of putrefaction and certain micro-organisms. Similar symptoms may arise from such drugs as antipyrin, iodoform, etc. In these cases the skin is often affected (erythema, urticaria, etc.), but other organs are also affected. Hence some cases of pernicious anæmia originating in gastroenteritis may be cured by lavage of the stomach. Auto-intoxication produces marked nervous phenomena, which may be classified thus: 1. Giddiness; sometimes a true vertigo *a stomacho læso*. 2. Headache; this is common in habitual constipation with urine loaded with indican. 3. Heaviness and sense of pressure on head. 4. Cerebral vomiting due to poisoning of the medulla. 5. Convulsions. The author had a patient who had convulsions soon after meals and was cured by antifermenta-

tive treatment. 6. Psychical disturbances. Delirium with normal pulse and temperature. Insanity is often associated with obstipation and is relieved when this is cured. Irritable temper and hypochondriasis are other symptoms. 7. Peripheral nervous symptoms, such as tremor. There may be all the symptoms of Basedow's disease, and the author believes that this affection may sometimes originate in auto-intoxication. These symptoms, which may arise singly, in association, or one after the other, afford a picture of true neurasthenia, and Pick believes that many, though not all, cases of neurasthenia originate in auto-intoxication. The author refers to the most frequently alleged causes of auto-intoxication—*e.g.*, over-fatigue, sexual excesses, mental anxiety, etc.; and adds that the disease is more common among indolent than among energetic persons. He next discusses the pathology of auto-intoxication, and says that in medicine it plays a similar rôle to wound infection in surgery. In the third article treatment is discussed. Diet is of most importance. Food rich in albumin and carbohydrates should be given, and milk is very useful. Generally a mixed diet of eggs, flesh, milk, vegetables, and farinaceous food is to be recommended. Therapeutics are directed by etiological considerations. Sluggish gastric movements should be stimulated by massage, electrical abdominal sponging, douching, etc. Internal antiseptics should be aimed at, and calomel (*gr. ss. ter in die*) is useful in this way. The intestinal tract must be kept clear by purgatives, lavage, massage, etc. Antifermentatives, such as creosote, menthol, guaiacol, phenol, etc., are also advisable.

The Pathology of Appendicitis.—Professor Dieulafoy asserts that recent experiments by Dr. Rendu on appendicitis confirm his already formulated views on the pathology of this affection, which are as follows (*Lancet*): Appendicitis is always the result of the conversion of the appendicular canal into a closed cavity, the closure taking place at any point in its length. Partial obliteration with resulting transformation into a closed sac is due to the progressive formation of a calculus more or less hard in consistence in proportion to the admixture in greater or less quantity of lime and magnesium salts to organic and stercoral ingredients. This calculus does not originate in the cæcum, but is the product of a true appendicular lithiasis comparable with biliary and renal lithiasis. The coexistence of these three lithiasis in the same family and their hereditary origin has often been remarked. Another cause of the obliteration of the appendix is local infection quite analogous with a similar obliteration of the bile duct in catarrhal icterus. In certain cases a fibrous stricture similar to an urethral stricture results in the shutting off of the appendix. The symptoms of mild or serious appendicitis reveal themselves only when the appendicular canal is converted into a closed sac; then the germs normally present in the appendix, inoffensive up to that time, multiply and become more virulent. Thus is constituted a highly dangerous focus of infection, the principal micro-organisms present being the coli bacillus and the streptococcus (a fact verified many times by Professor Dieulafoy and his interne, M. Kahn). The virulence of the appendicitis may of itself suffice to kill the patient while the peritoneal symptoms are quite subsidiary. In other instances the infection spreads to the peritoneum despite the absence of any perforation of the appendix; any variety of peritonitis may be developed (generalized, encysted, acute septicæmia, and peritoneal abscess *à distance*). Then, again, peritonitis may be set up by perforation. It would then appear that until the normal canal of the appendix is converted into a closed

cavity the symptoms of appendicitis are not present, and until this event has taken place we have no means of discovering the existence of a process which will infallibly result, some day, in an attack of that formidable disease.

Depilatories.—The ordinary components of the so-called depilatories, says *The Lancet*, are quicklime, soda, and a combination of sulphur and arsenic. The powder is made into a paste, spread on the face or other part, and washed off as soon as dry. It acts by desiccating and dissolving the hair shaft, and by reason of its irritating nature in unskilled hands is apt to give rise to troublesome consequences. Erasmus Wilson narrates the case of a young lady who had been making an experiment of this sort on her forehead for the purpose of getting rid of a tuft which interfered with the then fashionable mode of wearing the hair. She had unfortunately allowed the depilatory to remain on too long, and it resulted in a slough the size of a shilling, followed by an unsightly scar. The safest of such applications is a paste of barium sulphide and starch applied by skilled hands, regulated in strength to the delicacy of the skin. Kaposi mentions that in the Orient among the Jews a paste is used for the periodical removal of the stubble of the beard consisting of orpiment and slaked lime boiled with water. In this instance the aftergrowth does not appear until two or three weeks have elapsed, when the application has to be repeated. But all these methods are at best only palliative, for the formative organ remains, and they are all equally apt to be followed by a stronger growth of the hair, and sometimes they give rise to ugly marks and scars. Ointments have been employed, but in general are to be deprecated, for greasy applications tend to promote the growth of hair, as on the backs of the hands when vaseline is used to prevent chapping in cold weather. Nevertheless, a strong resorcin ointment, accompanied by powerful friction, has in the practice of a few found favor. The introduction of chromic acid and other caustics into the hair bulb by means of a needle is uncertain on account of the difficulty of regulating the resulting inflammation. The only efficient depilatory, the *Lancet* correctly adds, is the galvanic needle, a method devised by an American, Dr. Michel.

Operation for Hammer Toe.—We learn from an article published in the *Quarterly Medical Journal* that Dr. Péraire recognizes several varieties of hammer toe: (1) Hammer toe due to a vice of development of all the tissues of the toe; (2) hammer toe of arthritic origin; (3) hammer toe caused by a lesion of one of the constituent tissues of the toe; (4) hammer toe due to the wearing of too short boots. In his experience medical treatment of this condition has not been very successful. Orthopedic treatment in some cases gives good results after a time, but the condition often reappears under the influence of walking. Various operative measures have been suggested, viz., open or subcutaneous division of tendons, excision of a portion of the flexor or extensor tendon, amputation of the phalanx, disarticulation of the toe, and finally the procedure introduced by Professor Terrier, cuneiform osteotomy. The indications for this operation are: Ankylosis of the articulation between the two phalanges; presence of a corn or an inflamed serous bursa due to the friction of the boot over the projecting part of the toe; it is even indicated when there is pain in walking, more or less pronounced lameness or pain in the erect position. One ought more especially to have recourse to this operation when the patient not only walks upon the extremity of the nail but also upon the dorsal surface of the phalanx. He gives clinical histories of five cases, in all of which a good functional result was obtained.

The operation consists of five stages: 1. Excision of the soft parts over the projection formed by the articulation of the first and second phalanx. The corn is included in this incision, and the mucous bursa beneath the corn should be removed at the same time. 2. Opening of the joint by a dorsal incision, the extensor tendon and its sheath being cut at the same time along with the two lateral ligaments. 3. Clearing of the head of the lime. 4. Excision of the two articular ends by means of cutting-pliers. This is a most important part of the operation. Only sufficient of the bone should be removed to bring the toe in a straight line. 5. Adaptation of the two ends of the bones is made. The wound is sewed with silkworm gut, and drained or not. A small plantar wooden splint maintains the toe in a straight position. At the end of sixteen days the patient may walk. Péraire has used local anæsthesia by means of injections of cocaine and ethyl chloride.

Post-Influenzal Osteitis, Periosteitis, Arthritis, and Inflammations of Fasciæ.—Dr. Franke calls attention to a new form of infective inflammation which he has observed subsequent to attacks of influenza and of which he reports in detail twenty cases. The most frequent form, we learn from the *Annals of Surgery*, is an osteitis or osteoperiosteitis which may go on to suppuration or may produce simple local swelling and œdema and be followed by resolution. Like all the other manifestations, it can only be diagnosed by its proximity to an attack of influenza or by the presence of symptoms of that disease concurrently with it. When any of these inflammations resist all treatment and go on in a chronic course of latent character, the possibility of an etiology in influenza should not be overlooked and a history of a series of attacks or the presence of symptoms should tend to confirm the diagnosis. Osteoperiosteitis is the most frequent form, and under it may be classed, according to this author, the disease described by Albert as "achylodynie," in which the insertion of the tendo Achillis is the seat of a periosteitis. The involvement of fascia is next in frequency, and chiefly an inflammation of the plantar fascia, whereby it becomes thickened without outward signs of inflammation; the thickening is usually along the inner border and at the insertions of the fascia. It is slightly sensitive to pressure and is painful to stand or walk upon for any length of time. Arthritis having as its sole cause an infection due to influenza is seldom seen, but does doubtless occur. The symptoms may manifest themselves three or four days after the inception of an influenza, but may be latent for even many weeks. The resistance to all treatment is very marked; the best results are derived from the applications of moist heat and massage, with incision and drainage in cases that go on to suppuration. The salicylates have been of no avail, as also all ointments and counterirritation, except, perhaps, in certain cases of ichthyol.

New Plastic Procedure in the Treatment of Unduly Projecting Auricles.—Dr. Haug excises an oval flap of skin from the fossa between the auricle and the mastoid process of the temporal bone (*Brooklyn Medical Journal*). This oval is then lengthened by incisions superiorly and inferiorly. To complete the operation the edges of the ovals are approximated by means of sutures. Should the cartilage of the auricle exert too great a resistance to the approximation of the edges of the oval a portion of it may be excised. Another procedure is to excise two portions of skin, one lying over the auricle and the other over the adjacent part of the skull. These are kept approximated by bandaging the auricle close to the head and then leaving it to heal in this position.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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PURIFICATION OF DRINKING-WATER BY MEANS OF FILTRATION.

THE importance of pure water in determining the health of a community has long been recognized and cannot be overestimated.

At the present time it is impossible for many cities and large towns to obtain the required amount of water from a naturally pure source, and in the future, with the enormous increase in population and the number of manufacturing towns established along the banks of the small streams and rivers, this difficulty will be manifestly greater. Therefore the possibility of purifying by artificial means water which has been polluted by sewage and which contains both organic matter and bacteria, has become a question of great importance in many communities.

In considering any method for accomplishing this object two things must be borne in mind, viz., its efficiency and its cost. The objections which have been urged against filtration are:

First, that while a filter might remove the coarse material in suspension, it would allow all the organic matter in solution and the bacteria to pass through unchanged.

Second, that even if a filter were efficient for a short time, it soon becomes clogged and saturated, and then the condition of water which passes through is worse than when it entered.

Third, that the cost and maintenance of a properly constructed filter is so great that it cannot be universally adopted as a means of purifying water.

The report of the Massachusetts State Board of Health for the year 1894 contains some very interesting and important facts upon all these points.

For the past seven years the board has maintained an experimental station at Lawrence for the sole and express purpose of testing the efficacy of filtration of water to purify it and render it fit for household purposes. The water tested was that of the Merrimac River, which is lined from source to mouth with manufacturing towns and which may be taken as a fair sample of river water contaminated with a considerable amount of organic matter.

The filters were of all sizes and thicknesses, from those a few feet square and ten inches in depth to the large filter covering two and one-half acres, through which the water supplied to the city of Lawrence has been filtered since 1893.

Chemical and bacteriological examinations were made weekly and sometimes daily of the water of ingress and egress. Sand of different sizes was used, and the filters were run both intermittently and continuously.

The results of this careful and painstaking investigation, extending over a number of years and every source of error being eliminated, are both astonishing and gratifying.

From a bacteriological standpoint they prove that a properly constructed and properly managed filter will remove from 98 to 99.84 per cent. of the ordinary bacteria in water, and that if such bacteria as the bacillus prodigiosus, which is very similar to the typhoid bacillus, be added to the water in varying proportions, the filter will remove from 99 to 99.993 per cent. The organic matter in solution is greatly diminished and the water is chemically purified.

Moreover, the efficiency of the filter instead of diminishing increases with age and use, owing to the formation of a gelatinous coating about each grain of sand, which serves to entangle the bacteria in their progress.

The rate of filtration may reach five million gallons daily per acre of filter without impairing the efficiency. If the surface clogging is properly removed there will be no appreciable difference in the quality of the filtered water during or after the process of removal.

Finally, the cost of construction and maintenance of such filters is not so great as was supposed, and is not to be compared with the benefits derived from their use. The one which has been in successful use in the city of Lawrence proves that the plan is practicable in supplying cities with potable water. It seems to us that the knowledge derived from these experiments should be spread abroad and the attention of municipal authorities called to them.

In the immediate vicinity of New York the water of the Passaic River has been for a long time very bad and is constantly growing worse as regards its contamination with sewage and the waste of manufacturing plants on its banks. Several large cities and towns obtain their water supply from this source, and if there is a practical and economical means of rendering this water pure and wholesome it certainly ought to be adopted.

While our own Croton is considered a very good quality of water, yet it is liable to contamination, and we have recently had abundant proof that it may become disagreeable to sight and taste. A proper system of filtering would no doubt improve the quality greatly, and the matter should be brought to the attention of the proper authority.

The Clinical Recorder, of New York, edited by Dr. William S. Gottheil, M.D., is another candidate for favor. The first number shows much care in editing and contains articles by the following well-known writers: Drs. H. J. Garrigues, Carl Beck, S. Henry Dessau, Louis Fischer, William S. Gottheil, Augustin H. Goelet, Ferd. C. Valentine. The journal will be published quarterly.

THE AMERICAN LEPER.

IN view of the antiquity of leprosy and the richness of its literature, extending back into Biblical times, it surely is not creditable to medical science that such lack of knowledge still exists, not only as to the treatment of the disease, but likewise concerning the care of the individual sufferer.

At more or less frequent intervals a ripple of excitement is occasioned in the community by a newspaper account of how another leper has been discovered in Chinatown, or startling headlines announce how a case of true leprosy has wandered into a skin class at the dispensary. For a day the public is regaled with the profound views of various would-be authorities upon the subject. The reporter who is detailed to write the story takes down the batch of dusty documents from the office pigeonhole labelled "leprosy," selects his padding from such excerpts as contain references to the prevalence of the disease in Siberia, India, and Norway, puts in a word about the sad case of the martyr Damien, of Hawaii, but never gives enough attention to our own country to learn and tell how Father Boglioli, of New Orleans, contracted the disease in the discharge of his professional duties at the Charity Hospital in that city, nor how at the *Real Casa Hospital de San Lazaro* in that little island which is now so near to us, in more than one sense, a chaplain has met the same fate. Then the facile writer tells how fortunate this land of ours is to be comparatively safe from any fear of spread of the disease, refers to its gradual disappearance in Minnesota, quotes the English investigation committee and the chief inspector for contagious diseases of the health board to prove that it is not contagious, and ends with the information that the leper will be carefully isolated for the rest of his days in "the small wooden building of two rooms" on North Brother's Island.

New York City has just experienced one of these periodical thrills. Perhaps more than usual interest attaches to the last instance of the disease discovered in New York, because the patient is a native and has lived in this city for many years. He was born in New Orleans. For those, however, who are of an inquiring turn of mind and like statistics for their own sake, we might state on the authority of Dr. N. W. Blanc, who was for a long time connected with the institutions of Louisiana, that between the years 1885 and 1891 he found eighty-three cases of leprosy in the city of New Orleans. There a new case in a native occasions no comment. It is what they expect. It is only when a Chinese or Hawaiian leper enters the city that the papers take note of it.

Louisiana has gone to great expense in fitting up a beautiful leper home in the parish of Iberville, surrounded by gardens and woods and made in every way attractive, but at last accounts (see RECORD of March 16, 1895) the State authorities were meeting with difficulties in filling the institution—not for lack of subjects, but because lepers, in common with other mortals, love perfect freedom.

Our own facilities for taking care of this class of

patients are notoriously inadequate. The presence of lepers in the community causes too much talk. Louisiana naturally wants to fill her new hospital. The patients on North Brother's Island can by no possibility desire to remain in the care of the board of health. What solution of the problem as it affects this city can be more simple?

Nothing can be hoped from national control. Legislators are not going to trouble themselves about American leprosy so long as there are Armenian, Siberian, and Cuban affairs to be regulated. Even the public, down whose spinal column runs such a chilly stream at each new arrest of a leper in our streets, can scarcely be enlisted in any movement having for its object the care of lepers at home, but contributions scarcely have to be asked for when a Miss Marsden is to be sent to Yakutsk to found a Siberian leper colony.

The leper would seem possessed of greater attractions the farther away he is. Accounts of the hospital in Caracas, of the thousands of subjects in Colombia, of the miserable beings on Robbin Island who beg the soldiers to shoot them down and thus end their deplorable condition—all these are read and talked of, and humane measures are devised, while little note is taken of the inhumanity of boxing up a poor Chinaman in a freight car and shipping him to the Pacific Coast, where the authorities promptly re-box him and ship him back again with little to eat and still less to drink. If leprosy is not contagious why cannot the unfortunate leper be left unmolested? If he is a menace to the community why cannot proper treatment be accorded him in all parts of the country? No plan short of federal control will ever do for the American leper what his importance makes a necessity.

THE CLINICAL APPLICATION OF THE ROENTGEN RAYS.

THE March number of the *American Journal of the Medical Sciences* contains an article upon this subject by Drs. W. W. Keene, E. P. Davis, and Prof. W. F. Magie. Dr. Keene sums up his experience by saying that, since all the normal structures of the body except the bones are permeable to the rays, it is not very probable that with present methods we can learn much about them by skiagraphy. The bones, however, being opaque, deformities, injuries, and diseases may be more or less amenable to diagnosis by this method.

Skiagraphy will probably help in the differentiation of fractures and dislocations, in outlining exostoses and bony tumors. Foreign bodies can also be located by it, even glass being quite opaque. One advantage is that the hand or injured part can be skiagraphed without removing the dressings. Dr. Davis attempted to secure a skiagraph of the foetus *in utero* in living women. The faint outline of the trunk of the foetus could be recognized, but the head of the child was hidden by the mother's pelvis, so that no definite indication of its presence could be obtained. While the experiment failed to outline distinctly the skeleton of the foetus, Dr. Davis thinks it may be of help in

locating the position of the child and that the method can be further developed. The presence, for example, of more than one foetus may thereby be appreciated. A very good picture of a foetal skull containing buckshot is shown. The skiagraph shows the position of the jaw and orbits and of the sutures, and gives a rather definite outline in some parts of the periphery of the skull. Photographs are given showing tuberculous disease of the elbow-joint, intercondyloid fracture of the humerus, a resected elbow, and a hand in which buckshot and a needle have been buried. There is also the skiagraph of an infant's body, which shows the outlines of the ribs and pelvis. Professor Magie gives some interesting information regarding the technique of the method. Altogether, the article shows that already some appreciable help in diagnosis can be obtained by the use of the newly discovered rays.

Mr. Sidney Rowland continues his series of articles upon the same subject, published in the *British Medical Journal*. In the last number he makes the statement that Professor Kinsing, of Hamburg, has also been successful in obtaining a picture of a foetus *in utero*. He reports the case of a patient who was suffering from a pain in the thumb, which she said was due to the presence of part of a needle that she had run into her hand six months before. The skiagraph showed the presence of the needle perfectly. Mr. Rowland also photographed a foot, showing the presence of tuberculous disease.

A TAG FOR DOCTORS.

COL. R. FRENCH STONE, Surgeon-General of the Indiana National Guard, urges a plea in the *Journal of the American Medical Association* for the adoption of international medical insignia. Dr. Stone states that particular symbols have, in all ages, been assumed by the various families of the human race, and he thinks that in view of those facts physicians should have the privilege, in the exercise of their life-saving mission, of proclaiming to the world the nature of their vocation by means of some mystic heraldic emblem. After much thought and ingenious labor, Dr. Stone has devised an insignia, for which a patent has been applied for and which he presents for the approval and adoption of the profession. The design consists of a shield which has a gold border enclosing a dark-green central field, upon which is a modified red Maltese cross surrounded by a strip of gold. The red color of the cross and the green color of the field are, he says, not only universally recognized as symbols of life, but are also the most attractive and beautiful shades in nature. The shield is of the ancient triangular Egyptian type, in actual use as protective armor at the time when the healing art was first recognized as an independent vocation. The same insignia is presented in the form of a circular shield, and Dr. Stone states that these can be gotten up in either a simple or an expensive way, so that prices may range from twenty-five cents to many dollars.

We feel the greatest respect for Colonel Stone's

heraldic knowledge and for the industry and good taste which he has shown in working out his breast-pin. But we protest that the medical profession does not need a tag to advertise itself. A doctor nowadays no longer belongs to a mystic cult or to a peculiar and isolated calling which sets him apart from the rest of his fellow-men. He is simply a man like other men, except that he has had a special education and special training in the science of disease and in the art of treating it. We are sorry to see so much fine scholarship as Dr. Stone has shown thrown away. Perhaps, however, he can utilize his investigations and his patented insignia for some special association of physicians. There is no reason why doctors, like other men, should not organize into mystic or non-mystic corporations and adorn themselves with all the uniforms and buttons, breastplates and insignia they wish.

A HOMICIDE EVERY TWO HOURS.

A CORRESPONDENT of *The Lancet*, writing from Rome, gives an account of an address of Prof. Baron Garofalo delivered recently before a popular audience in that city. Garofalo, who is recognized as one of the leading penologists of Italy, gave some statistics regarding the annual loss of life by homicide in Italy which were very startling. The total number of murders in Italy, during the last year, was about 4,000, which is equivalent, said the speaker, to a homicide every two hours. This a very much greater mortality rate than exists in other civilized countries, the ratio in France being one-tenth that in Italy and the ratio in Denmark being one-thirty-fifth of that in Italy. This tendency to homicide is due, according to Baron Garofalo, first, to the existence of the vendetta, which has lingered longer in Italy than in any other country; then, to the practice of duelling, and, perhaps more than all, to certain defects in education and to racial tendencies. Garofalo thinks that the remedy for this consists in improving the system of administration of justice, in enforcing capital punishment, in recasting the methods of education throughout Italy largely on the lines advocated by Lombroso and his school, and, finally, in the ennobling of the moral and religious sentiments of the people. This, according to Garofalo, is to be done not so much by moral as by religious inculcation. To the religious instruction given in Great Britain and in the United States he attributes the fact that these countries have in forty years diminished by one-half their annual proportion of delinquents and mendicants, while in Italy there has been an increase in both delinquency and mendicancy since 1862. Baron Garofalo's strong advocacy of the value of religious training, coming, as it does, from a pupil of the school of Lombroso, is a factor which religious teachers and professors in this country will rejoice over with great heartiness.

Adoption of the Bertillon System.—The police board of this city has formally adopted the Bertillon system for the identification of criminals.

News of the Week.

Liability for Damages in Making Unauthorized Autopsies.—Justice Patterson of the Supreme Court of this State has ruled in a recent case, in which an autopsy was made by one of the surgeons of Bellevue Hospital against the wishes of the relatives of the deceased, that a suit for damages can be instituted. He maintains that such a complaint establishes an unlawful act on the part of the defendant; although the criminal law does not give or recognize a civil suit for damages, unauthorized dissection is made a misdemeanor by the Penal Code, and the chapter prohibits dissection or delivery of a dead body for that purpose against the objections of relatives or friends, if they apply for the remains for the purpose of burial within a certain time. He further continues: "The right is to the possession of the corpse in the same condition it was in when death supervened. It is the right to what remains when the breath leaves the body, and not to such a hacked, hewed, and mutilated corpse as some stranger, an offender against the criminal law, may choose to turn over to an afflicted relative. If this right exists, as we think it clearly does, the invasion or violation of it furnishes ground for a civil action for damages. A right to vote can in no sense be called a pure right of property; it is merely a personal right; yet who would now contend that a person obstructing a voter's right or preventing his voting would not be, irrespective of any statutory enactment, liable, even if the candidate of the choice of the person thus obstructed was elected?"

The New St. Luke's Hospital will, on April 16th, formally open its general wards for the reception of patients. The private-room service has been in operation for three weeks past. The first blood in the operating-theatre was from an appendectomy performed by Dr. Abbe.

A Bill to Create Lay Ophthalmologists.—We commend to the attention of our readers the following circular issued by the committee on legislation of the Medical Society of the State of New York:

"To the Medical Profession of the State of New York:

"A bill has been introduced in the Assembly incorporating the Optical Society of the State of New York, the passage of which would be a serious menace to the public at large and an infringement on the laws governing medical practice.

"This bill gives to the New York Optical Society, which is not composed of medical men, the exclusive right to issue certificates to opticians, charging for each the sum of twenty-five dollars; certificates which it can revoke at its pleasure. It also has the power to license 'refracting opticians,' thus putting in the hands of incompetent people the right to fit glasses for various troubles of the eyes, privileges which should be only in the hands of competent physicians.

"A bill was hurried through the legislature during the last session which conferred on chiropodists medical rights, the possession of which, in the hands of the ignorant, cannot fail to work harm to the commu-

nity. It is our duty as physicians and guardians of the public health to keep a watch on these efforts to evade the laws governing medical practice and to enter at once a vigorous protest.

"The members of the legislature are in nearly every instance willing to be guided in these matters by the expressed desires of the medical profession; it is therefore requested that every physician throughout the State write to the senator and assemblyman representing his district, protesting against this bill and requesting the representative to use his influence to defeat it.

"The bill is entitled 'An Act to Incorporate the Optical Society of the State of New York,' etc., and is known as Assembly Bill No. 727, which number please use in writing to your representative.

"A. WALTER SUITER, M.D.,

"MAURICE J. LEWI, M.D.,

"J. M. WINFIELD, M.D.,

"Committee on Legislation."

We trust that every practitioner in the State will do his best to defeat this unjust and outrageous measure.

Obituary Notes.—DR. ELIHU VEDDER died at his residence in Jacksonville, Fla., March 9th, aged ninety-four. He was born in Schenectady, N. Y. He practised dentistry in Cuba for thirty years. He was the father of Elihu Vedder, the artist.—DR. WILLIAM H. STEWART, of Philadelphia, died on March 3d at Asheville, N. C., at the age of thirty-five years. He was graduated from the University of Pennsylvania in the year 1882, served a term as resident physician in the Philadelphia Hospital, and was for a year surgeon on board the American line steamship *Ohio*.—DR. IRVING WHITALL LYON, president of the Hartford County Medical Society, died at Hartford, Conn., March 4th, from pneumonia, after an illness of only two days. He was a graduate of the Vermont Medical College and of the College of Physicians and Surgeons in this city, serving afterward for two years in Bellevue Hospital. He settled in Hartford in 1866. He was buried at Bedford in New York State.

Advertisements are not Original Articles. It is always a pleasant recognition of merit to be quoted in our exchanges and we appreciate the compliment accordingly. We strenuously object, however, to the quotation of an advertisement as if it were original reading-matter appearing in our columns. A flagrant instance of the latter practice has been brought to our notice, in which a prominent firm asks in a circular letter that the medical journals of the country insert as a "reading notice" that the MEDICAL RECORD has published as an original article what was really one of its advertisements, paid for at regular rates. We hold that this is a very unfair proceeding to all advertising patrons and general readers, and respectfully ask that no medical journals be parties to such misrepresentation.

Gifts to a Hospital.—Lord Mount-Stephen and Sir Donald Smith have each contributed \$10,000 to meet the current expenses of the Royal Victoria Hospital, Montreal, which they erected at a cost of \$1,000,000 and afterward richly endowed.

No Civil-Service Rules for Attending Physicians.—Civil-service rules cannot be made to apply to the positions within the gift of the Commissioners of Charities. In denying the application for a peremptory writ of mandamus to compel the physicians connected with the various city institutions to undergo examination, Judge Andrews says: "The visiting and consulting physicians and surgeons are neither officers nor employees within the meaning of the civil-service acts. They receive no compensation; their positions, so far as pecuniary benefit is concerned, are purely honorary, and it is inconceivable to me that the legislature should have intended that the most eminent members of the medical profession should be subjected to the indignity of an examination, either competitive or non-competitive."

The "X" Rays in Surgery.—A successful conjoint demonstration of the clinical uses of Roentgen's rays was made by Dr. E. P. Davis, Prof. W. F. Magie, of Princeton, and Dr. W. W. Keen, of Philadelphia. A number of interesting negatives were shown; for instance, of a tuberculous abscess of the elbow-joint, of ankylosis of most of the bones of the fingers of one hand in consequence of a burn, of a bullet lodged in the forearm for eighteen years, of an excision of the elbow with the parts supported by an iron splint and a plaster cast and surrounded by the usual dressings; some of the patients were shown also. A shadow-picture ("skotograph" or "skiagraph") was made at the meeting, showing fracture of both bones of the forearm in a young man with a resulting lesion of the nerves and palsy and loss of sensibility in the hand. Professor Magie, who spoke of the physics of the subject, inclined to the view that the new force was transmitted through longitudinal vibrations of the ether in contradistinction to the transverse waves through which ordinary light is transmitted. He showed an instrument that he had devised and named a skiascope, which consisted of a cylindrical tube surrounded by black paper treated with platino-barium cyanide and which, held before the Roentgen light, makes possible the direct observation of bodies interposed. Dr. Davis stated that he had succeeded in photographing parts of the foetus in utero prior to descent into the pelvis behind the bony parts. The eye both of the foetus and of lower animals intercepted the light and thus appeared opaque. Among other things it was hoped that living and dead tissue would react differently to the light and that we might thus have a certain test for death, but the results proved the hope illusory.

New York's Molokai.—Leper number five has been added to the colony on North Brother's Island in the person of Joseph Cummings, who for eighteen months has been going about in this city with well-marked evidences of the disease. The patient just admitted is fifty-four years of age and has lived in New York since 1879. He was born in New Orleans, where considerable leprosy has existed for many years.

Jefferson Medical College.—The board of trustees of Jefferson Medical College has at last filled the

chair of pathology and bacteriology in that institution, which has been vacant for two years, by the election of W. M. Late Coplin, a graduate and former lecturer on pathology in the Jefferson School. Dr. Coplin left Jefferson less than a year ago to accept the chair of pathology and bacteriology in Vanderbilt University at Nashville, Tenn.

The Pennsylvania Epileptic Hospital and the Colony Farm for Epileptics have been consolidated under the title of the Pennsylvania Epileptic Hospital and Colony Farm. Both institutions will be continued, patients being transferred from the one to the other as occasion requires.

Medical Department of the University of Buffalo.—The medical department of the University of Buffalo announces that it has adopted a four years' course, beginning with the session of 1896-97.

Death of Hiram Corson, M.D.—The name of Hiram Corson, who died at his home at Plymouth Meeting on March 4th at the ripe age of ninety-two years, will always occupy a conspicuous place in the medical annals of the State of Pennsylvania. Dr. Corson led an active and useful life in the sixty-seven years' practice of his profession and was a generous contributor to current medical literature. He was an earnest advocate of the use of ice in the treatment of scarlet fever and diphtheria and of bleeding in pneumonia, and was opposed to the use of alcohol in conditions of both health and disease. He was graduated from the University of Pennsylvania in 1828 and resided all of his life in Montgomery County. He occupied numerous positions of trust and was honored with membership in many learned societies.

The Altoona Academy of Medicine and Surgery gave a banquet on March 3d in honor of its guest, Dr. John B. Roberts, of Philadelphia.

Official Carbolic Acid.—At the meeting of the Philadelphia College of Physicians on March 4th Dr. Oscar H. Allis read a paper entitled "The Surgical Uses of Official Carbolic Acid," in which he pointed out that while toxic effects may and often do follow the use of dilute solutions of carbolic acid by topical applications or for purposes of irrigation, the deliquescent acid could be used without deleterious effects and with especially good effects if applied to fresh wounds and to burns. The weak solution is readily absorbed and thus exerts its toxic effects, while the strong acid coagulates the albumin of the tissues, renders the nerves anæsthetic, and closes tightly the blood-vessels and lymphatics.

Regulating the Practice of Horseshoeing.—A bill is before the legislature at Albany, providing that blacksmiths must pass an examination and receive a regular license before they can be allowed to follow their art. The bill is supported by the Society for the Prevention of Cruelty to Animals, the members of which argue that, since the practice of medicine is regulated, together with the practice of dentistry and the veterinary practice, blacksmithing should be reg-

ulated. As time goes on and the process of regulating things continues, we trust that there will be a regulation in the practice of publishing newspapers and of putting before public notice foolish ideas. The practice of philanthropy might also become gradually regulated, so that no person could be either an amateur or a professional philanthropist unless he passed an examination showing his attainment in economics, ethics, and common sense. The regulation by the State of the practice of different things holds up to the imagination some most delightful prospects of improvements in our present imperfect social fabric. For our part, however, after the blacksmith has been regulated and horseshoeing is done only by professional men who have a proper pride in their art and a well-defined code of ethics, we trust that the regulation of philanthropy will be next and seriously undertaken.

Abortive Treatment of Typhoid.—There has developed in the West a form of treatment for typhoid fever which is known as the "Woodbridge abortive method." This has been much exploited in the medical press, and we have ourselves given a faithful account of it. We have expressed doubt as to the results of the method and do not consider that its efficacy has been satisfactorily proved. Nevertheless, the originator of the method has secured such a reputation that he has moved to Cleveland, O., for convenience in responding to consultation calls.

Antistreptococcic Serum in Scarlet Fever.—Dr. Marmorek, writing in the *Berliner Medicinische Wochenschrift*, has given an account of the treatment of scarlet fever with antistreptococcic serum. Although the micro-organism of scarlet fever has not yet been discovered, the relation of streptococci to scarlet fever is of great importance, for their presence in the numerous sequelæ of this disease, such as abscesses, nephritis, and endocarditis, shows the danger of such a combined infection. From October 16th up to the end of December, 1895, Dr. Marmorek had under his care 103 children affected with scarlet fever, and 96 of them were treated by injections of serum, the total quantity of which amounted to 30,000 units. In 7 cases which were admitted in a state of total exhaustion no injection was performed. Of 17 cases in which Loeffler's bacilli also were found, 4 died in spite of the injection of both diphtheria antitoxin and antistreptococcic serum. In slight cases 30 c.c. of serum were injected, in urgent cases 40 c.c., 60 c.c., and 70 c.c.; 90 c.c. were injected in a case complicated with broncho-pneumonia. The most remarkable effect was the decrease of the swelling of the lymphatic glands. Albuminuria was sometimes observed two days after the injection. The pulse became slow and strong and the exudation in the pharynx was cast off.

The Kansas State Medical Society meets in May and its secretary sends out the following seductive circular to the doctors of the State: "The next meeting of the Kansas Medical Society will be held at Topeka, on May 13, 14, and 15, 1896. If we missed your smiling countenance last year, it was because

you were too busy to come. You don't know what you missed! If you don't attend this year, you'll miss the greatest meeting in the history of this society. There are no personal 'scraps' on hand for this meeting, but we expect to have the judicial council present so you can submit your personal grievances to them. If your collections have been bad during the year, make a 'kick'—they'll enjoy it. So prominent has the society become that it is with great difficulty that we can keep away the prominent men from Chicago and Kansas City. How blood will tell! They enjoy coming to Calamity Kansas and meeting their peers. This year we succeeded in keeping all but three or four outside the borders of Kansas. Among those who will be with us is Prof. N. Senn, of Chicago, who comes on one condition only, viz., that every member of the society attends. We expect by May to have the Gothemburg system in vogue, so you can take refreshments in the basement of the Capitol—if you carry your bottle along. No one will say a word if you're not seen. If collections improve, I think we can prevail upon the good doctors of Topeka (not even excepting those who lately got 'mixed up' with the 'dead') to give you a banquet on the evening of May 14th. There is one condition about attending this banquet, and that is that you spend at least one day at the society. No ringers allowed. Come one, come all!"

A Hard Case.—*Le Scalpel*, a very ably edited Belgian medical journal now in its forty-ninth year, relates the following case as a warning to surgeons against *trop de zèle*. A practitioner of Brussels had a patient who was suffering from a uterine affection. A specialist having been consulted, curettage was recommended and agreed to by both the woman and her husband. She accordingly entered an institution in order to undergo the operation, but while it was in progress the surgeon became aware, after dilatation of the cervix uteri, that he had to do with carcinoma. The patient being under the influence of an anæsthetic and the husband absent, their consent could not be obtained; but the operator nevertheless decided to perform hysterectomy on his own responsibility. All at first went well, but unfortunately the woman died subsequently from hemorrhage, whereupon the husband sued the practitioner, claiming damages to the extent of 50,000 francs for the loss of his wife. The Ministry of Justice came to the conclusion that 5,000 francs would suffice; but at the time of writing judgment had not yet been pronounced. The case points to the inadvisability of performing such an operation as hysterectomy without the consent of the patient and her husband having been previously obtained. In the above case there is no reason why the operator, having ascertained the nature of the disease after dilatation of the cervix, should not have waited a few days before proceeding to remove the uterus.—*Lancet*.

The Twelfth International Medical Congress.—The arrangements for the next International Congress, which will be held in Moscow in August, 1897, are now being worked out by the special committee appointed for the purpose. There will be twelve sec-

tions, as follows: (1) anatomy, (2) physiology, (3) general pathology and pathological anatomy, (4) general therapeutics, (5) internal diseases, (6) children's diseases, (7) nervous and mental diseases, (8) dermatology, (9) surgery and diseases of the eye, (10) midwifery and gynecology, (11) hygiene, and (12) legal medicine. The government has assigned 35,000 roubles for the expenses of the congress. The official language of the congress will be the French language, but in the general meetings, of which there will be three, communications may be made in any European tongue. In the sectional meetings only three languages will be admitted—namely, French, German, and Russian. It will be seen that in this respect the organizing committee has altered its original intentions, which were to make French and German the official languages and to exclude all others completely. The propriety of admitting Russian communications to a congress held in the Russian capital cannot be questioned. Englishmen, however, must still regret that they will be debarred from making communications in their own tongue to the sectional meetings and that their only opportunity of reading papers in the English language will be in the three general meetings.

French Congress of Alienists and Neurologists.—

The Seventh French Congress of Alienists and Neurologists will hold its opening meeting at Nancy on August 1st. The questions proposed for discussion are: 1, The Pathogeny and Pathological Physiology of Hallucinations of Hearing; 2, Symptomatology of Tremors; 3, The Confinement of Lunatics in Special Institutions; Treatment and Legislation.

Antitoxin Gems.—A certain much interleaved medical journal published in the West punctuates its valuable space with items regarding antitoxin and serum-therapy which afford rich food for reflection upon the pathological idiosyncrasies of the human mind. Here are some samples: "Pirates in Paris." Physicians in Paris who prescribe animal serum are called 'pirates.'" "Under the head of the question of 'poisoning,' the MEDICAL RECORD reports a case of poisoning due to stale eggs. Many cases of poisoning, due to stale antitoxin have been reported, but these latter are only scientific experiments." Again: "Will some bright and progressive American doctor prepare antitoxin for the cure of asininity, now prevailing to an alarming extent across the pond?" To this we should say that there is not at present enough for local consumption in areas watered by a certain great river.

Massive Injections of Serum.—M. Lejars reports some extraordinary cases illustrating the value of intravenous injections of aseptic serum at blood temperature and in massive doses, that is, two pints three times a day. These injections, he says, are innocuous and they are capable of bringing about most un-hoped-for cures in certain cases, especially those involving the peritoneum. He thinks they act by provoking large evacuations of the toxins of the blood through the kidneys. M. Lejars describes a

remarkable case of peritonitis due to rupture of the intestine, in which after laparotomy the patient received in the course of nine days forty-five pints of artificial serum. The Paris correspondent of the *Medical Press* translates the author's description of the details of his mode of treatment: "Our method of operating," he says, "is very simple. We use a glass recipient properly sterilized and a glass cannula with a fine point; the vein is dissected through a small incision, tied, and opened with every antiseptic precaution above the ligature, and the cannula introduced, care being taken not to let in a bubble of air. By raising the recipient the liquid enters by its own weight; a certain thrill felt by the finger indicates that the solution is penetrating. At the end of the operation the vein is tied above the wound and the skin brought together by two sutures. At the second injection a segment immediately superior of the same vein is opened or one of the neighboring veins. In proceeding thus by segments from below upward from the bend of the elbow to the shoulder, on the superficial veins, quite a series of injections can be made, clots being entirely exceptional. In the case above related in detail more than twenty injections had been made in both arms. It might be possible to pierce the vessel directly with the point of the cannula if it were standing out in bold relief, but it must be remembered that the cases where these injections are useful the veins are frequently flaccid. Out of fifty intravenous injections we never observed the slightest accident, nor have we remarked that the operation was painful. Sometimes, however, we observed a little dyspnoea at the end of the injection. The patients feel the liquid penetrating, they experience at first an irritation of the tongue and mouth, then a difficulty in breathing, and finally a sharp abdominal pain of short duration, all these sensations proving that the liquid was being rapidly diffused. As to the liquid, the useful formula of Professor Hayem will answer every purpose:

R Chloride of sodium (pure).....	3 i.
Sulphate of sodium.....	3 ij.
Distilled water.....	1 3/4 pints.

The question of intravenous injections as applied to certain diseases is still on its trial, but in my opinion we have here a therapeutic method of considerable value in the great struggle with death."

A Doctors' Building in Philadelphia.—The proposition discussed from time to time as to the erection in Philadelphia of a large building devoted to the professional purposes of reputable physicians and dentists, such as exists in other large cities, e.g., Chicago, Denver, Pittsburg, is finally taking material shape. An organization has been effected and plans have been prepared for the erection of a handsome, suitably equipped, ten-story fireproof building at Eighteenth and Chestnut Streets, upon which it is hoped to begin work with the opening of the building season.

Dr. Robert Ellis Swan, a well-known physician and pharmacist and a nephew of the noted London pediatricist of the same name, died on February 24th at the age of fifty-six years.

Pennsylvania Colony for Epileptics.—The need of institutions for the care and employment of epileptics has long been recognized. The first known attempt in this direction was made in France in the middle of the present century and the colony then established at Lyons is said to be still in active and successful operation. Some twenty years later the colony at Bielefeld was founded. In the United States the agitation has resulted in the establishment of colonies, or in the institution of the necessary preliminary measures, in the States of Ohio, New York, Massachusetts, and Maryland, and now Pennsylvania has fallen into line. Several months ago an organization of prominent laymen and physicians was formed for the purpose of establishing a Pennsylvania Colony Home for Epileptics and Dr. Wharton Sinkler, who has taken much interest in the matter, was elected president. For the purposes of this colony home a farm of one hundred and ten acres at Oakbourne, Chester County, has been purchased; plans and specifications for the erection of suitable buildings, etc., are in course of preparation, and it is hoped that the work of construction will begin early in coming June.

Bluffing to the Last.—The business manager of a certain much-advertised consumption cure recently died from tuberculosis.

Orchotomy for Enlarged Prostate.—Dr. Mansell Moullin expresses an opinion in favor of orchotomy for enlarged prostate in old men. His experience is limited to twelve cases; of these twelve two died shortly after the operation, one from fatty degeneration of the heart, the other from apoplexy; two others died about six months after the operation; two more had suffered from traumatic delirium. In all the patients who lived there was a distinct amelioration of the symptoms. Dr. Moullin, however, thinks that perhaps unilateral orchotomy, or even resection of the vasa deferentia, may be followed by good results.

Pathological Society of Philadelphia.—At the meeting of the Pathological Society of Philadelphia on February 27th, Dr. Herbert U. Williams, of Buffalo, presented an exceedingly interesting and unique specimen obtained from a man of mature years, consisting of a duplication of the aorta from a point just beyond the origin of the left subclavian from the arch to the division into the two iliacs, each of which arose from a different vessel. There was a good deal of discussion as to whether the condition were a congenitally bifid aorta or an enormous dissecting aneurism, the preponderance of opinion favoring the latter view.

Americans as Champagne Drinkers.—In the year 1895 there were imported into America 2,878,140 bottles of champagne.

Philadelphia County Medical Society.—At the meeting of the Philadelphia County Medical Society on the evening of February 26th, Dr. F. P. Henry presented specimens of embryo *filaria sanguinis hominis nocturna* obtained from the blood of a case of endemic filariasis—the first it is said that has been

observed in Philadelphia. The patient was a woman, twenty-nine years old, who had never been out of the United States, having lived for twenty-seven years in South Carolina, for one year in Florida, and one year in Philadelphia. In the discussion it was pointed out that the presence of the parasite in the superficial vessels might be related to the periods of activity of the host rather than to the time of day, and that not uncommonly in cases of chyluria and lymph-scrotum either mature or embryonic *filariæ* cannot be discovered.

The Healthfulness of the Different Parts of New York.—In a report of the New York State Board of Health showing the mortality rate for the different diseases in different sanitary districts we find that the total death rate per thousand is highest in the maritime district (New York, Brooklyn, etc.), it being there 21.20; in the west-central district it is 13.40 per thousand; in the Adirondack and northern district 13 per thousand, and it is lowest along the southern tier of counties, where it is only 12 per thousand. The mortality from zymotic disease is highest in the Lake Ontario and western district, being there 308.31 to each thousand deaths, and lowest in the Adirondack region. In this latter region, however, deaths from consumption are higher than anywhere else in the State, being 114.50 per thousand deaths. Typhoid fever seems to prevail least of all in the maritime district, 7.06 per thousand, and most of all in the Hudson Valley, where it is 33 per thousand.

The Insane of London now number 13,047, and the County Council expects to have to provide for 600 more patients every year.

Cremation in America.—Of the 1,566 bodies that have been cremated at Fresh Pond in this State more than one-half, that is to say 820, were born in Germany and only 15 were born in Ireland.

Carrying Children on Bicycles.—San Francisco has passed an ordinance prohibiting bicyclists from carrying on their machines any child under the age of six years.

The Post-Graduate Hospital has adopted a regulation prohibiting the use of chloroform as an anæsthetic without consultation and directing that the reasons for the choice of an anæsthetic be recorded in the history of the patient.

The First Number of the Journal of Experimental Medicine, edited by Dr. William H. Welch and published by D. Appleton & Co., of this city, has just appeared. The first volume contains two hundred and one pages and seven original articles. Among them is one by Drs. William H. Welch and Simon Flexner, upon the "*Bacillus Aerogenes Capsulatus*," which is not concluded; one by Dr. William T. Porter on the "*Closure of the Coronary Arteries*," and also pathological articles by Drs. T. E. Shields and Ludwig Hektoen, these latter being illustrated with several excellent plates. The only articles which may be considered strictly practical is the one on the "*Production of Diphtheria Toxin*," by Drs. W. H. Park and A. W. Williams. All the contributions are

the results of original work carried out in a scientific spirit. The typography of the journal is excellent, and the new venture promises to be a credit to American medicine.

Paris too Popular as a Medical Centre.—French medical students complain that they are crowded out of their own schools by foreigners. The foreigners cannot be very largely made up of Americans, since the American student generally goes straight to Germany. At the Sorbonne there are but twenty Americans as against two hundred at the University of Berlin alone. Paris has not regained its prestige as a medical centre and does not in any wise deserve it. Much more thorough work and much more of the true scientific spirit can be imbibed in the German universities, to say nothing of the fact that until within two months the difficulties in the way of following courses and securing degrees were much greater in Paris. If these plain words will help to lessen the crowd of foreigners around the French medical students they are welcome to them.

Anti-Typhoid Serum.—The attempt to treat typhoid fever by immunizing serum obtained in various ways has, so far, been unsuccessful. At a recent meeting of the Paris Société de Biologie M. Chantemesse said that he had succeeded in immunizing horses against the virus of typhoid fever, and had obtained an immunizing serum which prevented the development of typhoid in the guinea-pig. He has employed injections of this serum in three cases of typhoid fever. The temperature showed a regular fall, and seven days after the commencement of the injections all three patients were free from fever and had commenced to convalesce.

The New York Medical Profession includes among its members a gentleman who is fast acquiring distinction in the literary world. Dr. E. C. Savidge has done a good deal of literary work of various kinds and has recently published a novel called "The American in Paris," which is eulogized very highly by the *Book News*.

The Office Thief is still busy in this city and physicians who are anxious to save their overcoats, instruments, and so on, should be on the lookout.

The Source of the Blood Plate.—According to Dr. Litten, of Berlin, the blood plates are not the decomposition products of white blood cells, nor preparatory stages of red blood cells, but are the decomposition products of the red blood cells. They are the stroma of the red cells minus the hæmoglobin.

Measles is unusually prevalent in this city at present.

An Effort to Legalize the Keeley Cure.—Mr. C. Smith has introduced a bill in the New York legislature providing that every person after having been twice committed for drunkenness shall be compelled to take the Keeley cure. This utterly absurd proposition is not only an unconstitutional interference with personal liberty, an impudent endeavor to legalize and encourage the work of a private corporation to the ex-

clusion of other methods, but is an insult to the medical profession of this State.

Obituary.

LAUGHLIN MCFARLANE, M.D.,

TORONTO, ONT.

DR. LAUGHLIN MCFARLANE, professor of clinical surgery in the University of Toronto, died February 29th, aged fifty-six.

"Peace hath her victories no less renowned than war." Peace has also her heroes and her sacrifices as noble as any that are demanded on the field of battle. Dr. McFarlane lost his life in the performance of his duty as a surgeon. A week before his death he was called to remove a patient's frost-bitten toes which had become gangrenous. In applying the sutures after the amputation he pricked one of his fingers with the needle. After taking the usual means of prevention in such cases the matter was not thought of again until the following day, when he had a slight pain in the finger, followed in a few hours by alarming symptoms indicating that blood poisoning of a most pronounced type was present. The symptoms were at first somewhat relieved by free incisions, but in a day or two the whole arm became swollen and there was marked evidence that the poison had fastened itself by this time on the entire system. The patient rapidly passed into a delirium that was succeeded by coma ending in death.

Dr. McFarlane was a Canadian by birth and belonged to a hardy race of Scotch-Canadians. He was possessed of those attributes of character with which success in life is almost guaranteed. He graduated in medicine at Toronto University in 1867 and at once located in the city where his life work will long be held in loving memory. Early in his career he became a member of the medical faculty of the university and later on a member of the senate of that institution. For his position as professor of clinical surgery he was peculiarly well qualified and his contributions to surgical literature bore evidence of his skill and erudition. He was an honored and valued member of several medical associations. The president of the Ontario Medical Association in his annual address last June referred to the fact that each year it became a painful duty to allude to the death of some past president. Dr. McFarlane, as a past president of the association, in moving a vote of thanks for the address, alluded in feeling and eloquent terms to those who had been honored by the association and are no more. Little did any who were present that day and heard Dr. McFarlane, looking the very picture of health, think that at the next meeting the members of the Ontario Medical Association would sigh

"For the touch of a vanished hand
And for the sound of a voice that is still."

Dr. McFarlane was an energetic and indefatigable worker in his profession, and ever ready for any sacrifice necessary in the interests of the University of Toronto. Although his professional connection was among the very best people in Toronto, his kindness of heart was manifested during his honored career in loving service for the poor, whose friend he was at all times. His funeral, March 2d, was one of the largest ever seen in Toronto and was a fitting tribute to the memory of one whose life had been nobly spent and whose death was a heroic termination of an existence replete with good works. The genial, kindly greeting of Dr. McFarlane at all meetings of Canadian medical associations will long be affectionately remembered.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

CHRONIC CANCER—RUPTURED SPLEEN—SPLENECTOMY—PNEUMOTHORAX—ARMY REPORTS—REGISTRAR-GENERAL'S REPORT—THE NEW PHOTOGRAPHY—DR. RUFFER—SMALL-POX—DEATH OF ANOTHER VETERAN ARMY SURGEON—THE PARASITE OF MALARIA—SPECIAL DEBATE AT THE MEDICO-CHIRURGICAL SOCIETY MEETING.

LONDON, February 21, 1896.

THE interest attaching to the various questions in relation to cancer never seems to flag although it may shift a little as to the point of view. Lately the Liverpool Medical Society, considering the uncertainty of our information as to operative procedures, determined to ask the several hospitals in the town to furnish their complete statistics to a committee of the society to examine and report upon. I hope the authorities of the several hospitals will hasten to give the information they possess and that the committee may be able to extract something from the statistics.

Another aspect of this subject came up in the Clinical Society of London last Friday, when Mr. Nunn gave a further account of a case, previously reported, of cancer of the breast which has now continued for more than thirty years. The woman became an out-patient of the Middlesex Hospital in June, 1862, when she was thirty-seven years old.

There was then a scirrhous tumor of the right breast, which Mr. Nunn removed. There was also a chain of enlarged glands in the axilla. In 1866 pain was complained of in the muscles of the arm and fingers. In 1868 the patient was no worse. In 1878 there was a very limited return at the upper border of the cicatrix. In 1893 there were increased deposits and the arm was swollen. The swelling subsided and the patient ceased attending the hospital. In 1895 Mr. Nunn found she was still alive and working as a charwoman.

Mr. Nunn also communicated the sequel of another case recorded by him in 1878. That patient died a year later and secondary deposits were found post mortem in the liver and lungs. Drawings and slides were exhibited. Mr. Nunn also referred to the recurrent tumor removed and exhibited by him before the Pathological Society in 1880, the original tumor having been removed by Mr. Curling seven years previously. A second recurrence occurred in 1882 and the tumor was removed by Mr. Lawson; the patient was lately seen alive. Mr. Howard Marsh mentioned the case of a lady, now seventy-one, who had had cancer for eighteen years and on whom he performed lately the tenth operation she had undergone. When first operated on there was nothing to indicate that the course would be so unusual, and Mr. Marsh remarked that these cases disposed of the statement often made, that where recurrence did not appear for three years a patient might be considered cured. These cases prove the contrary.

Some cases of splenectomy were related at the same meeting. The operations were performed for rupture and it was suggested that the subsequent histories would be interesting, as we do not know much about the after-effects of removal of the spleen in healthy persons—less indeed than in leukæmia. Several of the surgeons present made observations as to the operative procedure. Two cases of pneumothorax in the course of typhoid fever, both due to straining at stool, were related by Dr. H. White. One of the patients improved for three days but then died; the other completely recovered. The first had pleurisy and the fluid

was withdrawn. The second had a localized empyema and after he rallied foul purulent fluid was withdrawn. It was conjectured that in the first case the pleura, weakened by inflammation, ruptured during the straining, and in the other that the localized empyema burst into the general pleural cavity under the same pressure, and so the pneumothorax was established in each case. Dr. Goodhart read notes of a rather singular case of pneumothorax without obvious cause occurring on the right side, recovery taking place and a year later the same condition ensuing on the opposite side, again without obvious adequate cause and again the air being rapidly absorbed without any sign of pleurisy. He thought the rupture of an emphysematous bleb the most probable explanation. Some cases were mentioned by other speakers in which such blebs had given rise to the condition.

It was stated that at the Brompton Hospital at least ninety per cent. of the cases of pneumothorax were due to tuberculous disease, and a large majority of the remaining ten to rupture of emphysematous blebs. It was also suggested that some cases occurring in the course of fever might be caused by the rupture of scattered pyæmic abscesses, which are known sometimes to complicate bad cases of fever.

The report of the Army Medical Department was issued last week. It is a heavy and important record of the medical statistics of the army, but a good deal of the interest attaching to it is lost when it is observed that the report is for the year 1894. Surely the staff is in a position to bring out its report somewhat sooner. Why should it be a year behind most other heavy reports? In the United Kingdom the returns compare favorably with those of the previous year. In Egypt and the colonies there was decided improvement. In India there was increased sickness.

The report for the same year of the Registrar-General has also appeared and is notable as recording the highest standard of public health attained since the records commenced. The death rate was only 16.6 per thousand of the population. This is the lowest we have reached. The zymotic rate was low except in the case of diphtheria. The deaths from phthisis were also fewer. But cancer shows a larger number of deaths than previously reported, and it looks as if this dire disease is increasing, or perhaps it may only be that cases are now recognized as cancerous which were formerly diagnosed otherwise.

"Shadow-photography," "Roentgen's rays," "dark-light," "X rays," "Crookes' tubes," "cryptoscope"—such are the terms garnishing our daily conversation, which is further interspersed with cases of successfully fixing the position of foreign bodies and speculations as to the possible uses to which the new discoveries may lead. Interesting experiments have already been made as to the effect of the rays on microbes. The question arises whether the phenomena may not be as much electrical as optical. Optimistic opinions of new remedial power are here and there heard, while the more general view inclines to caution, expecting curious scientific developments and a readjustment of theories rather than immediate therapeutic results. No doubt your physicists were equally at work and your physicians keeping also an open mind.

Dr. Armand Ruffer has been appointed professor of bacteriology at Cairo and has accordingly resigned the directorship of the British Institute of Preventive Medicine.

There were no deaths from small-pox in London last week and the number under treatment on the ships fell to fifty-four. The outbreaks at Cardiff and Gloucester are giving cause for anxiety in those towns.

Another of our distinguished retired army surgeons

has died, viz., Surgeon-General J. Ekin, C.B., on the 14th inst., aged sixty-seven. He had seen much field service and had been principal medical officer at Nutley.

The discussion on the parasite of malaria was commenced before the Medico-Chirurgical Society on the 11th inst. with a paper by Drs. Robert J. Marshall and George Thin having special reference to the malarial fevers of the south of Spain. Before giving an account of their own investigations these gentlemen reviewed the results of the Italian authorities and exhibited a number of diagrams and lantern slides. It will hardly be necessary to give an abstract of the results of the Italian workers, as they are already known on both sides of the Atlantic. But one or two points of interest may be mentioned. The period of incubation, for instance, has been determined by Bignami and Bastianelli to be from eleven to fifteen days for a quartan fever, six to twelve days for tertian, and two to five days for the summer-autumn fevers of Rome. The short incubation of these last is an indirect proof of the short cycle of the quotidian parasite. The variation in the time seems to depend on the variety of the parasite as well as to some extent on the amount of blood injected in these experiments. The interval after the administration of quinine before the animals experienced a relapse was assumed to depend on the number of living spores left by the quinine, for it appears that the drug rapidly kills any spores set free by segmentation but cannot reach those which are protected by the substance of the red corpuscles. But Baccelli injected a gram of quinine into a vein a few hours before a paroxysm was expected. It was not prevented, although the spores which were free were killed. When the drug is administered it is found in the blood in the largest quantity during the first six hours. To insure the destruction of a generation of the parasites Golgi found it necessary to inject as much as a gram into the blood, which is equivalent to one in five thousand; but even after this amount the crescentic form of parasite has been found, though perhaps this might disappear after a long course of the remedy. The parasites were not killed by the administration of arsenic.

The observations of the authors of the introductory paper relate to the parasites of malarial fevers in the Province of Huelva. They found that the parasites included those observed in quartan and tertian fevers, described by Golgi, whose observations they verified in every detail. Cases were also met with in which the quotidian parasite was observed, and these cases they classed as irregular fevers. In some the crescentic form was not seen; in others they found a parasite resembling that seen in the early stages of quotidian fevers, but in later stages this was associated with the crescentic form. Whether this is a separate species seems yet undecided, though the drawings shown seem to indicate an unbroken series from the young spore to the fully developed crescent. The question was discussed as to how the parasite gets admission to the body, and the facts gathered at Huelva were held to prove that it was not carried by currents of air, but, as in other places, that combined heat and moisture favored access to the human body, especially when these conditions were accompanied by disturbance of the soil. Further, the facts supported the conclusions of the Italian authorities that the poison is not conveyed by drinking-water nor yet by mosquitoes and other insects playing the part of intermediate hosts. The reports of these cases were furnished by Dr. Marshall, who had attended the patients and examined the freshly drawn blood, while the dry and stained preparations were studied jointly by both Dr. Marshall and Dr. Thin.

Dr. Curnow congratulated the authors on the care they had taken in obtaining these results and went on to say that it was a curious circumstance that, while in England we are discussing whether a given variety of plasmodium produces a fixed variety of fever, Surgeon Lieutenant-Colonel Lawrie declares that a plasmodium has no connection with fever and that the pigmented bodies described are only the vagaries of a leucocyte. But if that is the result of his Indian work, it does not accord with Dr. Curnow's, who said he had been well acquainted with the plasmodium since Professor Cruikshank showed him some brought from Rome eight or nine years ago. He had often seen it since at the Seamen's Hospital. Two distinct questions were raised by the paper. 1, The varieties of plasmodium and their relation to fever; and 2, The question of the etiology and spread of the fever. As to the first question, the circular or amœbic form was common to all varieties of malarial fever. The pigmented forms displayed so many differences that they could not be made foundations of varieties of fever. He recognized four forms of plasmodium: 1, The circular found in all acute cases and which might at a certain period become, 2, the flagellated form of which he had seen many examples, chiefly in quotidian and tertian but also in quartan fevers; 3, rosette forms found only in tertian and quartans; 4, crescentic forms met in all fevers, especially chronic cases and those least acted on by quinine and therefore very intractable. Possibly the crescentic forms were derived from the circular or amœbic, and he asked if we had any evidence that a distinct fever was associated with a crescentic plasmodium. He did not consider that the suggestion of the author, that there might be as many varieties of parasite as of fever, was supported by the cases they related. In one of these quinine had been given, which interfered with the result, and another was diagnosed solely from microscopic appearance. He considered it necessary to study each variety in cases unaffected by quinine, and to start with the microscopic appearances was of little use. As to whether the parasite was air-born or water-born we could not judge from the experience of local areas, that the opinion that it was air-born was universally accepted, but it could not be said that infection might not take place from drinking-water. Bourdin found that in one hundred and twenty soldiers returned by ship from Algiers to Marseilles one hundred and three of them, who drank marsh water, suffered from malaria, but the sailors who had other water remained well. Other observations were mentioned to the same effect. As to the mosquito hypothesis, finding the flagellum in the mosquito was a long way from finding the plasmodium in man. As to treatment, he urged the importance of prevention and advised those going into a malarial district to take quinine every morning with their coffee. He referred to the experience of officers spending five months in laying cables on the west coast of Africa, calling frequently at the ports but continuing on this plan almost free from malaria. The debate was then adjourned.

Use of Curette.—The dull curette is a useful instrument in scraping out retained secundines after abortions, or portions of intra-uterine or adenomatous growths for macroscopical and microscopical examinations. The sharp curette is a much safer and more efficient instrument for this purpose. . . . In endometritis the hypertrophic membrane should be removed with the sharp curette; blunt curettes are useless for this work. If a surgeon must use such, because of the supposed danger attaching to the sharper instrument, it is questionable whether he should do the operation at all.—*American Text-Book of Gynecology.*

SHORT-SIGHTED MEDICAL DIRECTORS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have read with much interest your editorial upon family history, etc., as connected with life-insurance examinations.

I have had a very large experience as an examiner and thoroughly agree with your remarks that "great injustice is done in very many cases" by the medical director.

I believe that one of the crying injustices is due to the fact that all rejections are made known to a central bureau and by this bureau are made known to every company in the United States, and undue allowance is made therefor.

Your remark that "we are convinced that the applicant for insurance is not given half a chance" is too true.

Take the case of an applicant known to me, who was rejected for sugar in the urine by an incompetent examiner for a prominent company. The bureau was notified and through it all other companies. The applicant was also notified.

Feeling certain that he was sound, he went to his family physician, an unusually competent man, who found no sugar after repeated tests. The applicant, knowing nothing of the bureau, made repeated applications to many companies, in every instance upon a recommendation of the local examiner, and was turned down by every one.

His family physician was appealed to and he wrote a medical director the facts. The director compelled the applicant to have his urine examined at his own expense every two weeks for three months before he would accept a favorable report from his own examiner.

This means that the favorable report of a half-dozen examiners was not able to overcome the unfavorable report of an unknown examiner for another company.

This is a rank injustice. The bureau is a valuable institution, but directors should use it, not abuse it.

When an applicant protests that he is a sound man in spite of a rejection and furnishes evidence of it, the company should name a board of three examiners, who should make a test examination which should be final. If they accept him, the bureau should be notified and the name erased from the insurance black list.

R. M. STONE, M.D.

OMAHA, NEB., February 25, 1896.

FAMILY HISTORY AND TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your remarks called out by the statistics of Dr. Marsh of the Mutual Life Insurance Company in regard to family history and phthisis, will, I am sure, be widely appreciated by medical examiners for insurance companies. The injustice which you point out as often inflicted upon individuals from a blind following of rules founded on such statistics is matter of common observation.

But it occurs to me to mention in this connection the disproportionate value placed upon "family history" by these companies, as against the generally accepted theory of the etiology of phthisis at the present day. Heredity has steadily declined in importance with all authorities, I think, as an etiological factor, while the infectious and contagious character of the disease has grown. This fact is theoretically recognized by some companies, the Equitable at least, but I have yet to learn that any yet conform in their questions or decisions as to acceptance of risks to the latest knowledge of the disease.

Your quotation from Fagge, that it is "impossible to draw a line between hereditary and accidental tuberculosis," makes the determining of the exact cause of

an individual case in a family imperative. If there is only an "accidental" case in a family it should not of course prejudice the case of the applicant. We all know that constant association with a phthisical subject, either in the home or in the store, shop, or mill, as husband or wife, or as fellow-workman, is more to be feared than a phthisical father, mother, uncle, aunt, brother, or sister not in such association. It would seem to the casual observer or inquiring examiner that a question founded on such facts as these would be quite as consistent with recent views of this disease as those regarding family history, immediate and remote.

C. S. CAVERLY, M.D.

RUTLAND, VT., February 25, 1896.

PERSONAL CONDITION IN ESTIMATING A LIABILITY TO CONSUMPTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of February 22d you have a long editorial notice of my report on the "Value of Family History and Personal Condition in Estimating a Liability to Consumption." Your criticism of the work is decidedly unfavorable, but you have so misinterpreted it that you attribute to me opinions which I do not hold and conclusions which I have not formulated. You say that "the conclusions are false, misleading, and unscientific. . . . We hate to think of the gross injustice which will be done and the suffering inflicted on widows and orphans where the bread-winner has been 'turned down' because of a partial or strict adherence to such utterly false conclusions."

I do not care to enter into a discussion or refutation of your criticism, but, as my report has had a limited circulation and your notice has been read by thousands of our examiners, I would ask, as a matter of justice, that the "conclusions" be given in the exact words of the report. I am entirely willing to leave the decision as to the justice of your criticism to the readers of the MEDICAL RECORD.

The summary of my report was as follows:

"The statistics given in this report warrant the following conclusions:

"1. That the history of consumption in any member of the immediate family increases the probability of its appearance in an applicant.

"2. That consumption in a brother or sister is at least of equal importance as when it has occurred in a parent.

"3. That persons who are under the standard or average of weight are much more liable to consumption than those above this standard. That the peculiarity of constitution which is indicated by the inability to take and assimilate a proper amount of nutriment indicates a susceptibility to phthisis, or at least is a reasonable suspicion of such predisposition.

"4. That persons who exhibit a robust and well-developed body have little susceptibility to consumption.

"5. That the personal condition of weight and robustness has far more value than the family history in diminishing the liability to consumption; therefore

"6. The evidence presented by a well-developed body may outweigh the suspicion attached to unfavorable family record.

"7. That these influences of family history and personal weight are of the same grade for every age, and their importance is not lessened by the fact that the individual has reached middle life.

"In deciding upon the eligibility of an applicant for life insurance, in whose case there is a suspicion of future danger from consumption, his personal condition is of the first and his family record of the second importance. Whenever he presents a robust physical appearance, with a weight at least equal to the standard or average as given in our tables, he may be ac-

cepted, notwithstanding any taint in the record of his family. In our experience such persons have a small liability to consumption, although not protected from it. If, however, his weight does not come up to the average and he gives a history of consumption in brothers, sisters, or parents, he is to be regarded as an unfavorable risk. This does not mean that all such persons are to be absolutely excluded from insurance, but each case must be carefully scrutinized, and the decision based upon the circumstances of occupation, character, past history, etc. When these are favorable, insurance should be given on terms most advantageous to the company, by limiting the amount or modifying the form of policy; when unfavorable, the applicant should be either postponed until he has gained sufficient weight, or else be absolutely rejected."

E. J. MARSH, M.D.,

Medical Director, The Mutual Life Insurance Co. of New York.

NEW YORK, March 4, 1896.

THE INSANITY LAW AND THE LUNACY COMMISSION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial comments on the proposed "Insanity Law" are of great importance and ought to be brought to the attention of the legislature. It is apparent that the commission should be enlarged to meet existing conditions. The present commission has, in one of its reports, stated that the patronage of the institutions for the insane in this State exceeds that of the canals and prisons. It seems incredible that our legislature can now intrust to three men, not one of whom is known as a successful business man, such enormous powers over patronage and in the expenditure of \$4,000,000 of public money.

Your plan of enlarging the commission is excellent, for it brings into that body a special representative of the people of each hospital district. And it seems to me particularly important that New York and Kings counties should have each a member, as they would represent institutions having in care half of the insane in the State. Another good point in your plan is the proposition that the commissioners should serve without pay, as do the commissioners of other State boards which have equally responsible and onerous duties to perform. Thus the State would save the thirty to fifty thousand dollars which the present commission receives.

MANHATTAN.

NEW YORK, March 7, 1896.

ACETYLENE NOT EXPLOSIVE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The letter from Dr. Legge (MEDICAL RECORD, February 22d) seems to me to involve a serious misapprehension of what constitutes an explosive gas. The explosion of acetylene is governed by the same principle as that of other hydrocarbon gases, namely, the gas requires to be mixed with a certain amount of oxygen in order to form a combustible mixture. The explosion which is reported in Dr. Legge's letter is not of acetylene, which by itself is no more explosive than so much chalk. But the accident was dependent on a mixture of the acetylene with air, and precisely similar accidents are constantly happening with common illuminating gas. True explosive gases are known to the chemist, that is, substances that will of themselves decompose with more or less violence when heated, but acetylene has no such property. It is obviously a mistake to apply the term explosive to a substance which requires a specific admixture of air in considerable proportion to produce the property of rapid combustion.

HENRY LEFFMANN.

715 WALNUT STREET, PHILADELPHIA.

Therapeutic Hints.

Leucorrhœa of Pregnancy.—A five-per-cent. solution of lactic acid.—DORLAND.

Antitoxin Treatment.—The eminent pathologist, Virchow, who at first criticised the antitoxin treatment, presented some statistics at the Berlin Medical Society where the death-rate had been reduced from forty-seven to thirteen per cent. "All theoretical considerations," he said, "must give way to the brute force of these figures," and he held it to be the duty of every doctor to use the serum.

Mentholated Oil for Purulent Rhinitis.—Fogerau cured a case of acute primary purulent rhinitis due to staphylococcus albus and staphylococcus aureus by spraying ten-per-cent. mentholated oil into the nares and pharynx five or six times daily.—*Ann. d. Malad. de l'Or., du Lar., du Nez et du Pharynx*, 1895, No. 12.

Adenoid Vegetations of the Naso-Pharynx.—Arslau, of Padua, concluded after extended clinical study that adenoid vegetations of the naso-pharynx occur frequently in Italy. The primary causes are heredity and dyscrasic diseases, the secondary causes humidity and infectious processes. He employs the Moritz Schmidt incision, followed by scraping with the finger. As an anæsthetic he finds ethyl bromide preferable. In all cases where adenoid vegetation is detected it should be removed and all children should be subjected to a naso-pharyngeal examination before being admitted to public or private schools or other institutions.—*Ann. d. Malad. de l'Oreille, du Larynx*, etc., 1895, No. 10.

For the Abdominal Pains of Muco-Membranous Enteritis.—

R. Menthol gr. iij.
Alcohol sufficient to dissolve.
Simple syrup fl. 3 vi.
Water fl. 3 iij.

M.

—MATHIEU, *Revue de Thérap.*

Rhinoscleroma.—Dr. W. Freudenthal says rhinoscleroma is a chronic hypertrophic inflammation of the mucous and submucous tissues of the upper respiratory organs, commencing with the nose and extending down to the trachea. The disease usually begins with thickening and induration of the skin on the septum cutaneum narium. The nose becomes broadened and flattened and its tip approaches the upper lip.

Choroiditis.—In the treatment of rheumatic and gouty choroiditis plastica and serosa pilocarpine should be administered every other day for the purpose of inducing profuse sweating. Two one-fourth grain doses at an interval of an hour will be sufficient. After taking the first dose, which is made more effective if given in a large glass of hot lemonade, the patient should go to bed in a warm room. The sweating will last from two to three hours. The patient should remain in the room the remainder of the day, so that there may be no vasomotor disturbances caused by atmospheric exposure.—*Tri-State Med. Journal*.

Dr. F. W. Ross calls attention to the fact that there is a pouch behind the liver and another behind the spleen, and that he often finds it necessary, after having removed a large quantity of ascitic fluid, to pass a sponge above a ridge formed by the peritoneum as it joins the transverse colon to get the fluid that lodges in these pouches. The fluid finds its readiest exit backward and outward toward the right side. He recommends a drainage tube passed in this direction as

a safeguard against the extravasation of bile from an unclosed common duct.—*Canadian Practitioner*, January, 1896.

Brandt Treatment of Typhoid Fever.—Dr. Nogier (*Lyon Méd.*, lxxx., 1895, p. 409) writes as follows: "Concerning the treatment of typhoid fever, the statistics of the fourteenth corps show that a smaller percentage of mortality has been obtained by those surgeons who used the cold-bath treatment and employed it systematically till there was a permanent fall in temperature. Not to give patients the benefit of this chance is to incur a responsibility to which no surgeon should expose himself, and from which he cannot excuse himself by arguing that he has not the proper means to carry out this line of treatment. It belongs, in fact, to all those having hospital service in charge to organize in such a way as to make this treatment easy, and, if there be need, to make urgent demand at the proper time for the material and the personnel required."

Burns of Eyelids.—Drs. Landolt and Gygau (*Précis de Thérapeutique Ophthalmologique*) recommend:

℞ Cocaine hydrochlorate..... gr. xlv.
Lanolin..... gr. lxxv.
Vaseline,
Distilled water..... āā gr. ccc.

This preparation may be used for slight burns, or Carron oil or finely pulverized bismuth may be used.

For burns of the second degree one of the following may be employed:

℞ Cocaine hydrochlorate..... gr. xxiii.
Salol..... gr. xlv.
Vaseline..... gr. cccclxxv.
℞ Iodoform..... gr. lx.
Extract of conium..... gr. xxx.
Carbolic acid..... gr. ⅞.
Rose ointment..... gr. ccccl.

Before the application of the ointment the blisters should be opened and carefully washed.—*N. Y. Med. Journal*.

Colica Intestina.—

℞ Bismuthi subnit..... ʒss.
Pulv. cinnamomi..... 4.
Sacch. alb..... 60.
Half a teaspoonful each day before dinner.

—H. ROSATINSKY.

Antistreptococcic Serum was injected (six cubic centimetres) in an infant of three weeks presenting an umbilical erysipelas reaching to the hypogastrium.

The following day there was general improvement and a second injection was given, followed in three days by a third. There was some extension of the process and sphacelus of the scrotum occurred, but the infant recovered.—*STEELE, Brit. Med. Journal*, December 7, 1895.

Gonorrhœa.—

℞ Hydrarg. chlor. corros..... gr. ss.—iss.
Zinci sulpho-carbolat..... gr. ij.—x.
Acid. boric..... 3 i.
Hydrogen peroxide..... fl. ʒ i.
Aq. destillat..... q.s. ad fl. ʒ viij.
M. Sig. Use as an injection from four to six times a day, immediately after urinating.

—WHITE.

The treatment of chronic gonorrhœa, by injections of hypermanganate of potash or lime, under high pressure, is receiving considerable attention.—*TANET*.

Alopecia.—

℞ Ext. jaborandi,
Tinct. cantharidis..... āā fl. ʒ ss.
Glycerin,
Ol. vaselini..... āā ʒ i.
M. Sig. Apply locally with a sponge at night.

—BARTHOLOW.

Frost Bite, or erythema pernio, recurring as it so habitually does with the advent of cold weather year after year, merits attentive consideration.

Treatment must vary with the lesion present.

When the skin is red, tense, and shiny without ulceration moist dressings should be applied. Compresses wet in a decoction of walnut leaves (ten to fifteen grams of leaves to a litre of water) should be applied and covered with an impermeable tissue. After the irritation is calmed apply:

℞ Boric Acid..... ʒ gm.
Tannin..... 0.30 cgm.
Vaseline..... 10 gm.

Or apply:

℞ Starch,
Lycopodium..... āā 10 gm.
Tannin..... 0.30 cgm.

In slighter forms lotions with the decoction morning and night will suffice, and after the above applications gloves should be worn during the day.

In ulcerated lesions wash with Van Swieten solution (90 centigrams of corrosive sublimate, 96 grams of alcohol, and 928 grams of distilled water) and apply compresses with the same diluted with an equal quantity of water. If this does not succeed apply Vidal's red plaster (minium, 2.50; cinnabar, 1.50; diachylon, 26) or zinc-oxide plaster.

General treatment must not be neglected, especially in scrofulous subjects and those of delicate complexion.

Prophylaxis: Order exercise, the avoidance of exposure to prolonged cold, and the sudden passage from cold to heat, and *vice versa*. Brocq has found successful the following, which may be taken at intervals throughout the winter, acting as a vasomotor regulator of the circulation:

℞ Quinin. sulph.,
Ergotinæ..... āā 0.05 cgm.
Pulv. digitalis fol..... 0.005 mgm.
Ext. bellad..... 0.001 mgm.
For one pill. Two to four to be taken daily before eating.

—*La Press Médicale*, December 28, 1895.

Constipation of Pregnancy.—

℞ Aloini..... gr. ⅞.
Ext. bellad..... gr. ⅞.
Cascar. sag..... gr. ⅞.
Strychn. sulph..... gr. ⅞.
—HIRST.

Insomnia.—

℞ Narceinæ..... gr. viij.
Confect. rosæ..... gr. xv.
M. et ft. pil. No. xxiv. Sig. One to three pills at bedtime.
—LABORDE.

Labor.—

℞ Quiniæ sulphat..... ʒij.
Acid. sulphuric. aromat., q.s. ut ft. sol.,
Syr. zingiberis..... āā fl. ʒ i.
Aque..... ad fl. ʒ ij.
M. Sig. A tablespoonful at once, and afterward a dessert-spoonful every four hours. (In atony of the uterus.)
—RINGER.

Leucocythæmia.—

℞ Acid. arseniosi..... gr. i.
Pil. ferri carbonatis,
Quinidiæ sulphat..... āā 3 i.
M. et ft. pil. No. xl. Sig. Two pills three times a day.
—DA COSTA.

Hair Tonic.—

℞ Tr. cantharidis..... fl. ʒ i.
Aceti destillat..... fl. ʒ iss.
Glycerinæ..... fl. ʒ iss.
Spt. rosmarini..... fl. ʒ iss.
Aq. rosæ..... ad fl. ʒ viij.

—TILBURY FOX.

Morphinism.—The "small pupil," a usual symptom of opium, is sometimes unaccountably absent in the *habitué*.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 5, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Pneumonia as a Complication of Diphtheria in Children.—DR. HENRY W. BERG read the paper. (See p. 365.)

Pneumonia Always an Infective Process.—DR. HERMAN M. BIGGS thought it was pretty generally accepted now that pneumonia was always an infective process. With the exception of lobar pneumonia—which perhaps might be due to a specific micro-organism, the pneumococcus of Fraenkel, although we were not sure of even that—the other forms of pneumonia and broncho-pneumonia were not due to a specific infection, but might be due to a number of different micro-organisms. They might be due primarily to the Loeffler bacillus, but almost invariably when this bacillus was present there were also others, as streptococci and even staphylococci. None of these, he believed, would produce pneumonia unless there were other conditions reducing the vital resistance. In this respect these pneumonias differed from scarlet fever and measles, to produce which only exposure to infection was required. With this explanation, he could easily understand why broncho-pneumonia so frequently followed diphtheria. There were the depressing influence of diphtheria and the favorable conditions for the entrance of the infectious germs into the bronchi. In hospitals, owing to overcrowding, etc., the conditions were more favorable for the development of complicating broncho-pneumonia than in private dwellings. Isolation of cases of broncho-pneumonia complicating diphtheria from those of diphtheria not so complicated was desirable, yet he did not think it was absolutely necessary. In some other hospitals besides the Willard Parker the development of one case of pneumonia after another seemed to have left little doubt of infection, for after the wards had been thoroughly aired a number of days and disinfected the septic pneumonias ceased to occur. On speaking of this to Dr. Janeway, the latter recalled a period when about fifty per cent. of the cases of small-pox in the Riverside Hospital developed erysipelas. The wards were then emptied and renovated in a radical way, and thereafter no more cases developed erysipelas. As to the pneumococcus, case after case of pneumonia had been known to develop in the wards of certain hospitals, showing beyond question infection of the ward from this germ. In broncho-pneumonia complicating diphtheria he thought the chances of infecting other patients would be largely diminished if we could isolate such cases from others of diphtheria in the same hospital, but the difficulties in the way were considerable.

The next point was to get the best possible ventilation and the largest possible floor space, to regulate the temperature, and to keep the patients under the best possible sanitary conditions. He agreed with all Dr. Berg had said regarding treatment. He was glad that he had condemned antiseptic inhalations. They were a source of a great deal of harm, for they did not reach the seat of the disease and disinfect the local process, while they kept the air of the room surcharged with moisture and usually at a high temperature. It was a question of resistance of the vital organism to the germs, and anything which tended to depress the vital resistance exerted by so much a deleterious influence. If a well person should stay in a room twenty-four hours where there was a boiling kettle saturating the

air with carbolic acid, compound tincture of benzoin, or some such substances as were so commonly used, he would begin to realize how enormously debilitating it was.

Oxygen was useful. Cold was the only agent which should be used for pyrexia. He knew of no contra-indication to its use except collapse. He preferred mild cold, as by sponging with alcohol and water, and if this was not sufficient the pack or bath could be employed. Poultices were an abomination. They should never be used in pneumonia unless to relieve the pain of dry pleurisy in adults.

Regarding a streptococcus antitoxin, if a successful one could be secured it would, of course, be the ideal agent for treating those cases of infection due to the streptococcus, but it must be remembered that in a very considerable proportion of cases other organisms, such as the pneumococcus of Fraenkel, took part.

DR. WILLIAM H. PARK mentioned the last two cases with autopsy and bacteriological examination at the Willard Parker in their bearing on the questions under discussion. In one the patient was benefited under antitoxin treatment but after some days developed the temperature of pneumonia, and at autopsy they found in the lungs streptococci and other germs of mixed infection. In the other case it was clear that the child had pneumonia from the first and might have died even without laryngeal diphtheria, for which it was intubated.

Regarding isolation, while it would be on the safe side, yet he was not convinced that about equally good results would not follow increase of air space without isolation. He doubted whether the streptococci and other germs of mixed infection were present in the air; at any rate, he never found any streptococci in the dust of the wards. The greater number of cases of broncho-pneumonia complicating diphtheria in the hospital as compared with private dwellings was probably due to the depressing influence of having so many sick people together and to the lack of air space. Regarding the influence of treatment on the germs, we could only expect diphtheritic antitoxin to influence the Loeffler bacillus or its toxins. Laryngeal diphtheria was more likely to be complicated by pneumonia than diphtheria situated higher.

The last two years prior to January they had kept the temperature of the wards as high as 80° F., theorizing from the fact that diphtheria was less prevalent in summer than in winter. Doubtless the theory was wrong; it was impossible to have proper ventilation with the temperature at 80° F. and the past five weeks they had reduced it to 70° F., and during this time there had been less pneumonia and more of the cases recovered which did have pneumonia.

One of the visiting physicians, Dr. Winters, had claimed that the larger number of cases of broncho-pneumonia occurring during the use of antitoxin could be attributed only to the hypodermic injection of large doses of serum albumin. Now, no germs were injected with the serum, and as pneumonia was an infective disease, the only way in which the serum could favor its development would be by undermining the system until it could no longer resist the streptococci entering through the air passages. The real explanation of the apparent increase of pneumonia complicating diphtheria since the introduction of the antitoxin treatment was found in the fact that prior to that period the patients did not live long enough to have death attributed to that cause. The very fact that the antitoxin counteracted the diphtheritic poison and placed the patient in the way of recovery gave the mixed germs more time in which to produce pneumonia. But that was a credit to the antitoxin treatment, and statistics of the hospital during its use showed fifty per cent. of recoveries as against twenty per cent. before.

DR. JOHN W. BRANNAN had come to the conclusion, after considering the apparent increase of cases of broncho-pneumonia at the Willard Parker during the past year, that it was due to the fact that antitoxin had saved a larger number from diphtheria, and these could go on to develop pneumonia should infection occur.

As to causes of complicating pneumonia, Dr. Brannan had found, in the first place, that only about half the floor space was allowed each patient that was allowed in other similar hospitals. Lately they had increased it, but they had not been able to give more than eighty to eighty-five square feet. Another marked improvement had been the lowering of the temperature of the wards. Formerly the air felt hot and stuffy. A third measure which he regarded as of some importance had come to him on reading an article in the *MEDICAL RECORD* by Dr. Seymour, of Troy, on drainage away from the lungs by gravity in operations on the tongue, etc. At the hospital they now raised the foot of the bed ten inches, with a view to cause drainage away from the larynx and prevent infection of the lower air passages.

Urges no Treatment except Bathing.—Dr. Brannan felt like urging no treatment except bathing the patients, and he found that the temperature could usually be controlled by a tepid bath of about 90° F. If one chose, the child could be kept for a longer time in a sheet wrung out of warm water after the bath. It acted beneficially also in increasing the depth of the respirations.

DR. W. P. NORTHRUP said, concerning the inspiration of fluids, etc., the schnupf-phenomenon, that Dr. O'Dwyer and he had mixed a little lampblack and materials of other colors with the milk given intubated infants, but they had never found any of it below the distal end of the tube in cases which came to autopsy. The same fact had been observed by the Germans.

Broncho-Pneumonia or Lobar Pneumonia?—Dr. Northrup said that in children under two years of age pneumonia was anatomically broncho-pneumonia, even when its distribution was lobar. The reason was that in the fœtus up to the sixth month there were bronchia but no alveoli; for a few weeks after birth the bronchia continued to occupy much of the pulmonary space, and there was a large amount of loose connective tissue around the bronchia. In the adult this became thin and was less subject to infiltration, and we saw lobar pneumonia. The adult form of pneumonia might be seen after the second year, but not often until the fifth year.

The severity of infectious diseases seemed to be increased by numbers, striking examples of which he had seen in epidemics of measles. The difference in his results from intubation could hardly be accounted for in any other way than by the different surroundings under which it had been performed, being better in weather when windows could be kept open, worse in winter when ventilation was poor.

As for treatment, he swabbed the mouth and used the spray in this and other infectious diseases. Anything which was too hot he cooled down with water. If water was not cold enough he used ice. He wished also to say a good word for the poultice. It was our hobby to go to extremes, and he thought it was going to the extreme to entirely condemn poultices. He was, however, opposed to their continuous use.

DR. WILLIAM WATKINS SEYMOUR, of Troy, told how he had come to employ the gravity position in operations on the larynx, trachea, and tongue. Out of his last ten intubations there had been eight recoveries, and in only three of them had antitoxin been used. He believed the much-abused poultice had been used in all. The fatal cases were in patients whose parents did not faithfully carry out instructions. Young

children could be kept several days with the feet elevated without much inconvenience.

Sustain the Right Heart.—**DR. ANDREW H. SMITH** said that in pneumonia the right ventricle was constantly called upon to do enforced duty in driving the circulation through the obstructed lung. Moisture and confined air interfered with respiration and impaired the blood. In no other disease had he seen so much benefit from the inhalation of oxygen as in the broncho-pneumonia of children, but ordinarily its use was not begun early enough. Another indication was to divert the blood from the veins to the arteries. Employ arterial dilators. Digitalis was responsible for loss of life in many cases of obstructive disease of the lungs, for it contracted the arterioles.

Carbonic Acid per Rectum.—**DR. ACHILLES ROSE** suggested inflation of the rectum with carbonic-acid gas, from whence it would be carried by the venous circulation to the lungs, where in the alveoli an exchange with oxygen would take place, yet there would be no more oxygen absorbed than was in proportion to the carbonic-acid gas. It had first been recommended in consumption by a Frenchman, but exaggerated hopes had led to its abandonment. Dr. Rose thought he had obtained benefit from it in whooping-cough.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 7, 1896:

	Cases.	Deaths.
Tuberculosis.....	106	108
Typhoid fever.....	6	3
Scarlet fever.....	115	8
Cerebro-spinal meningitis.....	0	0
Measles.....	441	24
Diphtheria.....	225	30
Small-pox.....	0	0

A Sign of Death by Exhaustion from Insufficient Nourishment in Young Children.—According to the Berlin correspondent of the *Medical Press*, Dr. Seydel asserts that in all cases in which death is brought about in young children by insufficient nourishment, total disappearance of the thymus gland is an invariable phenomenon. Whether this disappearance may not also be brought about by exhausting diseases, such as fevers, requires further observation. It is to be accepted as probable, as the thymus gland must be looked on as, to a certain extent, a reserve material, and it is highly probable that it is drawn upon to supply nutrient material that may be wanting. Where organic changes are absent and where on section of emaciated children there is absence of the thoracic glands, it may, according to the author's observations, be taken as a more certain sign of exhaustion by deficient and unsuitable nourishment than narrowing of the lumen of the intestine, which, in point of fact, is, as a rule, not present.

Feeding the Public with Disease Germs.—In a recent issue *The Sanitarian* speaks of the condition of the city of Brooklyn in the following manner: "The abominable practice of feeding the dust of disease germs of every kind to the people, which obtains throughout the city in default of well-appointed markets. The sidewalks of the streets are the places of display for marketable food of all kinds. Meats, vegetables, and fruits of all kinds are a part of the stock in trade by almost every grocer in the city and

many other storekeepers. From the time of the opening of their stores to the time of closing them, their food supplies are displayed on the sidewalks and dusted throughout the day with horse manure and every other kind of disease dust afloat in the air, from scabies to tubercle bacillus. At closing-time these supplies are piled into the stores without regard to cleanliness or order, as they are to be tumbled out again the first thing in the morning; and, needless to add, the stir within the stores is quite sufficient for the like dusting of everything served over the counters. The dark recesses, closets, stowholes, and cellars of such stores are thus loaded with disease-bearing dust, more or less putrescible according to the conditions of darkness, moisture and temperature, tainting everything that is served therefrom."

Respirability of Vitiated Air.—The breathing of air in which a candle flame will not burn is generally considered dangerous. In a paper by Mr. Frank Cloues, read before the British Association at the Ipswich meeting, the results of some interesting experiments were given. According to the *Popular Science Monthly* for March, 1896, it was found that the flames of ordinary candles and lamps were extinguished by mixtures which contained, on an average, about 16.5 per cent. of oxygen and 83.5 per cent. of the extinctive gases. A flame of coal gas, however, required for its extinction a mixture still poorer in oxygen and containing 11.3 per cent. of oxygen and 88.7 per cent. of the extinctive gases. These results have since been confirmed by a different method, which consisted in allowing a flame to burn in air inclosed over mercury until it was extinguished; the remaining extinctive atmosphere was then subjected to analysis, when its composition was found to be practically identical with that previously obtained from the artificial mixtures. An analysis of air expired from the lungs proved that it was also of the same composition as that which extinguished the flame of an ordinary candle or lamp. The average composition of expired air and of air which extinguishes a candle flame is as follows: Oxygen, 15.9; nitrogen, 80.4; carbon dioxide, 3.7. Now, an atmosphere of this composition is undoubtedly respirable. Physiologists state that air may be breathed until its oxygen is reduced to 10 per cent. The maximum amount of carbon dioxide which may be present is open to question, but it is undoubtedly considerably higher than 3 per cent. Dr. Haldane maintains that the above atmosphere is not only respirable, but would be breathed by a healthy person without inconvenience of any kind; he further states that no permanent injury would result from breathing such an atmosphere for some time. The conclusion to be drawn from these facts is that an atmosphere must not be considered dangerous and irrespirable because the flame of an ordinary candle or oil lamp is extinguished by it. The popular notion about such an atmosphere might often deter one from doing duty of a humane or necessary character.

Positions During Sleep.—In conversation with a *Sun* representative a physician of this city said that the phenomena of posture in sleep really offer a fruitful field of study. There is an important physiological meaning or significance in the different sleeping positions. The natural attitude adopted by young children when free to do as they please with their bodies and limbs is interesting. Puppies and kittens lie curled up during sleep just as they did before they were born. Now what is the natural position of babies during sleep? In nine cases out of ten, young children, when old enough to control their limbs and unfettered by clothing or cover, draw up their legs and bend their heads over in their arms. They simply

resume the position they occupied in embryonic life. Of course the trouble is in too many cases that our children are not allowed to sleep according to their natural inclinations and mothers and nurses interfere with the position most convenient for them. So, too, Indian babies are seldom allowed to sleep in the position they like best. The squaw bundles the little one into a motionless thing and often straps the child tightly to a board. But if you observe how babies sleep in warm climates, where they are not bothered with much clothing, you will find them sleeping in the natural position. Whether they sleep on mats of grass, on the warm earth, or in hammocks, the children lie in the curled-up position. My attention was first called to this position by the negro babies down South. There I often saw the negro mammy lay the black baby down to sleep on its stomach and wondered whether or not the child was comfortable. Since then I have found this practice common among mothers and nurses in southern countries. They know that their young ones like to sleep in the same position as do many animals—that is, with the stomach downward and the legs and the arms usually bent under them. After a while boys and girls of four or five years of age slightly change their attitude during sleep. They now lie on the side, face also on the side and with the legs drawn up, using one of the arms as a pillow. This is the position assumed by the higher orders of monkeys in their sleep. It is not until boys and girls grow up that they stretch out their limbs full length in sleep. The lower orders of monkeys sleep in the crouching position, with the head bent down upon the knee. There is one position during sleep that is peculiar to human beings. It is lying flat upon the back. No animal of its own choice takes such a position in sleep. One of the keepers at Central Park who has excellent opportunities for watching the animals there says that he has never found the apes sleeping upon their backs. We all know the usual disagreeable results of sleeping on the back. A person in sleep will often roll over flat, whereupon he or she sees strange sights and hears odd noises. Many a time I have seen mothers and nurses go to the child on its back, muttering or crying in sleep, and then gently turn the dreamer over on the side. The right side is preferred by many people, while some find the left side comfortable.

Cleaning Rusty Instruments.—Broder, in the *Journal of the British Dental Association*, gives a good method of cleaning rusty instruments. Put a saturated solution of chloride of tin in distilled water in a suitable vessel, immerse the rusty instruments, and allow them to remain over night. Rinse in running water and rub dry with chamois.

Mechanical Treatment of Pneumonia.—Dr. Reyodo, of Bucharest, proposes a novel method of treating pneumonia—applicable only to the first stage—which is based on the axiom that two bodies cannot occupy the same space at the same time. He claims that the alveoli of the inflamed lung can be kept full of air by this method if resorted to in time, and that while full of air they of course cannot fill with anything else. All that is required for the application of this method, which is purely mechanical, is a spirometer of any kind that works easily and registers the amount of air it receives. The vital or extreme breathing capacity is the amount of air that can be expelled from the lungs after a full, deep inspiration. This is first ascertained on the basis established by Hutchinson, viz., that with every inch of stature between five and six feet the vital capacity increases eight cubic inches. Taking one hundred and seventy cubic inches as the standard for a male of five feet in height and eight cubic inches for every additional inch of stature, the

vital capacity is easily computed. Some deduction must be made for age and the female sex. Suppose the patient about to be treated is a male five feet seven inches in height: add fifty-six to one hundred and seventy, and we find his extreme breathing capacity in health to be two hundred and twenty-six cubic inches. The whole treatment hinges on maintaining his breathing capacity at or near this normal standard. All pleuritic pain which interferes with free respiratory movement must first be relieved, otherwise the preparatory deep inspiration which is essential would not be possible. The spirometer is now placed on a chair beside the bed, and the patient is directed to take a full inspiration and blow steadily through the tube until his supply of air is exhausted. After a few minutes' rest the operation is repeated, until the register indicates something near two hundred and twenty-six. The first effort may not give more than one-fourth of this amount but it will be gradually increased with each succeeding attempt, and half a dozen or more of such may be required to restore the normal breathing capacity. Thorough inflation of the lungs should thus be accomplished every hour in the beginning, and the interval can be increased as the number of respirations diminish to or near the standard of health. During the prolonged forcible expiration into the spirometer the pressure of the air in the lungs is markedly increased, and this pressure is exerted in all directions, downward as well as upward, resulting in the inflation of collapsed vesicles which had resisted the preceding full inspiration. Under these circumstances crepitant râles can be detected with expiration which are ordinarily heard only on inspiration. If all the pulmonary vesicles are thus filled with air at regular intervals it is evident, Dr. Reyodo claims, that they cannot fill with inflammatory products and that the second stage of pneumonia, or that of hepatization, cannot occur. By this method the functions of the diseased lung are retained, the interchange of gases continues, the capillary circulation is facilitated, and the right heart is not overtaxed. If cyanosis be present it rapidly disappears, and the feeling of oppression in the chest is relieved. If consolidation already exist nothing will be accomplished by this method, except to prevent extension of the disease and possibly to hasten resolution.

Why Negroes are Black.—Buffon, the elder, attributed the black skin of the negro to the influence of climate, heat causing the color. Orgeas agreed with Buffon. He had observed the feeble development of the pilo-sebaceous system among negroes, who are less hairy than the whites. Eijkmann enveloped vessels with human skin taken from Malays and whites, and found that the radiation of heat passing through a black skin was not more intense than that which passed through a white skin. In this, says the writer, he agrees with Melloni, Desains, Masson, and others, whose researches show that the color of an object or of a tissue has no influence on the obscure heat rays. On his carefully separating the fat from the skin, however, the natural conditions were changed. In the second place, the negro possesses a more developed vascular sudoriparous system than we do. He perspires more freely, and loses heat as an alcarraza does. There is evidently, says the writer, a close relationship between the influence of cutaneous pigmentation and the sudoriparous glands, and the two should be studied together. The skin of the negro becomes black after birth. Le Cat noted, in 1765, that the new-born negro was of a reddish color, the root of the nails and the scrotum alone being black. Two or three days after birth the skin began to turn black. Darwin also observed that the new-born Australian was of a brownish-yellow color. The Hindoo child

at its birth is white, although its parents may be perfectly black. The adult man's skin varies according to the race to which he belongs. Aside from heat, which has been especially spoken of, we must, says the writer, recognize other causes of equally great importance. Light seems to favor pigmentation of the skin. In uniform heat the light rays seem more active than the dark ones. The sun tans, and women use parasols and gloves to protect themselves from it; darkness, on the contrary, induces pallor. Aristocrats, who do not expose themselves to the air, have a light, transparent skin. The Japanese of distinction rarely expose themselves to the air without being veiled, and their skins are almost as white as those of Europeans. In Siam the high classes also have a light, transparent skin. The drawings of the ancient Egyptians, of the Etruscans, and of the Mexicans represent their women with light skins. A very brilliant light browns the skin even in cold countries. For instance, the Eskimos are brown. The luminous intensity of the long days is such that they are obliged to protect their eyes with glasses. In India the difference between the color of skins is more marked than among us, and Pariahs black as negroes may be seen side by side with Brahmans white as Europeans. The following type is very generally seen: Tall, straight, and slender; with long heads, a long face, and an aquiline nose. The Brahman is especially distinguished from the Pariah by his haughty bearing. The castes are very numerous, says the writer, and among them may be observed all the coffee-colored tints, the purity of which is not absolute. Among the Brahmans, occasionally, of two children in the same family one may be white and the other black. The same is seen among the Pariahs, although the white skin is more frequently observed among the former than among the latter. Certain castes which are held in slight estimation, such as the Moukhis and the Chamars, who live in the shade of the great palm trees, have an extremely white skin. Humidity favors pigmentation very distinctly. The countries where there are both great heat and great humidity contain the blackest people. The natives of Barbary are very much less deeply colored than the negroes of the Soudan, yet the uniform degree of heat there is 86° F., instead of 78.4° F., as it is on the coast of Guinea. The Egyptian has remained white notwithstanding a constant mixture with the black Nubians. The people who live in the dry section of the Nubian desert have a red skin; other races that are brown or that vary from a white to a chamois color also live in a dry country. The Abyssinians, however, in whose country the plateaux are well irrigated, are blacker. The blackest negroes in Africa are those who live in Guinea, where the greatest amount of rain falls. In Asia, says the writer, it is the same as in India. There is a close relation between the fall of rain and the color of the people. The more moist the climate is, the darker the skin of the natives. As one goes up the Ganges the climate becomes drier and the skin of the natives whiter. The Bengalese are black, but the Sikhs and the Radjpouts are of a dead-white color. In America it is the same. The Brazilians are generally darker than the inhabitants of the Andes. The Portuguese, who come from a rainy country, settled in Brazil, while the Spaniards inhabit the Andes and the dry La Plata section. Spain is very dry as compared with Portugal, and the Portuguese in Europe have the darkest skins of all Europeans. Heat, light, and humidity, says the writer, are, then, all causes of pigmentation. In dealing with these three causes alone and their relative influence, he says, the question of pigmentation of the skin is a very complicated one. For instance, persons inhabiting a mountainous district, where the climate is cooler, have a lighter skin

than those who live on the plains, although it has been seen that the Abyssinians are an exception to the rule. The native of Abyssinia is darker on the plateaux and lighter on the plains. In Peru the inhabitants on the coast have a lighter skin than those on the mountains. D'Orbigny observed that in America in the impenetrable forests the savages were lighter; the darkness evidently prevented pigmentation. What, asks the writer, causes the difference between the negro laborer exposed to the sun and the Brazilian savage who lives in the forest? The latter is more or less chocolate-colored, but not black. Are these facts, he asks, sufficient to prove absolutely Buffon's assertion that the color of the skin depends on the climate? Evidently not. If they were we should see the descendants of a white person become black and *vice versa*. The acclimated white man does not work in the sun, and he preserves his white skin as a Brahman does. Furthermore, it would require many generations to accomplish the change.—*New York Medical Journal*.

The Best Floor to Live on.—M. Korosi, the Hungarian hygienist, has lately investigated the effects of living in cellars and on ground and upper floors upon the duration of life. He found that the dwellers in cellars lived to about thirty-nine years and eleven months; those on the ground floor to forty-three years and three months; those on the first and second floors lived to forty-four years and two months; while those on the third and fourth floors lived only to forty-two years. All things being otherwise equal, the observations of M. Korosi may be accepted as showing the different effects upon longevity by the different selected planes of residence. The air of cellars or basements is never healthy, nor can such localities be ventilated except at considerable expense; the occupants are exposed to ground-moisture contaminations, to the impurities of body exhalations, and to foulness of the heavier ground air from the street and yard that of necessity pours down into such spaces. Those living on the first and second floors seem to enjoy the longest lease of life; this is as might be expected, from the greater freedom of the air of those floors from foul gases, microbes and germs, animal emanations, and from street dust. Much here depends, however, upon the character of the stairs; a steep, hard, stair tends to shorten the duration of life, while an easy, low-step stair, broken by easy landings at every eight or ten steps, will lengthen its duration. The spiral stairs, winding screw-like up in a narrow cylindrical space, are life shorteners. These stairs save space and destroy life, and are quite common in many parts of Europe, and where one has to climb them to the third floor the exertion is slowly but surely telling. The effects of stair climbing are visible in the two years of less life enjoyed by the inhabitants of the upper floors. These observations tally with those of Strassmann, of Berlin, with the exception that in Berlin the basements give less mortality than the immediate street floor, which speaks well for the humanity of the Berlin microbe. In Berlin the basements are occupied by a well-to-do class, whereas in Budapest, the point observed by M. Korosi, the basements are occupied by the very poorest. We should not neglect to observe that those who can afford a first or second floor flat are those who, as a rule, are better clothed, better fed, and capable of surrounding themselves with better hygienic conditions than the poorer of either the basements or of the upper floors. The dwellers of the first two floors are, besides, persons better off in the world and not so likely to suffer any physical ill effects due to occupation as their less fortunate fellow-mortals on the other floors, although we cannot overlook the fact that these better-favored ones

probably do more worrying and that they are apt to suffer more from diseases of the kidneys and of the circulatory system that arise from worry and anxiety; these favored ones would also be more likely to fall victims to acute brain or nervous affections than the others. So that were we to people the first and second floors with the less worrying and less perplexed but poorer class, the length of life of these would probably go far in excess of the forty-four years and two months.—*National Popular Review*.

Neurotic Inebriates.—Inebriety which arises from a defective nervous organization is very common in every circle of life. Many of these persons possess an unstable, invalid brain, with feeble and imperfect power of control, making it impossible to live along lines of consistent uniform thought and act. This often comes from inheritance and early disease and faults of nutrition and training. They become mental cripples, and need care and the control of others as positively as invalids from surgical disease. They are unfitted to care for themselves properly in society, or to adapt themselves rationally to surroundings, and early become wrecks, because they are without power for rational adjustment. They may be endowed with a highly organized brain, but so unstable and so easily disturbed that alcohol, opium, or other narcotics are most grateful drugs to cover up the real condition. The distress which follows strains and drains, and conditions of surroundings ill adapted to favor the normal conditions of living, finds relief in spirits. Quickly this brain infirmity becomes organized into progressive degeneration. This may continue for a long time without marked symptoms of active disease, but the deviations from health and nerve and cell degenerations continually increase. Friends, society, and even physicians fail to recognize this condition until extreme stages appear, and even then theories of free will, wilfulness, and capability of control prevail. These cases should have been recognized and protected from the first. Their lives and surroundings should have been ordered and regulated along fixed uniform lines. They needed protection from many conditions that were harmless to well persons. They needed direction and guidance where others could have walked alone. Many things in society and surroundings were injurious to them, and they should have been guarded against the danger which was inevitable. Such persons are without the mental stability to apply absolute rules on themselves, they cannot resist the contagion and infection of surroundings, they are helpless before the impulses of their organism, they need constant direction and support.

Many of these persons appear well, and only when they become marked inebriates is their real condition recognized. From this class are recruited the wild enthusiasts and neurotics, and the dangerous criminals and contagious degenerates who appear in mobs and advocate the most dangerous theories.

These cases of brain defects and disabilities must be recognized and proper remedies provided to protect individuals and society from the inevitable consequences of their unrestrained conduct.—*Quarterly Journal of Inebriety*.

Colliers and Cancer.—Mr. T. Law Webb, of Ironbridge, states that he has practised for twenty-five years in a district overlying the Shropshire coal field, and during that time he has been surgeon to two collieries, yet he has never seen a single case of cancerous disease in a collier who was working in the pits. "Moreover," he says, "an examination of the books of the district registrar shows that of all persons whose deaths are registered as due to malignant disease during the past thirty years, only two are described as 'coal miners.' Of these one I know positively had

long retired from the arduous occupation of coal-getting, and had for many years followed the more gentlemanly occupation of rat-catching. The other died in the workhouse, and had not worked in the pit for some time. It should be borne in mind that in this same locality cancer is very common and is often seen among the furnacemen, moulders, ironworkers, and general laborers." Another practitioner living in the same district is also unable to recall the case of any collier suffering from cancer. The immunity, however, does not extend to sarcoma. The explanation lies partly, Mr. Webb thinks, in the habitual cleanliness of the collier, who "tubs" daily as soon as he comes home from the pits, partly in the fact that his habits rarely lead him to drink water from casual sources. He goes to work early, and habitually in his working hours carries with him a quart can containing cold tea or coffee without milk. He always returns home to dinner, at which he usually drinks tea, or, if he can get it, small beer, while his supper consists of bread and cheese, with sometimes an onion and a pint of beer. The colliers in Shropshire are a temperate, peaceable, law-abiding class, not given to excesses of any kind. Though they are often seriously injured in their dangerous occupation, they survive the most extensive wounds and fractures, and although they look pale and anæmic they are in reality a healthy set of men. It would be extremely interesting if the surgeons who practise in the great coal fields of the North, and in the South Wales colliery district would give their experience upon this point of the alleged unequal distribution of cancer mortality in the population of coal-mining districts. If it is a fact that men working underground and not drinking much water are more exempt from cancer than those in a similar state of life working above ground and drinking from casual water supplies, we shall have a more tangible reason for suspecting cancer to be a water-borne disease than is afforded by any of the present theories or statistics.—*British Medical Journal*.

Big Words.—It is amusing and yet vexatious to see a worthy medical gentleman, whose ordinary conversation is in a simple and good style, suddenly swell up when he writes a medical article. He changes his whole dialect and fills his pages with a jangle of harsh technical terms, not one-third of which are necessary to express his meaning. He tries to be solemn and imposing. For instance, a physician recently devised a new instrument, and wrote it up for a medical journal under this title, "A New Apparatus for the Armamentarium of the Clinician," by which heading he doubtless hopes to make the fame of his invention "go thundering down the ages," as Guiteau said. Another writer wanted to say that cancer is an unnatural growth of epithelium. He took a big breath and spouted the following: "Carcinoma arises from any subepithelial proliferation by which epithelial cells are isolated and made to grow abnormally." Now, then, you know all about cancer. A writer on insanity illuminates the subject as follows: "The prodromic delirium is a quasi-paranoiac psychosis in a degenerate subject. A psychosis of exhaustion being practically a condition of syncope." The following is an effort to say that certain microbes produce the poison of erysipelas: "The streptococcus erysipelatosus proliferating in the interspaces of the connective tissue is the etiologic factor in the secretion of the erysipelatosus toxins." A large cancer of the liver was found at a post-mortem examination and reported about as follows: "A colossal carcinomatous degeneration of the hepatic mechanism." Still, the man of big swelling words is not always up in the clouds. If called to a case of accident, he examines the injury, and may inform the family in quite a simple and dignified manner that

their father was thrown sidewise from his carriage, breaking his leg and putting his ankle out of joint, but if he writes out the case for his medical journal, he gets up straightway on his stilts and says: "The patient was projected transversely from his vehicle, fracturing the tibia and fibula and luxating the tibio-tarsal articulation." Your man of solemn speech is peculiar. He does not keep a set of instruments—not he—he has an armamentarium. His catheters never have a hole or an eye in them, but always a fenestra. In gunshot injuries, a bullet never makes a hole in his patient, but only a perforation. He does not disinfect his armamentarium by boiling, but by submerging it in water elevated to the temperature of ebullition. He never distinguishes one disease from another, but always differentiates or diagnosticates it. His patient's mouth is an oral cavity. His jaw is a maxilla. His brain is a cerebrum, his hip-joint is a coxo-femoral articulation. If his eyelids are adherent, it is a case of ankylo-symbpleharon. If he discovers wrinkles on the skin, they are corrugations or else rugosities. He never sees any bleeding, but only hemorrhage or sanguineous effusion. He does not examine a limb by touch or by handling—he palpates or manipulates it. If he finds it hopelessly diseased he does not cut it off—that is undignified. He gets out his armamentarium and amputates it.—*Address by Dr. Edmund Andrews, Chicago Medical College.*

Gastric or Duodenal Ulcer.—Dr. Osler, in his "Practice of Medicine," states that one of the causes of gastric or duodenal ulcer may be pressure, such as is exerted by shoemakers and others plying their usual vocations.

Asexualization of Criminals as a Prevention of Crime.—Dr. F. L. Sim, of Memphis, Tenn., argues ably in favor of sterilization of certain criminals in order to curtail the crime of rape.

Executions partake of revenge and are more than the demands of society require. It would be wiser to substitute a more humane and scientific punishment, and one that would at the same time convey a sufficient object lesson.

Books Received.

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HANDBOOK FOR THE BIO-CHEMICAL LABORATORY. By John A. Mandel. 12mo, 101 pages. John Wiley & Sons. New York. Price, \$1.50.

TEXT-BOOK OF GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY. By Richard Thoma. Translated by Alexander Bruce, M.D. Vol. I., 8vo, 624 pages, illustrated. Macmillan & Co. New York. Price, \$7.00.

DEAF-MUTISM. By James Kirt Lon, M.D., with chapter by W. H. Addison. 8vo, 369 pages. Macmillan & Co. New York. Price, \$2.75.

A TREATISE ON THE MEDICAL AND SURGICAL DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M.D. Eighth edition, revised and enlarged. 8vo, 987 pages, illustrated. Lea Brothers & Co. Philadelphia, Pa.

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Original Lectures.

MIDDLETON-GOLDSMITH LECTURES¹—ON THE RELATIONSHIP BETWEEN INFLAM- MATION AND SUNDRY FORMS OF FI- BROSIS.

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Lecture I., Part II.

THE considerations I have brought forward up to this point would lead us to distinguish at least two main types of fibroid change associated with inflammation, one of which in default of a better name may be termed productive, the other replacement, fibrosis. In the former there is no causal relationship between the amount of new connective tissue resulting from the inflammatory action and the amount of tissue displaced; in the latter the amount of new fibrous tissue developed appears to be primarily governed by and proportioned to the extent of the destructive process, but both equally tend toward repair and arrest of injury.

This division will, I think, be found useful, and it will be seen that the leading forms of inflammatory fibroid change are to be grouped under one or other of these heads.

Under the first are to be included sundry localized fibroses of which the main forms are the focal areas of new connective-tissue growth induced by the presence of certain micro-organisms, that is to say, the more chronic or less acute forms of infective granulomata—the new growths (tubercles) induced by the tubercle bacilli, those (gummata) induced by the not surely determined organism of syphilis, the fibroid nodules caused by the presence of the leprosy bacilli, and, again, the more chronic type of actinomycotic and glanders lesions. Examples are not wanting of similar focal areas of fibroid growth induced by simple irritation. As such may, I think, be safely cited the earliest stage of one form of cheloid. Although, as I shall point out later, cheloid growths must be included among the fibromata, nevertheless, in many cases of what is sometimes termed and regarded as spontaneous cheloid, localized connective-tissue growths can be excited by local irritation of the surface. This was well observed in a case which has recently been very fully studied by one of my students, Mr. R. H. Martin. In this, the mere scratching with a pin was sufficient to give rise to the new growth. I am myself fully prepared to regard sundry cases of focal growth as non-inflammatory—as due to stimulation rather than to injury. The difficulty is that there is no line separating the one from the other; there is no sharply defined boundary between simple hyperplasia and that which is obviously reparative.

Merging at times imperceptibly into the previous group there are the capsular fibroses, comprising those cases of connective-tissue development induced around an irritant, whether infective or not. Here the zone or capsule of tissue formation is a develop-

ment of so much new material, laid down, it would seem, irrespective of previous tissue destruction in the immediate region of its appearance. Examples of this form will be immediately called to mind. Among the infective we have the thick capsules forming around obsolescent tuberculous masses, around chronic abscesses and phthisical cavities; among the simple irritative are to be classed the capsules developed around such foreign bodies as exercise little more than a mechanical irritation, whether those bodies be solitary and of large size, as, for example, impacted bullets, or minute and very numerous, as inhaled particles of coaly or silicious matter. Whether the capsules formed around and merging into the framework of benign tumors are to be classed as of simple irritative or of infective origin may possibly give rise to debate; provisionally I must refer them to the former class.

Another type of productive fibrosis, one that cannot satisfactorily be classed either as localized or generalized, is that due to inflammation of serous surfaces, a form including the fibroid thickening of serous superficies and organized inflammatory adhesions.

Besides these, there exist also generalized productive fibroses of inflammatory origin, which again may either be of infective origin (induced by bacteria or their products) or the result of continued non-infective irritation. The chronic interstitial pneumonia following upon subacute pleurisy may be cited among the former; among the latter, in all probability, the generalized interstitial fibrosis of so-called chronic parenchymatous disease, of which a good example is afforded by the condition of productive parenchymatous nephritis. But, as I shall have later occasion to point out, some forms at least of interstitial fibrous overgrowth are rather to be counted among the replacement than among the productive forms.

The local and general forms may merge, the one into the other. Thus, a liver presenting gummata may exhibit also well-marked generalized interstitial fibroid overgrowth; a kidney the seat of chronic tuberculosis may show the same; or again, in the inhalation pneumonias the deposit of foreign particles along the lymph spaces of the lungs may be so extensive and the growth thereby excited be so great that the organs present the characters of a generalized interstitial inflammation. Nevertheless, the distinction between local and general is in the main useful and not pedantic.

To turn now to the replacement fibroses; among these we can distinguish certain well-defined types. All may in truth be termed cicatricial, but it may be well to restrict this designation to the ordinary surgical cicatrix, to the connective tissue developed after breach of continuity in a part. Speaking broadly, it may be said that every such breach of continuity results in the destruction of a certain number of cells, and that in the absence of infective agents the new connective-tissue formation maintains a definite relationship to the amount of previous destruction, never exceeding it. Very closely allied is the development following upon the complete and sudden necrosis of all the elements of a tissue; of this, as previously hinted, a most satisfactory example is seen in the healing of a simple infarct.

¹ Delivered before the New York Pathological Society.

If we, following what is not unusual nowadays, regard the blood as a tissue, the organization of thrombi must be placed under the same heading of fibrosis following tissue necrosis; if we are more conservative in our employment of the term "tissue," we must regard the gradual substitution of the coagulated and necrosed blood by fibrous tissue as a closely allied phenomenon, namely as a fibrosis occurring in and replacing a necrotic mass.

Associated with these we can recognize two other forms. I would not insist upon their separation, but there is a slight difference in their mode of origin. In the one the essential cause of the death of the cells is local, from impaired nutrition, in the other the nobler elements of the tissue undergo atrophy and death irrespective of local conditions. The two forms may be termed dystrophic and atrophic respectively.

Of the atrophic I have already furnished an example, namely, the sclerosis following degeneration of ascending or descending nerve tracts. Of the dystrophic the heart furnishes the most frequent examples, though I am inclined to regard much of the fibroid change seen in the senile kidney as of the same nature. As M. H. Martin¹ was, I think, the first to point out explicitly, and as Weber² has shown in a very careful research, where there is an "obliterating endarteritis" of the coronary vessels with overgrowth of the intima and consequent diminution of the lumen, there must result a diminished nutrition of the area supplied by each affected artery or arteriole, and as these are of the nature of end arteries there is developed no satisfactory collateral nutrition. The result affords a very striking picture, more especially if the most frequent seat of the change be examined, namely, one of the papillary muscles of the left heart. In these the fibres run longitudinally and so also, entering at the base, do the nutrient arteries, and the condition is so common that I have never had difficulty in obtaining material for my class in morbid histology. In a typical fairly advanced case in transverse section of the muscle, the arterioles with thickened intima are seen cut transversely; around each is a zone of fairly healthy fibres also cut transversely. Passing outward from the artery these give place to fibres that present atrophy and pigmental degeneration with intermingling of new connective tissue, while the outer zone of supply of the arteriole is represented by a ring of clear, transparent fibrous tissue with relatively few nuclei and here and there the last remnant of a degenerated muscle fibre. This, I may remark, is but one form of cardiac sclerosis. It would be difficult to find a more demonstrative case of this dystrophic replacement fibrosis.

But while thus we are able to recognize examples of the uncomplicated occurrence of one or other form of inflammatory fibrosis, and while I hold that it is useful to us both as students of medical science and as practical physicians and surgeons to seek to analyze the nature and character of every morbid change, it has to be admitted, if we look honestly at things as they are, that case after case presenting itself to our notice cannot possibly be docketed and pigeonholed under one heading. Time and again we come across what can only be classified as mixed forms of the conditions already indicated, not to mention mixture of these with fibroid conditions which I have still to take into consideration. I can only urge that it is well to strive to cultivate our garden and not to allow our ideas of chronic inflammation to continue a riotous and tangled growth. Only by such cultivation can we hope to gain good fruit.

It is when we come to study the chronic inflamma-

tions affecting glandular organs that our great difficulty begins in comprehending the essential nature and causation of connective-tissue growth. Let us take the commonest case, namely, that of continued parenchymatous inflammation. Here the first obvious disturbance in the tissue is an affection of the glandular cells. With this there is an accompanying congestion of the interstitial vessels, and this gives place eventually to a condition in which the collections of gland cells are separated from each other by increased connective tissue, while coincidentally the gland cells themselves show signs of atrophy. Two conditions might produce this picture: either the atrophy of the gland cells might be primary and the increased fibrous tissue an indication of replacement fibrosis; or, on the other hand, the picture might indicate, as is usually held, a productive interstitial fibrosis with the malnutrition and atrophy of the gland cells as a secondary consequence of irritation, impaired nutrition, and pressure exerted by the new-formed tissue combined. It is only by a very full and cautious observation that it is possible to arrive at a decision in any given case as to which form of fibrosis is represented and often, indeed, one is induced to take the middle course and consider both in operation.

If, for example, we study the various forms of cirrhosis of the liver, both experimentally and by histological examination of various cases, this difficulty is very forcibly borne home to us. We can occasionally, it is true, make out with certainty the existence of a productive fibrosis; thus we frequently meet with what appears to be the earliest stage of ordinary so-called alcoholic cirrhosis, in which we observe small masses of small-celled infiltration along the portal sheaths. The condition looks definitely productive; it appears to be an inflammation around the interlobular branches of the portal vein, and the cells in the immediate neighborhood of these accumulations show no very decided signs of degeneration and atrophy. We can, again, as is occasionally the case in early stages of biliary obstruction, find the bile ducts enlarged and dilated and surrounded each with new connective tissue, so that the picture given is that of a productive inflammation immediately around these ducts. We can also, more frequently than is usually recognized, make out signs of fibrous-tissue overgrowth around the branches of the hepatic artery; out of eighty-eight post-mortems performed during last year, I found this periarteritis to be well marked in six cases; but in advanced cases of ordinary cirrhosis of the atrophic type it seems to me more than doubtful whether malnutrition of the cells does not become an important factor and their atrophy be not followed by replacement fibrosis, rather than be the result of pressure and encroachment of the newly developed connective tissue.

In this connection it is interesting to note how the majority of observers who have attempted experimentally to induce cirrhosis of the liver have noticed changes of a degenerative character in the hepatic cells as a first effect of irritation rather than productive inflammation in the interstitial substance. This, of course, is what might be expected, the nobler cells of the tissue being the more sensitive. I merely draw attention to it because it is so common to regard hepatic cirrhosis as primarily an interstitial disturbance. I do not wish to give the impression that this may not be so in certain cases; very frequently, I feel as sured, it is not. I need but remind you how strongly the recent studies by Flexner³ uphold this view.

Here I may briefly refer to certain studies which have occupied me during the last two years upon the causation and nature of a very remarkable disease

¹ Flexner: *Medical News* (Phila.), ii., 1894, p. 116.

¹ H. Martin: *Revue de Médecine*, May, 1881.

² A. Weber: "Contribution à l'Étude Anatomico-pathologique de l'Arterio-sclérose du Cœur," Paris, Steinheil, 1887.

affecting the cattle in a limited region of Nova Scotia, the so-called Pictou cattle disease. I do not wish here to publish a detailed and circumstantial account of my observations, for to do so would not be just to Professor Welch, to whom I have promised my completed paper upon the subject. I may, however, repeat what is stated in my reports to the Dominion government, namely, that the disease is of an infectious nature and due to a minute bacillus, characterized, as are so many of the pathogenic micro-organisms of lower animals, by an intense polar staining, so that frequently it has the appearance of a diplococcus rather than of a bacillus.

The disease is apparently of slow onset; the affected cattle eventually suffer from an abundant dark-colored diarrhoea, present a moderate amount of ascites, fail to give milk, and then the end is ushered in either by a condition of violent excitement or by progressive muscular weakness.

At the post-mortem the most characteristic features are the ascites, a remarkable submucous oedema of portions of the intestine (I have seen similar submucous oedema in cirrhosis of the liver in man), enlargement of the abdominal lymphatic glands, and a very extensive cirrhosis of the liver. It is in the lymph glands and the hepatic cells that the bacilli are present in greatest abundance.

The cirrhosis is generalized and of the pericellular type, and if the livers from a large number of cases be examined the earliest stages would appear to be those of swelling and vacuolation of the hepatic cells with great irregularity in the size of the nuclei. There may be great congestion of the hepatic (venous) capillaries, but this is unaccompanied by any notable small-celled infiltration. Following upon this stage of swelling, the hepatic cells undergo atrophy, sundry lobules and portions of the liver showing the process at a more advanced stage than do other portions. And this process may be so extensive that over large areas of the organ only isolated liver cells or clumps of three or four degenerating cells are to be recognized. With this the organ is not diminished, indeed the edges often tend to be slightly rounded and full; there is replacement of the degenerating cells and lobules by a delicate somewhat oedematous connective tissue. A characteristic of this new tissue is the relative absence of the ordinary signs of productive inflammation in the shape of small round cells. Of these there are a few, but very few; more frequent are small irregular cells, evidently degenerated liver cells and others of the "spider-cell" variety, with fairly numerous delicate processes.

In short, the impression gained by studying numerous sections obtained from many animals dying in different stages is that there is here a primary irritation or overstimulation of the hepatic cells by the bacilli, followed by an atrophy of the same and coincident replacement fibrosis. I will not say that this replacement fibrosis is the only form of connective-tissue hyperplasia present in these cases; there are occasional indications of productive change. But it is, I feel assured, the main form present.

This generalized pericellular cirrhosis is, of course, not strictly comparable with the more usual forms of hepatic cirrhosis met with in the human being. Its interest lies in this, that occasionally, more especially in children, we observe a curiously similar condition of the liver without any clear evidence of syphilis, and in children also the victims of congenital syphilis, even as to a less extent in adults presenting tertiary syphilis, we are apt to meet with a more or less extensive pericellular cirrhosis. In such cases it may well be that the cirrhosis is of like origin, due, that is to say, to the direct irritation of the hepatic cells by pathogenic bacteria or their products, to the atrophy

of these cells and their replacement by delicate connective tissue.

Thus far, therefore, we have been able to recognize the following forms of fibrosis of inflammatory origin:

- A. "Productive" fibroses.
 - (1) Localized $\left\{ \begin{array}{l} \text{focal.} \\ \text{capsular.} \end{array} \right.$
 - (2) Serous and adhesive $\left\{ \begin{array}{l} \text{local.} \\ \text{general.} \end{array} \right.$
 - (3) Interstitial.
- B. "Replacement" fibroses.
 - (1) Cicatricial.
 - (2) (Post)-necrotic,
 - (3) (Post)-atrophic.
 - (4) (Post)-dystrophic.
- C. Mixed fibroses.

But this classification does not nearly include all the examples of connective-tissue overgrowth and sclerosis occurring in the organs of the body.

One further group of cases may at first sight appear to be sharply defined, namely, the group of the true fibroid neoplasms, the fibromata proper. Nevertheless, a study of the forms usually included in this group reveals the fact that there has been in the past not a little confusion as to what constitutes a fibroma, and an attempt to classify the various forms cannot but lead to the conclusion that the line separating inflammatory new formation from fibroid neoplasms can be drawn only with a cautious hand.

As I have pointed out, one result of irritation may be overgrowth of connective tissue. Ordinarily this appears to be not greatly in excess of the needs of the injured area, nevertheless at times it exhibits itself greatly in excess of these needs. When infective agencies interfere with the normal course of cicatrization of a wound and the healing becomes delayed, when, in short, superadded to the normal tendency for fibrous tissue to be developed so as to repair a wound there is a stimulus to connective-tissue proliferation from the presence of bacteria and their products, then it would appear that fibrous tissue may be developed in excess of the requirements of the part. This "false" cheloid, it is clear, originates primarily after inflammation, and we may have every gradation from what may be regarded without second thought as redundant cicatricial tissue up to what, from its continued and very extensive growth, it is difficult to regard as other than a frank neoplasm. Another form I have already referred to, namely, the "spontaneous" cheloid developing where there has been no breach of continuity of the tissues. On this continent among the colored population (and the negro appears to be peculiarly prone to be affected) cases have been recorded in which the new formation has attained enormous proportions.

As an example of so-called spontaneous cheloid let me here briefly describe the case already referred to, studied by Mr. R. Martin, for it throws light upon sundry important features in this class of tumors. The patient was a French Canadian girl, aged twenty, who had always been healthy until about four years ago, when she noticed a very small growth which looked like a little pimple on her left shoulder. This gradually enlarged and in about a year began to be painful, causing sharp, stinging pains. At the end of two years it was two inches long and three-quarters of an inch wide, and was then removed by the knife. About three weeks after the operation it recurred and became as large as before. An operation four months later was again followed by a recurrence. Three or four months later it was removed "by means of a plaster." It has never returned, but there remains a very large cicatrix, larger in fact than the original tumor. The patient was free from any further growths until about a year ago, when another small pimple appeared on the outer side of the right arm

just above the elbow, which gradually grew larger until in April, 1895, it was one inch long, about a third of an inch wide, and elevated above the skin. The edges where it passed into the surrounding skin were irregular and claw-like. On further examination another similar tumor was found on the back, and when the skin was made tense in several places, principally on the outer side of the right arm, clusters of flat, small round cicatricial spots were noted, of a white and glistening appearance. Each cluster contained about four or five spots. Upon relaxing the skin these clusters were unnoticeable. In July the clusters had all disappeared and there remained only the tumor on the back, which was also diminishing in size. At this time needle scratches were made on the left arm. When seen again in September, 1895, little nodular lines of cicatricial aspect were to be observed corresponding to the previous slight scratches caused by the needle. It may be added that microscopical examination of the tumor removed from the arm in April presented all the characters of true cheloid.

Here, then, we have a case apparently of spontaneous cheloid, in which nevertheless the subsequent history, results of operation, and of experimental slight cutaneous disturbance show that the fibroid hyperplasia was to be induced by injury, so that presumably the primary growth had a similar origin, not improbably, as in certain recorded cases, from an acne pustule. The case affords an example of what might very easily in its earlier stages have been classified as spontaneous cheloid.

In fact, from this case and from a study of the literature of cheloid, I am led with Jonathan Hutchinson to doubt whether the conception of a spontaneous cheloid is possible or consonant with facts.

Thus, it can be shown that in those exhibiting a tendency to the disease—those in whom cheloid masses already exist—a minimal irritation as, for example, the scratch of a pin, may induce the subsequent appearance of a mass of subcutaneous fibrous tissue in the region. Where this is the case it is difficult to deny that the condition originates as a productive inflammatory fibrosis, and the fact that at times some if not all of the multiple nodules undergo absorption and disappear (as happened in Mr. Martin's case to which I have already referred) is against regarding the condition as typically fibromatous. It is equally difficult, in fact impossible, to maintain that a mass of new tissue, which occasionally attains to the weight of a pound or more, projecting from the head or trunk is an example of inflammatory fibrosis. It is difficult to see where the line is to be drawn, unless, as I have recently urged in an address before the Medico-Chirurgical Society at Montreal,¹ we recognize that in inflammation the new-tissue formation ceases with the removal or cessation of the irritant, whereas in neoplasms the cells, having once commenced to proliferate rapidly (whether as the result of chronic inflammation of moderate intensity or from other cause or causes), gain a habit of growth and continue to proliferate independently of any due stimulus. Assuredly, in these multiple cheloids as in the cicatricial forms growth of the tissue is continued after the irritant has ceased to be in evidence, and consequently I am bound from their course to classify them as among the fibromata—as fibromata of inflammatory origin.

I am not prepared to do the same with another form, the so-called "lamellar fibromata," whereof the most frequent examples are to be encountered as dense, sharply defined, whitish nodules and small plaques upon the surface of the spleen. So far as I have been able to follow their development, these appear to be examples of pure and simple inflammatory

growth. I can see in them no evidence of continued growth independent of injury or irritation.

Besides these two forms we have the group of typical fibromata, isolated, sharply defined neoplasms of in general slow growth. While among the cheloids we can postulate an inflammatory origin, in these we cannot as yet venture to assign a satisfactory causation. Nor is the time quite ripe to make a positive statement concerning the massive interstitial tissue occurring in sundry mixed tumors, in fibrolipomata, fibromyxomata, scirrhous cancer, etc. Studying these and comparing the outer border with the more internal parts, I gain the impression that in many cases we have, as in cheloid, to deal with a productive inflammatory fibrosis which merges insensibly into neoplastic incontinent growth. This is my impression, and I dare make no more definite statement.

Thus we can divide the forms contained under the title of fibroma into:

- A. Pure or true fibroma.
 - (1) Of inflammatory origin (most if not all examples of cheloid).
 - (2) Of undetermined causation (typical hard and soft fibromata).
- B. Mixed fibroma, benign, cancerous, and sarcomatous (admixture of fibroid overgrowth with overgrowth of other tissues).
- C. False fibroma (due to simple productive inflammation, e.g., "lamellar" fibromata).

Original Articles.

HYSTERICAL TETANY OR TETANOID HYSTERIA.¹

By GRACE PECKHAM MURRAY, M.D.,

NEW YORK.

As no definite anatomical lesion has been found for either tetany or hysteria, one gropes in the dark in regard to these two diseases and can classify and distinguish them only by groups of symptoms. Hysteria is a protean disease and tetany is a manifestation of protean conditions, so much so that many recent writers, among whom are Gilles de la Tourette,² Raymond, and Zaldivar, regard nearly all cases of tetany as manifestations of hysteria; no matter in what manner produced. Others who do not go so far say that it should be considered as a symptom and not as a disease. If such is the case, that tetany is only a symptom of a disease, and, further yet, only a manifestation of hysteria, the title tetanoid hysteria would be a correct one, and yet as far as I can find the condition which I am about to describe has never been called by this name, though Raymond has given it the name of hysterical tetany (*tétanie hystérique*), which has been since used by other observers. The list of names which have been employed for this condition, since it was first described by Stanheim and Dance in 1830, is a commentary upon the confusion which has existed in regard to it.

Dance called it *tétanos intermitte*; Murdoch, *retraction musculaire spasmodique*; Constant, *contracture essentielle*; Trousseau, *contracture intermittente des nourrices*, *rheumatismæ tetanille*; Corvisart, *tétanie*; Delpech, *spasmes musculaires idiopathiques*; Marfan, *pseudo-tétanos*; Eisemann, *brachio-tonus rheumaticus*; Jules Simon, *contracture essentielle des extrémités*; Raymond, *tétanie hystérique*. To such a group of names it would be unwarrantable to add an-

¹ Paper read before the New York State Medical Society, Albany, January 29, 1896.

² Hysteria embraces a great part of the contractures of the extremities, benign or severe, called tetany. In France the affection is rarely anything but hysterical. In the last ten years there has not been in Salpêtrière, in the service of M. Charcot, any attack of tetany that was not hysterical, except possibly one (*"Traité Clinique et Thérapeutique de l'Hystérie"*).

¹ "The Habit of Growth," Montreal Medical Journal, February, 1896.

other. The day will doubtless come when the true etiology, that is, the pathological conditions of hysteria and tetany, will be discovered, these enigmas will be solved, and then there will be a new and enlightened rechristening, in which possibly none of these names will be used except to illustrate the pagan condition in which they exist at the present time.

The condition to which these numerous names have been given and which they describe presents a group of symptoms which, though differing in degree, remain most constant in the salient features, that is, the contraction of the muscles, which are held in tonic



FIG. 1.—Hysterical Contraction of the Hand. (Gille de la Tourette.)

spasms for a time varying from a few minutes to hours and even to several days, the contracting group of muscles varying in number, usually beginning with one or more of the flexor muscles of the extremities and extending to those of the trunk.

According to the extent of these contractions, Trousseau divided the cases into three classes: benign, medium, and severe. Singularly enough it has been my fortune to meet three cases illustrating these three conditions and also in the order of their gravity. Before further analyzing the symptoms, the disease will be better understood by illustrating them with these cases.



FIG. 2.—Hysterical Contraction of the Hand. (Gilles de la Tourette.)

a serious nature until the death of her father, when they became more severe and frequent. They usually

occurred after some overexertion or some excitement or mental worry. They were preceded by sickness of the stomach and headache. Some hours before the attacks she would be pale and drait, and there would be twitchings of the flexor muscles of the hand and a feeling of numbness. With these warning symptoms, by rest and by the use of aromatic ammonia and stimulants she was able to ward off the attacks, against which she fought with great determination. When the attack culminated the head was drawn back, the fingers were flexed, the hands thrown somewhat back upon the wrists, the thumbs folded under the fingers; the feet also would be drawn backward, and the toes flexed. The pulse dropped from normal to between 50 and 60 per minute. Once or twice, when I have seen her in these attacks, there was some suggestion of catalepsy, the hand and fingers retaining the tonic spasm, but the arm taking and retaining for a short time the position in which it might be placed. The tonic contractions lasted from ten minutes to an hour. How long they would continue without remedies I could not say. Inhalations of aromatic ammonia, as well as taking it internally, would shorten the spasms, and sometimes would prevent them altogether.

CASE II. was that of a young girl who was about sixteen years of age at the time of the first attack,

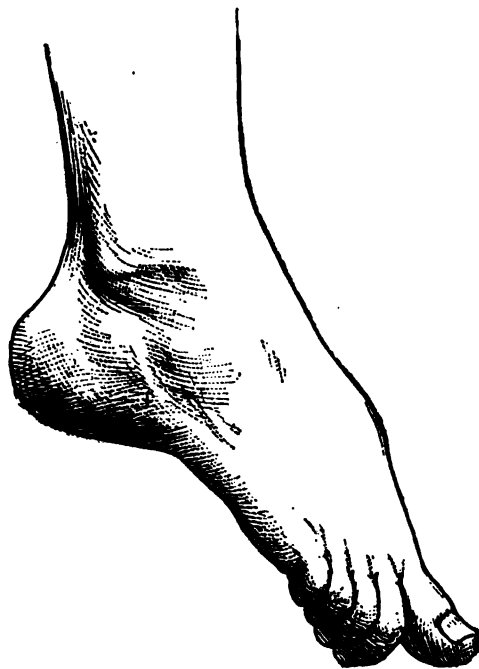


FIG. 3.—Hysterical Contraction of the Feet. (Charcot.)

which came on after a severe mental shock and an operation on one eye for strabismus. She recovered from this attack, when she had another two years after a fatiguing and exciting journey abroad. As the attack occurred near her menstrual period the question of uterine disease arose, but there being no symptoms pointing to that I did not feel that an examination of the young girl was justified. She was very anæmic and neurotic, and of a neurotic inheritance. Her mind was always clear, she was sensible, and very much mortified and chagrined by these attacks, which she would try to escape by every means in her power. Before they came on her face was pale and wore an anxious, distressed look, her eyes were dull and had a peculiar appearance, and she felt a sense of faintness in the epigastrium. There was a weakness of the lower extremities, so that she was unable to stand, the fingers were flexed and closed over the flexed thumb, the head was drawn back and the back arched, the toes were flexed and the feet extended on the leg. The contractions were much more rigid than

those of Case I. The attacks, which were very painful, varied in severity and length from a few minutes to an hour. The first attack, in which I did not see her, lasted twenty-seven hours, and the contractions would recur at intervals if there were any excitement to bring them on. The greatest irritability of the whole nervous system prevailed. If there was a slight sound or a gentle touch, even on the bed, the patient would



FIG. 4.—Hysteric Contraction of the Toes. (Charcot.)

start and jump. Two years later, after the funeral of her father, there was a return of the trouble. At this time the attacks were preceded by periods of an hour or more of immobility. She was unable to stir or to speak, but was conscious of what was going on about her. She was relieved in each instance by taking a rest cure and by the use of electricity and sedatives.

CASE III. was the most severe of all. The patient was a woman who is now sixty. She was the fourth child of ten, whose mother was very much overworked. The patient was very nervous; as a child she had nocturnal terrors from which she would awake with a shriek. When she began to grow she had pain in her back. She is very tall and at thirteen had attained her growth. At eighteen she saw the gentleman to whom she was engaged killed by being thrown from a horse, which was frightened by a flash of lightning. For days after she was unconscious or in a delirium, always saying that there was something the matter with her back. When she first began to go about after that illness she had two or three of these attacks of contraction. Although she had more or less pain in her spine, she had no more of them until the third day after her mother's death seven years ago. She had the menopause twenty years ago, at which time appeared the most intractable irritation and itching of the vulva, for which Dr. Emma Ward Edwards, of Newark, whose patient she has been for years and to whom I am indebted for the case, had tried everything possible. As a last resort the nymphæ were amputated but without giving relief. All the parts had undergone a very great atrophy, except the clitoris, which was very prominent and enlarged. The mucous membrane was very much altered in character, thickened, and hardened. This was benefited by the operation. I do not think that the pruritus vulvæ has had any connection with the nervous

affection, the spasms. When the spasms are coming on, for a variable time before she has a cold numb feeling with an intense aching and a stiffness before the drawing begins; sometimes there is a sharp darting pain up and down the spine. The spine is always sensitive to the touch, but just before an attack it is much more sensitive. Those about her can tell when an attack is coming on by the distressed look in her eyes and the stiff way in which she holds her head. She says the pain begins at the end of her spine and then the fingers begin to pull, and then the tongue, and then the hair, as if it were standing on end; and so the contractions spread until the fingers are flexed on the hand, the hand on the wrist, the hand on the forearm, and the arm itself is drawn tightly to the chest by the action of the pectoral muscles. The head is drawn back as far as possible. She has always been lying on her side when I have seen her in these attacks. The knees are drawn up on the body, and the feet extended with the toes flexed tightly (see Fig. 6). She complains of a choking sensation.

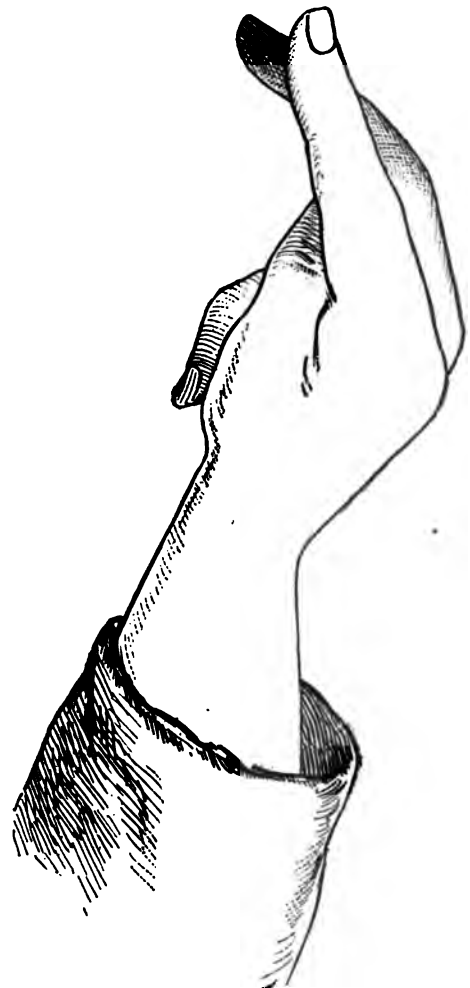


FIG. 5.—Contraction of the Hand showing Trousseau's Main d'Accoucheur. (Buzzard.)

Her face is purple and the temporal veins are very much swollen; the pulse remains normal and there is no feverish movement. It is impossible to describe the tension and rigidity of the muscular contractions. The case is unusual in the extent of muscles involved. It is seldom that the spasms invade the trunk muscles. In this case not only the laryngeal, facial, and thoracic muscles are involved, but also the muscles of the perineum and the sphincter vaginæ.

The patient has had attacks of unconsciousness lasting for some time. I never saw her in one of these and cannot say what relation they hold to the rest of her trouble. She had also an attack of somnolence which lasted two or three days. It was impossible

for her to keep awake for any length of time. If she attempted to dress she would fall asleep. Previous to that, as well as since then, she has had insomnia.

She complains of having most of the time a feeling of confusion and bewilderment if she makes a quick motion or has any excitement.

I have spoken in the other cases of the clonic spasms of the muscles of the hand, more or less rhythmical, which precede the attacks. This patient has almost constantly a rhythmical spasm of the flexors of both hands, as well as the pronators. When talking or excited, these spasms, which average about sixty or seventy a minute, are increased in force.

The patient is thin and very anæmic.

She showed the same irritability of the nervous system by her sensitiveness to touch and sound, as was shown in a degree in Case I. and to a greater extent in Case II. During the attacks the eyelids were constantly moving with a tremulous motion. In the other two cases they were closed. The pupils presented no unusual appearance.

All writers speak of the prodromata of the attack.

spasms of the flexor and pronator muscles of the hands and forearms were present before the tonic contractions of the muscles took place. Some cases are recorded where clonic spasms have followed the attacks, but none that I know of where the clonic spasms preceded the attack. The clonic spasms were frequently present in Case III. when the patient was talking and excited. When no attack was pending there was a regular rhythmical myoclonus of sixty to seventy beats per minute.

Trousseau and others speak of the contraction of the muscles of the hand drawing the fingers together so as to make a hollow cone of the hand, the hand of the accoucheur (see Fig. 5). In all of my cases the fingers were flexed on the hand. Some writers speak of the contractions of the muscles as always bilateral.

The study of the pulse in these cases is of interest. In Cases I. and II. the pulse was slowed to between 50 and 60. In Case III. the heart did not seem much affected, the pulse being about 80. In many cases reported the heart's beat is greatly accelerated, due, it was said, to the asphyxia caused by

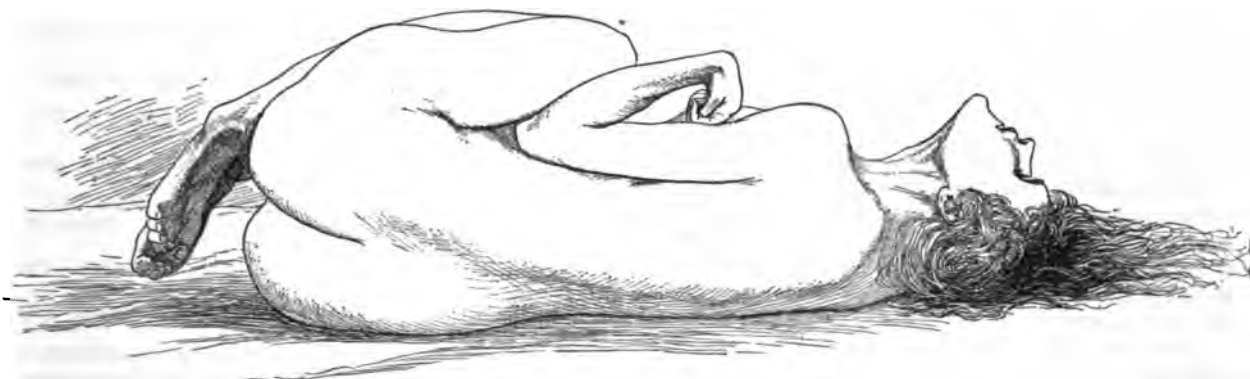


FIG. 6.—Schematic Representation of Tetanoid Contractions of the Muscles in Case III.

There is a feeling of malaise, and a general pallor, headache in a great number of cases. None of my cases had the prickling sensations described by Trousseau and by others. Some have a numbness and rigidity. My patient in Case III. had always a feeling of cold and rigidity in the back. In all cases there is a premonition of the attack some time before it occurs. A peculiar leaden look was seen in the eyes of all my patients.

Before the contractions take place there is a sense of weakness which in many cases makes it impossible for the patient to stand. The contractions of the muscle groups follow in different order in different cases, but generally the flexor muscles of the hands contract first, then those of the feet, and then the larger flexor muscles of the upper and lower extremities. In Case III. the spasms generalized so quickly that it was impossible to tell which muscles contracted first, the intensity and rigidity continually deepening until the climax was reached. In studying my own cases as well as those reported, my opinion is that the contracting spasms run along the lines of least resistance; for instance, the fingers are flexed first, the flexing of the fingers being the most frequent voluntary act of the whole body. Opisthotonos is more frequent than emprosthotonos.

The contraction of the extremities is well-nigh universal, therefore it is the name which has been most frequently given to the disease. The extreme rigidity of the muscles should be seen to be realized. Nothing voluntary could approach it in the severe cases. As a writer has described it, the patients were as stiff as if made of iron.

The trembling of the eyelids is frequent. Schultz speaks of fibrillary contraction of the thenar and hypothenar eminence. In all of my cases clonic

contraction of the muscles of respiration. The face is often greatly congested and the veins swollen and tortuous. The slowing of the heart, which has not been noted heretofore, that I am aware of, is due I believe to a spasm of the heart muscle, which, were it to become very rigid, as in the case of the voluntary muscles already alluded to, might occasion a fatal termination of the disease. This and asphyxia due to spasmodic constriction of the lungs might occasion a fatal termination, the latter being the only cause of death known to hysteria. A fatal termination of hysterical tetany has not been recorded. The prognosis as regards recovery is also good.

The temperature is generally normal. If fever is present it is due to some other cause. Jaksch, who has made tests on thirty-five cases, reports that nine out of the thirty-five had subnormal temperature. In the others there was an increase above the normal. No systematic record of the temperature was made in the first two of my cases. In Case III. the temperature was below normal.

The great difference between these cases of tetanoid hysteria and other forms is the fact that the brain is undisturbed. The mind is clear, and the effort to control and throw off the attack is always intelligent and earnest. The pain from the contraction of the muscles is very great. Jaksch says there is great sweating in severe cases while the pain lasts. This was not present in any of my cases.

The electrical and mechanical irritability of the motor nerves in all these cases is greatly increased. Kussmaul, Benedict, Erb, Chvostek, and others have investigated this part of the subject thoroughly. I did not have the opportunity to do so in my cases. One could not expect any other condition to be present. The hearing of all three was greatly exalted; a

slight noise would either induce an attack or, if it were present, would intensify the contractions. The state was exactly similar to that of the frog which has received strychnine, as exhibited in physiological lectures.

Reference should be made to the so-called phenomenon of Trousseau, by which is meant the reproduction of the spasms at will by compressing the affected parts, either in the direction of their principal nerve trunks or over the blood-vessels so as to impede the circulation, venous or arterial. I regret not having observed whether this was present or not in my cases. Charcot has said that this symptom was not especially diagnostic, as such compressions would occasion contracture in patients of an hysterical diathesis, and he gave the name of diathesis of contracture to this condition. Weiss and Chvostek found that contractions could likewise be produced by drawing back the corner of the mouth and the angle of the nose and making pressure on the pes anserinus. But Hochwart found the same thing, though in a lesser degree, in patients not suffering from tetany.

In discussing these cases I cannot hope to have escaped from the confusion in which the whole subject is involved, for the reason that it has been for the most part approached from the side of tetany, which, as has been already said, is more of a symptom than a disease, since it occurs in a variety of morbid conditions. There is the tetany of infants and children; there is the tetany of epidemics, which Simon calls a "neurosis or an imitation";¹ there is the tetany which occurs from poisons ingested, as ergot, mercury, and lead, and arsenic; the tetany which occurs from the poisons generated within the body, the ptomaines and the poisons of disease, rheumatism, diarrhoea, constipation, typhoid fever, meningitis, and traumatism.

Notwithstanding all these different kinds of tetany, spontaneous or symptomatic, cases are very rare, and even those engaged in the study of nervous diseases alone may fail to meet a case in the course of years of practice. Dr. Crozer Griffith collected the cases of tetany of every variety that had occurred in America, and these numbered but seventy-two.

Because of the lack of positive knowledge of the pathological anatomy of the condition, the theories of the causation of the trouble are endless. The seat of the trouble has been located in the muscles themselves, in the nerve endings and in the nerve trunks, in various conditions of the spinal cord—softening, inflammation, or sclerosis, inflammation of the anterior horns, of the membranes—trouble in the medulla, in the cerebellum, and in the different portions of the brain. Whatever may be the cause, there seems to be a loss of the governing and adjusting power. Dr. Hughlings Jackson thought that it was due to the defective antagonism of the cerebellar influence. In health all muscles are doubly innervated by both the cerebellum and the cerebrum, there being a co-operation of antagonism between the two great centres. While the cerebrum innervates the muscles in the order of their action from the most voluntary movements (the limbs), to the most automatic (the trunk), the cerebellum innervates them in the opposite order. The cerebrum is the centre for changing movements and the cerebellum for constant movements. The theory is ingenious and plausible. I cannot help believing that the trouble is due to some generalized centric condition too delicate and subtle for us as yet to determine and not to any localized focal lesion.

¹ The history of the epidemics of tetany is illustrative of the hysterical aspect of the disease and forms a most interesting chapter, to which the limits of this paper forbid more than a passing allusion. There were epidemics in Germany in 1691 and 1717 affecting adults exclusively. Armstrong reports one in Hempstead in 1776. Rabaud reports an epidemic among children in 1856, and Mattrais, Regnaud, and Simon the epidemic among the school children of Chantilly.

In regard to the treatment it may be said that the spasms have been relaxed by chloroform, ether, aromatic ammonia, stimulants, applications of heat and cold in the form of baths and bandages, applications of ice to the spine. Pressure along the great vessels and nerve trunks supplying the parts is said to relieve the spasms of the muscles when present as well as to produce them. The recurrence of the trouble is prevented by all the means employed in hysteria and neurasthenia, such as rest cure, tonics, and galvanism.

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THE MADISON, 25 MADISON AVENUE.

Mr. Tulkinghorn.—There is a very fine picture of our minister in to-day's paper. *Mrs. T.*—Indeed! What has he been cured of?—*Boston News.*

SANITARY CARE OF MEN IN MASSES.

By MAJOR ALFRED F. SEARS,

CIVIL-SANITARY ENGINEER.

Introduction.—During our Civil War, one company in my regiment, of which the captain was a doctor of medicine, lost nine men by disease during the first six months in camp, while not one enlisted man died of disease in the sanitary engineer's company during the entire three years for which they entered the service.

After such a statement, I must explain before going further that this article is not an attack on the medico; is not dogmatic writing on medicine or hygiene; is not written to present or support a "system"; is not in the interest of any hygienic sect or school of medicine.

It is a simple note of more than forty years' experience in caring for the health of men in masses, in varying life and climate. Men young and old, aiming to be soldiers, in barracks for instruction; these same men massed on shipboard for transportation to the seat of war, and then, already graduated for duty, in camp on malarious islands of the southern coast; at work too, all through the poison-nights, knee deep in diluted mud of the Savannah River marshes. And again, laborers of the most degraded class, from hiding in city slums to escape the army draft of war times, carried in dirty crowds to work in Florida. Creoles, aboriginal Indians, and Chinamen, on railroads in the tropics, operating, building, and surveying. Such are the beings and circumstances of which this story treats.

As to the medicos, mine is the common experience. There is the black-coated owl, dull and dogmatic, who believes medicine a science; who never gets away from his formulæ and passes through life wondering at last how he has so often escaped the fangs of a grand jury. And then there is the man of common sense, who knows he is practising an art as imperfect as the brain of man. There is a doctor of medicine and a doctor of hygiene, both rated M.D., which reckons no difference between the two; an egregious error; one carries a baton for the service of the preserver of life, while the other trains his mortar in the ranks of the angel of death. One cares for health, the other for disease; and the thing cared for comes out ahead.

My personal condition curiously illustrates the difference in "medical" practice. I was born of parents healthy to robustness. When ten years old, a thin boy, long and growing, I suffered in the eyes a dreadful pain, with blindness threatening; and worse, because a doctor, fond of active practice and heroic, attacked the trouble with senna, blisters, and bleeding, determined on conquering though he pass over a dead body to the victory, which he would have done but that after three years of battling he died; to the last with confidence fighting. After that I began to improve; at twenty had all my height of five feet ten, but somewhat crooked; for my chest was sunken, shoulders stooping; I had hollow cheeks, goggle eyes, and was paler than one likes to see young manhood. But during the last four years of that time I had been a severe student, passing but three or four hours of any night in bed; and so the spring of 1847 found me seriously threatened with the New Englander's great enemy, consumption.

My ambition to be an architect had been surrendered, because the drawing board and heated office air combining, had come near confirming the old doctor's work, and now I was at civil engineering, with fair share of time in the open air exercising.

By lucky turn of fortune, I met a good physician, who refused to give drugs and told me the truth; it

was to keep out of doors all my duty would permit and sleep nine hours a night, letting ambition slide till I had life and strength to bear it. I followed his directions and they were simple, so that I grew erect and strong, and from thirty-three inches around the chest came to measure forty, since then risen to forty-four. The color came to my cheeks, good muscle my bones clothing. It was the simplest thing in the world. I but gave the lungs an even chance with the brain. When I walked out, I took in long breaths of fresh air, or such air at any rate as was going, and held it in as long as ever I could. In doing this I made no effort to throw my shoulders back as some proclaim, but exercised the abdominal muscles, drawing in the belly, the diaphragm thus raising.

Above all, I determined to live.

I said, "if I die of consumption it shall not be my fault." But it required two years of constant caring—two years in which I suffered pain and soreness in the lungs, while the half-closed cells were being torn open; and in the belly muscles, to unused effort now accustoming.

This was the beginning of a study and devotion to hygiene, since developed into the practice of sanitary engineering.¹

I. In Camps of Instruction.—Two distinct classes of men leave their homes for the enterprises of life: those who go and those who are sent. The volunteers, whether soldiers in barracks, inspired by patriotic public spirit, or ambitious students in commons, are stimulated by powerful impulses and sustained by a moral tone to which the conscript and the boy subject of parental authority are strangers. And yet in either case the moral influence surrounding the novice will be a prime factor in estimating his sanitary chances.

For as truly as the volunteer, soldier, or student is moved by a noble passion just so surely he demands a tender consideration to perpetuate his illusion, while the unwilling subject must be protected against the danger of his discontent. Much moral effect may be produced by showing due—even ostentatious—regard for the comfort, the physical surroundings of men.

In the summer of 1861, I took the nucleus of a company to the camp of instruction on Staten Island, where the men, preparing for incorporation in a regiment, were put into barracks—a building of rough boards lined with bunks and as cheerless as possible.

When autumn came, dysentery made its appearance in the camp and was treated by the surgeon of the regiment with astringent remedies for acute symptoms, but without the slightest regard to the men's diet or the cooking of the camp, or its potable water. This suffering was saved my company by attention to the cooks, that the white beans served in rations were properly prepared and also the rice and corn.

The water of that company was all boiled before the men were permitted to drink it, and, till they received their canteens, was kept in earthen monkeys and hung in a strong current of air, where rapid evaporation from the sweating, porous sides kept it cool.²

¹ The splendid sanitary results in the care of my Company, through which not a life was lost by disease among the enlisted men, during the whole three years for which they entered the service of their country, was due largely to the fidelity and intelligence of the lieutenants who had charge of it after I was detached—Hiram Farrand, of Vineland, N. J.; E. N. K. Talcott, of Jersey City, N. J., and Henry Trenor, of Brooklyn, N. Y.

² The London Queen published this year certain facts from Mr. Hankin's report concerning cholera in the East Lancashire Regiment, of value in the present connection. All six companies of the regiment drank water from the same well, filtered through the same filter. The cholera bacillus was found in the water after it had passed the filter, although it was quite free from any previous to filtering. The sand was proved, before the examining court, to have been taken from a condemned

But, more effective than this, was the attention given to men at night. In the early autumn months men fall asleep under but little covering. By midnight a change of temperature occurs, the air growing cooler and cooler, till, toward morning, it is almost cold. The phlegmatic, heavy man, solid sleeper, fails to notice the change and the surface of his body becomes chilled; a congestion supervenes. Toward morning he is turned out with bellyache, and then follows dysentery.

Company E was kept entirely clear of dysentery by the simple attention of its captain. Every midnight he went through the barracks, accompanied by a sergeant with a lantern, and covered with a blanket the men he found uncovered. The effect was twofold; we escaped disease; but, also, the men became not only the soldiers of their company, they were the friends of their officers, the children of their captain.

The most difficult duty of an officer in a great volunteer army is to secure general cleanliness among the men. This must be insisted upon. In all masses of men, so mixed in character as the soldiers of a war are, there are sure to be negligent fellows requiring hard nudging to make them bathe as often and as thoroughly as they should. In such an army there will always be trouble from this cause, unknown to the routine life and discipline of the regular army in peace.

There must be assiduous perseverance in the personal inspection of the men. On Sunday-morning inspections, make them bare one foot and expose the throat and breast. It is the necessary protection of all against the vermin breeding of the filthy. The simple knowledge that such inspection will be made secures the object, for no man, no matter how low he may be, can stand the abuse of his fellows or the public rebuke of the inspector, which his comrades are sure to make many times worse than the officer's scathing.

Men in masses, even so small as surveying parties in forest camps, will become lousy if not watched.

I have been guilty of some lawlessness in the face of a brutal regimental surgeon, for the sake of the men. It happened that when the company had nearly its quota there came to it a long, thin, undeveloped specimen of patriotic young manhood from New Jersey, who, utterly unfit for a night's absence from his mother and physically unsuited to a soldier's life, had been filled with fervor in his country's cause by the newspapers of the great city and the non-combatant orators of his neighborhood, had enlisted under the State's authority, and had come to pass his first night in the barracks of a camp of instruction. He stood the afternoon and evening with good courage, but by morning his backbone had melted out of him. When I entered the men's quarters in the early dawn he was sitting on the side of his bunk, crying violently, and some of the younger men near him were also in tears. He was a wretched physical being, and I hoped to be rid of him with a surgeon's certificate. But our doctor had been given no human sympathy, little moral sense, and, as it eventually proved, no proper ability for his position. He abused the poor wretch, found him suffering only with nostalgia, and sent him back to his quarters, where he had already infected the young men with his weakness. The poor fellow came running to me and fell on his knees, howling in agony at thought of spending his life away from his home. In the morning trip to the New York Arsenal, where the recruits were transferred from the State to the federal service, from which desertion would not

bank in which the bacilli were developed. The extraordinary feature of the case, however, was that one company escaped the disease which afflicted all the others. At the same court examination it was proved that the water of this company only had been boiled before it was given to the men.

be an easy thing, the "man" got away on Whitehall Street at the corner of Front Street. The doctor missed him at Beaver Street, but the case was beyond his reach, for the fellow's legs were long and his marrow inspired. The war lasted no longer and a life was saved by his desertion. When I returned to camp that evening the men were all cheerful and glad to be rid of their weak comrade. He was the worst subject of his kind I have ever encountered, and by his presence would have demoralized a half-dozen men.

II. On Shipboard.—Some of us in the Department of the South often wondered if we were soldiers or sailors, so much of our time was spent on shipboard "waiting" to do something.

It is here the officer who cares for his men has some rest from a part of his trials.

Our troops were put on board ship for transportation to some other part of the coast, and kept there several weeks at a time, with no provision for hospital service.

Often the ship's captain knew nothing of his destination nor when he would receive orders to sail. The men were crowded and the sick were mixed with the well. Yet, although this life occupied so much of the first year of the war, I never knew a death on shipboard. The men were seasick and homesick. They suffered that uncertainty which is an affliction to all intelligent beings, used as the subordinate parts of an unreasoning machine. But they managed to live till they got ashore.

Such experience leads one to inquire if there be as much "infection" in "contagious" disease as mankind is generally disposed to find.

There is good reason for the condition as we find it. American ships are marvellously clean; they are well ventilated; the hours of meals are as regular as the ship's watch; the food is well cooked by skilled men employed for that purpose; the drinking water is distilled; there is no exposure to miasm nor to the inclemencies of the weather.

But we had trials. Every time a man had a trifling fever the surgeon pronounced it "typhoid." For a time this served to scare the men and raise faith in a doctor so marvellously successful with that dread disease. One really serious case of a young lad—a drummer—was taken to my stateroom, and by watching the attentions of the doctor as well as the symptoms of the patient the boy pulled through.

III. In Camps in the Field—Hilton Head.—In no situation of men is so intelligent and assiduous care demanded as in field camps on a stranger soil.

We were Northern men in our first camp on the field, at Hilton Head Island, on the coast of South Carolina. The soil being sandy, the position of the camp was salubrious. But there was a great difference in the sanitary conditions of the various companies of our battalion, situated side by side and composed of men of similar circumstances in life.

The men of Company E were encouraged to take advantage of every means of increasing their personal comfort. Thus, they found a rick of rye straw in the barnyard of the estate on which they were encamped, and every man had a good bed. One morning, when these luxurious bundles of straw were undergoing their daily airing, the colonel of the regiment, an inexperienced martinet of the splurge variety, forbade the indulgence. He was going to have his men act as soldiers, so the straw was thrown out in accordance with his order, but was immediately returned to the tents and never again mentioned.

Let the men under your care suffer discomforts only when they cannot be avoided. Everything helping men to enjoy life in a soldier's camp in time of war, strengthens them for the terrible days and nights inseparable from the duties of the active campaign.

How much time we had to spend in loafing! in the absolute loss of one end of our eternity! This was unendurable; so at last we undertook in Company E a school in some of the field work of the engineer. Men were detailed to the bush for material and the company street became a busy scene of manufacturing. We took the time for making fascines and gabions. We had for instructor a sergeant—Richard Gowers—who had been in the Crimean campaign and was an adept in this class of work. This practice stood the company in good stead, and for the time kept them cheerful. It was good for them to go into the woods; and good to cut up and trim the sweet, green stuff into useful forms.

At this camp the first lieutenant of the company was taken ill with "typhoid," just as we were ordered away and so forced to abandon him to the doctor of the regiment. It was his misfortune to be a commissioned officer and receive special attention from an ignoramus. He died, and his was the only death from disease in Company E during the war.

Daufuskie Island and Savannah River.—The campaign against Fort Pulaski was begun from the north-west side of that work, the operations being under the command of Gen. Egbert L. Viele. A battery of Parrot rifles with flanking howitzers—Fort Vulcan—was erected on Venus Point in the Savannah River, the site being a dune on the south side of a little marsh island subject to inundation but covered with tall reeds that afforded a mask for work.

Here the men worked night and day, often knee deep in mud and water. Poles were cut on Daufuskie Island, where the camp of the troops had been established, and sand bags filled at the same place to be at night transported to Jones' Island; the poles for a sort of roadway and the sand bags for the foundation of the gun platforms.

Each forenoon at eleven and in the afternoon at four o'clock, the men of the fatigue parties were entitled to a ration of whiskey. The men of Company E did not get it. In lieu thereof, by the cordial permission of General Viele, they received extra rations of food; and so all fatigue parties of Company E went to their work with canteens of tea or coffee, as they preferred, and an extra allowance of cooked meat and bread for their lunches.

And here it seems proper to declare my unpromising opinion, as the result of a long experience in dealing with men, that the time has never occurred when the regular ration of whiskey is other than a danger to the health of those who receive it and a menace to the good order and discipline of the camp. Thirty odd years ago I was not so sure of the fact, and there were times, therefore, when I surrendered to the orders of the surgeons and gave whiskey and quinine to the men. When some old hulk had been kept afloat in whiskey a term of years, it would have been cruel to cut off his dram, but in the case of young men coming under my charge from the tender care of home, I felt then, as I do now, that to have taught them the use of alcoholic stimulants by administering this stupid prescription of incompetent medicos would be a responsibility no rational (not to say benevolent) man should dare assume.

In this connection it is a duty, as it is a pleasure, to mention with profound gratitude my indebtedness to the assistant surgeon of my regiment, who had been detailed to duty with my detachment. Dr. Charles Mudge, of Ontario Co., N. Y., put conscience into his work as well as skill. He even joined with the officers in what would be considered an unprofessional act by the rigid sticklers of the schools, sending to New York for a lot of what is known as "composition powder," called by the practitioners of the Thompsonian school a "diffusive stimulant." It is largely composed of

bayberry bark and ginger, and has long been known as a useful and convenient remedy in surveying camps; it is invaluable in camp fevers, colds, and stomach troubles or diarrhoea, if used immediately on the appearance of the warning symptoms. With this remedy we avoided the use of whiskey and quinine and were able to close the mercury jar. In short, with this simple remedy we prevented disease.

When a man returned to camp at night chilled, and suffering what the homœopaths call "anguish," we clad him in dry clothes, gave him a generous hot drink of composition tea and put him to bed on clean, dry straw. The case was rare, when such a man was not ready for duty the next morning. He rose, sponged off his body, put on dry clothing, and went out to his duty as if he had never felt ill. The men declared Dr. Mudge a trump and hoped they would never again see the chief surgeon of the regiment. One man did his work with pills, the other with conscience.

When possible, the commander should select for a field camp a grass-grown sod, which is to be left unbroken. This was the good fortune of our camp on Daufuskie. The men were carried in row boats to Jones Island for work and returned to Daufuskie for their sleep.

Fernandina on the Coast of Florida.—When instructions were received to put the company in camp in Florida and prepare Fort Clinch for immediate defence, a spot was selected on an old sod covered with short Bermuda grass. By permission of the commanding general and the grace of the quartermaster, being close under the providence of an abandoned saw mill and pile of lumber, and the men generally artisans, handy with tools, we built boxes, with legs two feet high, on which the tents were placed. Thus we avoided disturbing the sod and had a charmingly wholesome and tidy camp.

The care of the health of men in camp means persistent, assiduous watchfulness on the part of their officers over personal habits of cleanliness; the location and general disposition of the camp; the cooking of food; selection of potable water; and last, though not least, over the moral influences likely to affect the nervous energy of men.

If Methodists want prayer meetings and a parson, or Catholics want mass and a priest; if some want songs and music and others want comedy and the stage, these requirements will be treated by the judicious officer as divine commands. They are both sources and stays of the health of men.

The philanthropic heart, moved by the enthusiasm of humanity which animated Jesus of Nazareth, finding itself in charge of assemblies of men, whether as officer, employer, or foreman, will recognize the responsibility as a divine commission. A man of this mould will know the recognition of the Master, who appreciates the care of his humblest creature as a devotion to himself.

IV. Barracks—Staten Island.—A mistake was made in building the shanty barracks on Staten Island too close to the ground; or rather, perhaps, in closing the space between the ground surface and the floor, and thus shutting off the breeze, which should have been availed of to carry off the exhalations from the earth under the houses.

The sheds were on a good but undrained sod. The floor, two feet above the ground, absorbed the damps arising from the earth below, thus fostering decay under the feet and lungs of men obliged to sleep and move in these confined quarters.

If the siding boards below the level of the floor had been omitted, the air drawing through and across the space would have kept the place dry and wholesome, and by furnishing a nourishing atmosphere to

the grass the vegetation would have consumed all miasmatic gases.

But as winter was approaching, a draught under the barracks would have made a cold floor. This was a real danger, but could have been avoided by laying a double floor, sandwiching a layer of tarred paper or roofing-felt.

A floor four feet above the ground gives excellent room for policing, as it exposes all untidiness and filth to general observation.

If it be absolutely essential to protect the space from the intrusion of small animals, it may be caged with two-inch battens; or, what is better, with wire in any desirable form. I think, however, it is better to leave it entirely open, since the sod under the house makes a nice loafing-place for the men in warm weather and in rain, being a change from the inside of the barracks and relieving the quarters for the time being from the exhalations of the men's bodies. The publicity of the place under such circumstances will be its protection.

Fort Clinch, Fernandina, Florida.—The boxed floors for tents in a Florida camp have been mentioned already. One important advantage in that case was the facility of moving the tents without striking camp. Once a week the men lifted their tents, moving them just their width, so that they were continually on clean, sweet earth, than which nothing, not living, is more lovely.

The barracks for the laborers in the neighborhood of the fort were another affair. There is no sod in that region. The grounds inside the fort were occupied by the garrison. It became necessary, therefore, to put the imported laborers and artisans in barracks on the beach outside the walls of the fortification, but near enough for their safety in case of need.

The common laborers among these men were uncommon wretches—the vilest scum of New York City slums; all foreign born and born as British subjects, who had come to a government work solely to escape draft in the military service of the country. Each fall they arrived duly impressed with the fact that, having a vote and being pets of the dominant party in the municipal government of New York, they controlled an important department of the nation and were thus entitled to control any government officer with whom they were pleased to engage their services. There was a terrible amount of loathsome disease among them, and their personal habits were abominably filthy. I weeded out the worst cases after a surgeon's examination, sending them back to their slums in the great city from which they had been poured upon me.

My first effort with these beings was to discipline them in the mess halls. When the noon bell rang they dropped every tool and rushed pell-mell for the dining-house, where, running along the table on which the food had been already spread, each man filled his hands with the boiled potatoes and then, seating himself, piled them around his plate, indifferent to the luck of the fellows who came after him in the race, and who might thus lose their share of the delicious fruit.

I confess it was a disgusting revelation of the character of a "superior race," who hung negroes to lamp-posts without benefit of clergy. What was to be done? I had two hundred and fifty of these brutes to care for.

First, I cut the long tables into sections, placed one end against a wall, and arranged for four seats on each side, or eight to a table. Hat pegs over the end of the table and a list of names posted on the wall told every man his place, and something of what he must do in the mess hall.

I cut a lot of barrels in two and, mounting them on

benches outside the dining-room door, had them filled with water for hand washing. The mess halls were not opened for the men to enter until every one of them had washed his hands. It was dreadfully and tyrannically cruel, but it brought us order and cleanliness. It was a blessing to the best men and a lesson to the others.

The sand flies of the Florida beaches are the pest of humanity in that region. In the quiet morning air, they rise in the eddy of calm along the houses and infest the entire habitation. If the house be raised to give the air free passage beneath it, the flies will be carried by and men may rest in comfort.

Our barracks were stilted up eight feet above the sand, giving men a shady place for rest when off duty and a wholesome, comfortable dormitory.

The negroes employed on the work, of whom there were always from two hundred to four hundred and fifty, slept with their families in the town, three miles from the work, but had their dinners at the fort. They possessed better natural manners than the class of white laborers sent from New York, or the white refugees from the mainland; were more cleanly, more industrious, and amenable to discipline. This comparison, however, does not make them model citizens or neighbors.

But the only deaths of laborers during those three and a half years were among the negroes who lived in the town of Fernandina. It may be properly said that they lived there and worked at the fort all the year round, while the imported laborers remained only from November to May, inclusive.

Chinese at Chimbote, Peru.—I have had some extremely interesting experience in the treatment of Chinese laborers in Peru. When I took charge of the Chimbote and Huaraz Railway, I found the men at the Port living in a galpon (barracks), with plenty of room but no supervising care. These people shut out every breath of air as if it had been pestilential, which indeed they believed it to be. The walls were covered with newspapers, and even the cracks in the floors were covered, to shut out the little breeze that might be felt by these sensitive organisms.

The galpon was so saturated with filth and permeated with stench as to be poison in every cubic inch of its structure. As a natural result, the doctor's daily call showed ten per cent. of the men continually suffering with fevers. The removal of the men being resolved on, they were put into a galpon which had been used at one time by a good class of mechanics of the work—a row of well-built, one-story rooms, fourteen feet square and twelve feet high. Putting three men in a room, each man, having built himself a neat, portable bunk, had nearly eight hundred cubic feet of space for life and use.

To make this more available by introducing some of the outside atmosphere, a row of two-inch auger holes was bored along the front facing the ocean, from which the breeze was constant, and just under the ceiling of the rooms. This was the more necessary because the men, determined to avoid the "exposure" thus forced on them, surrounded their bunks with curtains.

Once a week, on Sunday, they were made to empty their rooms of everything they contained and give their floors a thorough washing. After that, the manager and surgeon made a careful inspection of the quarters and, everything being in order the furnishings were returned to their places.

Within a fortnight fevers had disappeared so completely that rarely more than one in sixty of the men answered the doctor's call, and we had no serious cases.

Suchiman Plantation.—Thirty miles inland from the coast is the plantation of Suchiman. Here we had what may be called our stock farm; for here we

V. The most actively potent cause of disease among men changing location, is to be found in the drinking-water to which they are subjected. It may be entirely salubrious for the people of the district in which it exists, but to an interloper prove a radical danger.

It is the first matter to be investigated and cared for in establishing quarters. A distilling apparatus (Fig. 2) may be easily and cheaply made, but care must be observed in selecting the material of which it is constructed.

All the water drunk by the men, when it is not from distillation, must be boiled. The water of wells near towns, villages, the outhouses of farms and barnyards should be avoided as poisonous, until it has been boiled a good half-hour.



FIG. 3.—This filter is of the simplest and cheapest construction, easily put together by the least ingenious housekeeper. It consists of two flower pots and a common water jar, C, popularly known as a "monkey." Every piece should be of unglazed earthen ware, whereby the "sweating" may, by the process of evaporation from the outer surface, cool the contents. Put a sponge into the hole of the upper jar at a, and be careful to wash it daily, by boiling. b is a wooden cover. The filter in B is of fine sand, on a layer of fine gravel, under which is a layer of coarser gravel. In preparing the materials for the filter the disinfecting may be done conveniently by boiling the various components in a cotton bag.

The sand used in making a filter should be thoroughly washed of all earthy and clayey matter, until the water used in the process remains perfectly clear. After washing, the sand should be dried in an oven heated to 300° F., and remain exposed to this heat an hour. If, however, it is more convenient, the sand may be disinfected by boiling in clean water a half-hour.¹

Appendix—Note I.—The article mentioned in the text as "composition powder" is generally known and is sold by all druggists at the present day, being recognized as a convenient and useful remedy. It is composed as follows:

Bayberry bark.....	16 ounces, avoirdupois.
Ginger root.....	8 " "
Cloves.....	1 ounce "
Cinnamon.....	1 " "
Cayenne pepper.....	1 " "

To be ground and thoroughly mixed, and, for convenience in use and transportation, packed in two-ounce papers.

Note II.—In connection with composition powders, a liquid preparation is made by the same school and sold by druggists as "Number Six." It is a non-alcoholic stimulant, convenient for use in camp and in situations that demand quick treatment, when to wait for boiling water to make composition tea would be inexpedient.

"Number six" has been successfully used in sudden attacks of diphtheria, both as a gargle and stimulant, to protect the patient till a physician arrives to take charge of the case.

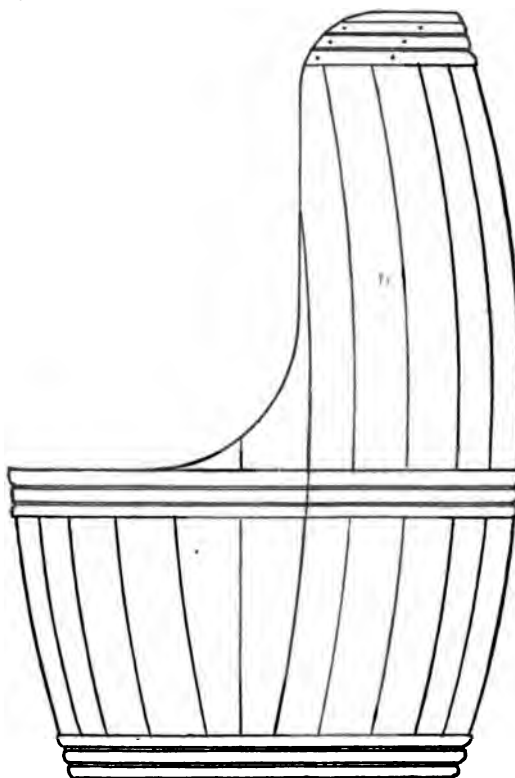


FIG. 4.—A barrel cut out for a sitz bath. A few extra nails will be required in some of the hoops, notably those at the top of the barrel. They should be put in before the barrel is cut.

Note III.—In dysentery, especially when it has become chronic, my experience teaches me that drugs cannot cure. The only absolute remedy for this dreadful disease is ripe fruit. Watermelons in their season are to be reckoned the supreme remedy. Ripe peaches, plums, pears, and apples are excellent. Of all this class, the apple stands at the head as a curative agent. In using apples, which have the advantage of being at all seasons attainable when other fruits cannot be procured, it is well that care be taken to masticate the fruit thoroughly; or pulp may be scraped with the bowl of a spoon to insure perfect maceration. If, however, the apple is not perfectly digested, but is voided in crude particles in the stools, there is no occasion for alarm; a beneficial effect will be produced. The mucus which finally develops a pseudo-membrane will be torn from the walls of the intestines and their healthy action restored. The patient may expect one or more violent evacuations after beginning the use of fruit till the intestines have become cleansed. Then reaction will set in, with constant improvement of the condition.

In the tropics, physicians use this remedy for subjects as tender as infants with teething dysentery.

¹ The reader is referred to the appendix for the details of several matters treated of in the text.

Note IV.—The sitz bath of sea water, when attainable, is a great reinforcement of the fruit treatment in both chronic diarrhoea and dysentery. Everybody may have a sitz bath who can command a common wash tub or a half-barrel. A very comfortable sitz bath may be made with a pork barrel or any other that will hold water, as illustrated in Fig. 4.

Note V.—For convenient use in one's quarters, a bathing mat is readily made by having a rope (say half an inch in diameter) sewed into the edge of a piece of duck a yard and a half square. If the duck prove too light for the purpose, a coat of white lead paint will make it right. Standing on this, with a wash basin and sponge, the water will be held by the mat, and after the bath may be poured into the basin or pail for removal.

Note VI.—It is a great pity that the water-closet seat has not received serious attention from the hygienists. It has important influence in producing or preventing piles. As generally constructed by the stupid building carpenter, it is supposed to be a comfortable seat. It is rarely that, and when it is its purpose is only partially accomplished.

A properly constructed seat should open the body to assist nature in its desire for cleanliness. The common carpenter imagines it essential that the whole body be thrust nearly through the seat and I find it difficult to hold him down to a proper plan, which he always insists "is not large enough." The opening in a seat should give abundant room for the functions of the organs employed and no more. That accomplished, the rest of the seat should afford repose. Such a design will be found in Fig. 5, with directions for making. It will separate the features, protecting them from soil.

But, after all, there is no perfect cleanliness without free use of water after the stool.

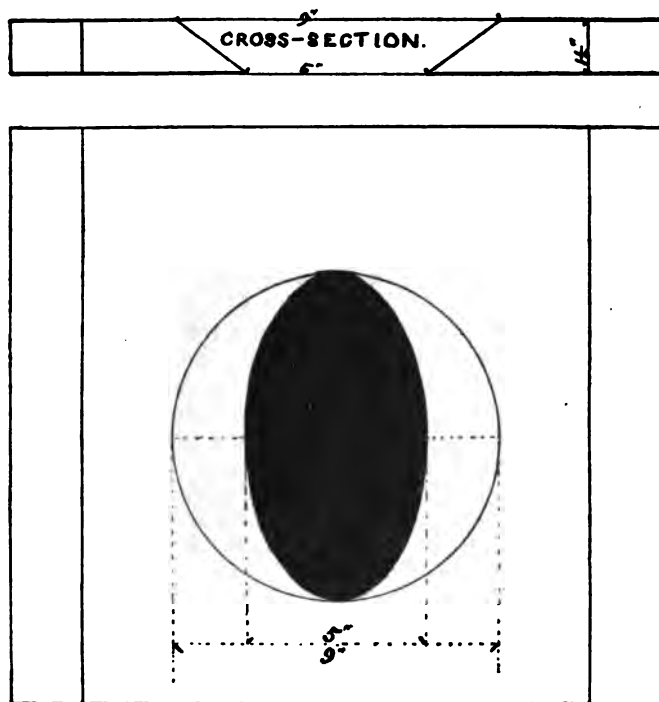


FIG. 5.—Water Closet Seat. For making, inscribe an ellipse with axes of nine and five inches respectively, on the under side of the seat. Then, from the same centre describe a circle with a diameter of nine inches on the upper side of the seat. Saw out the ellipse. Then turn the board over and bevel it from the line of the circle down to the line of the ellipse. Use inch-and-a-quarter stuff.

Note VII.—The Bathroom and Water Closet.—These conveniences, viewed from the sanitarian's station, are among the most important apartments of the dwelling, but under the influence of a stupid economy and an arrogant ignorance are most often located in the very place which should be avoided.

It is difficult to understand why the average archi-

tect masses all these conveniences in a single room, unless it be that he is an ignoramus in respect of hygiene and the brutal laziness of servants.

The temptation to wash chamber vessels in the bathtub can hardly be resisted by the common maid of all work. She never uses the tub for her own person and thought of filth in its connection, therefore, never disturbs her. If it did the result would be the same.

It should be an absolute condition that, when there is sunshine, it be permitted to enter the bathroom to be on or near the person of the subject bathing. Generally in populated districts this may be accomplished by having the upper half only of the window made in clear glass. Sometimes it is better accomplished by using the ordinary glazing for the entire window and setting up a spring shade that rolls at the bottom instead of at the top. Thus, to screen the room, the shade may be unrolled from the bottom of the window and drawn up by a cord over a pulley as far as is necessary to secure privacy, leaving a space above for the admission of light and sunshine, when there is any.

The common plan of "tubbing" is an abomination, unless the water is a current flowing from the bottom of the tub. To put the whole body into a tub of standing water, in which all parts are washed at once, recommends itself as the filthy practice of the nice, unthinking multitude.

The ordinary shower bath is hardly bearable to many delicate subjects, and then there is objection to entering a small closet confined by India-rubber curtains, the arrangement in some public bathrooms.

Let the bathroom have a water-tight floor space at least six feet square, with a drain pipe from below and water-tight wainscoting around the walls. Then a pan at the ceiling, or an arrangement of pipes covering an area of four and a half feet square, should be pierced with extremely fine holes very close together. This arrangement will yield a gentle rain, not a sudden, severe downpour. The bather, no matter how delicate, may stand in this pleasant shower and enjoy a thoroughly delightful bath with the consciousness that whatever ought to leave him is being carried away. Such a bath is exhilarating, wholesome, and cleanly, which a tub bath in standing water cannot be.

Certainly money will provide various adjuncts to this arrangement, by which the luxury of the affair will be increased. But the present object is to show the man of modest means how to possess a luxury, without increasing the ordinary expense of his bath appointments, by substituting a clean bath for the nasty tub.

For purposes of sickness, the rain bath is most perfect and vastly more convenient in use than the tub, for a chair may be placed in the shower space and the temperature used that suits the demand of the attending physician.

The tub has no place in the best civilization.

The Water Closet should have the same advantage of light as the bathroom. It should be large enough to contain the seat, a sink for washing chamber vessels, and a sitz bowl or "bedell," and a wash-hand stand, with towel racks for the sink, bedell, and washstand. Repeating what I have said elsewhere, that there is no cleanliness after stools without the use of water, let the person be carefully treated on the sitz bowl, a neat arrangement by which a little spray of water is raised lightly against the body and then dried with the towel. This habit will correct the tendency to many local troubles, such as eczema, fistula, and piles, when they do not proceed from errors of diet.

Abundance of light in the water closet reinforces an important but rarely considered advantage of the

open basin containing water for receiving the evacuations of the bowels. It assists that constant watchfulness over the intestinal condition, so helpful in preserving the health, as a guide and caution in one's dietary habits. If, however, it leads to indulgence in drugs or physic, without the advice of the family physician, it were better to return to the hopper closet with all its horrors.

Progress of Medical Science.

The Theory of Hemisystole.—In opposition to Leyden and those who have maintained that the intermittent pulse was due to a pause in the action of the left ventricle, while the right ventricle continued to act, François-Francke, according to *The Practitioner*, argues from observation and experiment: 1. That mitral hemisystole—that is to say, the double pulsation of the right ventricle in opposition to one pulsation of the left ventricle—is to be found in mitral insufficiency neither in man nor in animals. 2. Intermittencies of the pulse in mitral insufficiency, as also in analogous arrhythmical disorders without mitral lesion, are due to aborted systole of the left ventricle. 3. That these aborted or abortive systoles may be shown to be synchronous in the two ventricles. 4. That there are no facts which can justify the discussion of a systolic reduplication situated in the right ventricle. 5. That it is not the supplementary systole of the right ventricle which produces the dilatation with hypertrophy of the left ventricle met with in mitral insufficiency. Sphygmograms which accompany the paper bear out the author's contention. He may be said to have flogged a moribund if not dead horse, but the work was not unnecessary and he has done it well.

Evisceration in Protracted Cross-Birth.—Dr. Mermann relates five cases in which he found evisceration sufficient to allow of speedy extraction when transverse presentation had rendered labor dangerously long. According to the *British Medical Journal* all recovered but the fifth patient, who died on the tenth day of pneumonia, attributed by her family doctor to some accidental chill not associated with delivery. The first patient was a primipara, aged twenty-nine. The membranes had ruptured five days before delivery; the child had been dead at least a day; turning could not be effected. After evisceration turning proved easy, and the exhausted patient recovered. The second case came under Mermann eighteen hours after the membranes had been ruptured by the midwife, who applied a tampon, as there was flooding. The right arm was prolapsed and oedematous; the shoulder impacted in the brim; the cord much prolapsed, swollen, and livid. The mother's abdomen was tympanitic. The uterine contractions were very painful, the temperature was over 100° F. After an attempt to turn, evisceration was performed and a large child extracted by pulling with the finger hooked into the thorax. The patient recovered after an attack of parametritis. In the third case the waters had escaped seven days before delivery and the child had been three days dead. Version had been attempted several times in vain. After evisceration the child was seized round the abdomen (as in Case I.), turned, and delivered with ease. In the fourth the shoulder of the dead child was firmly impacted in the contracted pelvic brim and the waters had slowly dribbled away. The scissors used for the funis served for evisceration; the child was then delivered by traction on the arm; recovery was rapid. In the fifth (noted above as a fatal case) both arms

were prolapsed and the left shoulder impacted. The waters had escaped three days before delivery. Attempts to turn had been made with the aid of chloroform. Evisceration was undertaken and the child extracted by pulling on the interior of the thorax. The patient did well till pneumonia set in.

Genu Recurvatum.—The Paris correspondent of the *Medical Press* explains that Dr. Campenon was struck with the frequency of *genu recurvatum* in coxalgia and in chronic disease of the hip in general, in the young subject. The deformity presents different degrees and the difference between the heel of the healthy member and that of the opposite, the patient lying on the back, varies from one to several inches, according to the nature of the case. Hyperextension of the leg, which characterizes the *genu recurvatum*, does not generally exist alone when the deformity is not of recent date, for with it is frequently remarked a certain mobility of the joint due to laxity of the lateral ligaments. There is also noticed a considerable atrophy of the muscles of the thigh. The deformity of the knee is mostly seen in very young subjects, under ten for instance, while over that age it is more rare. Long detention in bed is a very active predisposing cause, while the determining cause is mainly due to the position in which the limb is placed and kept. Consequently, the limb, instead of being forcibly extended, should be lightly flexed.

Unusual Variety of Hæmaturia in a Case of Vesical Tumor.—Dr. Ferria has recently observed the case of a patient aged twenty-four, who complained of painful micturition and hæmaturia. This latter symptom had been two years in existence, hemorrhage occurring at considerable intervals at first; latterly more often, with increased pain and frequent urgent desire to empty the bladder. The hemorrhage occurred more abundantly at the close of the act of micturition till shortly before advice was sought, when severe pain occurred at the beginning of the act and bleeding on almost every occasion, and only at the beginning also, the remaining urine being limpid. On examination it was determined that there was a considerable degree of retention, and that while the prostate and seminal vessels seemed normal, the sound, when introduced, on approaching the neck of the bladder came in contact with a surface apparently irregular and friable. On relieving the retention the catheter enabled Dr. Ferria to recognize a tumor in the bladder. Suprapubic cystotomy was performed and a papilloma found on the anterior bladder wall to the left side, about three finger breadths from the urethral orifice. The pedicle was slender, two and one-half centimetres in length, and the tumor was of the size of half a walnut, with a prolongation on one side which reached the neck of the bladder and penetrated the prostatic urethra.—*Annales des Maladies des Organes Génito-urinaires*.

Cancer and Toxins.—The treatment of cancer by toxins is not justifiable unless there is a marked benefit in a few weeks. Early and thorough excision is imperative.

Osteomyelitis.—Dr. Pinckney French, in *Memphis Medical Monthly*, February, 1896, in an article on early operation in osteomyelitis confidently urges as follows:

1. It affords opportunity for removing the local cause of the disease.
2. It relieves and prevents pain.
3. It prevents or limits necrosis.
4. It prevents septicæmia and pyæmia.
5. It prevents infection of adjacent soft structures.
6. It shortens the duration of the disease.
7. It expedites recovery.
8. It greatly diminishes the mortality of the disease.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE INSANITY LAW AGAIN.

WE took occasion in our comments on "The Insanity Law," now before the legislature of this State, to suggest the reorganization of the lunacy commission on a basis commensurate with the fourfold increase of the insane now under its supervision and with the extraordinary powers and duties which the measure proposes to confer on that body. Our correspondence in the mean time proves that we voiced the opinion of the medical profession of the State, not only as to the necessity of a reconstruction of the commission, but as to the method of effecting that object. Our contention is that the present commission was created for an entirely different purpose than that contemplated by this bill. It originally had no executive powers or duties, but was required simply to visit and inspect institutions. For the proper performance of these duties, with the then number of insane in State care, this commission may have been competent. But now the insane in State institutions have increased from five thousand to nearly twenty thousand, and this bill invests the commission with enormous executive powers and duties, confers on it the control of a vast amount of patronage, and gives it unlimited discretion in the annual expenditure of the largest sum of public money at the disposal of any department.

That a commission should now be created competent to the proper discharge of these new duties and responsibilities is too evident to require further discussion. The method of reorganizing the commission which we proposed has met with general approval in our profession, and we commend it to the favorable consideration of our legislators. In formulating an amendment which will give effect to our views, we propose that there shall be a fixed representation of the medical profession in the commission. For this purpose we recommend that the commissioners from the Long Island, Manhattan, and Buffalo State Hospital districts shall be eminently qualified physicians. We select these districts to be represented by medical men because there will never be any difficulty in securing as commissioners physicians of the highest grade of qualification, and because the State hospitals located therein contain nearly one-half of the insane in State care. The lunacy commission, as thus constituted, would consist of three medical men representing the

great metropolitan State hospital districts and eight business men representing the other districts. Such a commission would at once command the confidence of the medical profession of the State and of the public generally.

A more careful study of the law reveals so many defects that it seems doubtful if it ever passed under the revision of a competent lawyer. For example, the salaries of the commissioners are to be fixed by the Governor, which violates that clause of the Constitution which requires that the salaries of all State officers shall be fixed by law. Again, this law admits of the change of a salary during the term of office, which the Constitution prohibits. These are but two of the many striking proofs of the looseness with which the law has been drawn.

THE INFLUENCE OF THE SPINAL NERVE FIBRES UPON THE GANGLIONIC CELLS.

WE have before us an excellent piece of scientific work in the form of an essay which gained the prize offered by the American Neurological Association, and which is entitled "The Biological or Morphological Constitution of Ganglionic Cells as Influenced by Section of the Spinal Nerve Roots and Spinal Nerves." The author is Dr. B. Onuf, of Brooklyn, and his work is so carefully and intelligently done, and offers such a model of how scientific research should be made, that we venture to present our readers with some analysis of its contents, although the subject is hardly to be called a practical one. Dr. Onuf calls attention to the fact that heretofore authorities have disagreed as to whether the motor cells of the spinal cord were affected by degeneration and atrophy when the motor nerves or nerve roots are cut off. He, therefore, sets out to determine by experimental evidence what is the actual truth in the matter. He was enabled to carry out his researches with more completeness by reason of the fact that within the last few years several new methods of staining nerve fibres have been discovered. By the method known as that of Marchi, for example, it is possible to find out whether nerve fibres are degenerating and to catch them, so to speak, *flagrante delicto*, since this stain does not affect healthy nerves nor does it affect a nerve that is entirely atrophied. By a new method of staining nerve cells devised by Nissl one is now able to discover the finer changes in the structure of nerve cells. Taking advantage of these two methods, Dr. Onuf made his experiments upon the dorsal nerves of cats, using these nerves in preference to those from the lumbar and cervical region, because their origin and distribution are simpler. The nerves were resected in some cases at a distance from the cord, in other cases at the roots. The animals were then killed at various periods, ranging from six days to several weeks after the operation. The results of the experiments showed that when the motor nerve roots were resected, there took place in the motor cells in the anterior horns peculiar degenerative changes, which were characterized by swelling and a homoge-

neous transformation of the cell contents, with a peculiar reaction to the dyes. This process was called "homogeneous degeneration." The change, if continued, ended in the liquefaction of the cells and their almost complete atrophy. When the nerve fibre was cut off at some distance from the cord, there took place in the anterior cells a simpler change, consisting of a gradual shrinkage, a sort of drying-up of the cell. This degenerative change was less severe and more easily recovered from than the other form. Both kinds of degeneration may be looked upon as curable conditions, such cure taking place upon the regeneration of the nerve root or the nerve fibre itself. There seems to be thus established a close nutritive relation between the nerve fibre and the cell from which it is projected, the health of the latter varying with that of the former. If, therefore, in cases of nerve injury the nerve is cut entirely across and does not unite, there will eventually occur a dry atrophy of the motor cells from which the nerve springs. But if the nerve grows again and its function is restored, the nerve cells develop again. It was also shown that retrogressive changes occur in the cells that are connected with the posterior roots, though the changes here were not, apparently, so minutely studied. By means of this method, Dr. Onuf also succeeded in localizing the function of certain groups of cells in the spinal cord, showing, for example, that the groups lying near the middle line, and known as the "mesial group," are related to the nerve which innervates the muscles of the back.

Some interesting information is given also in regard to the technical methods of staining nerve fibres and cells.

Altogether, the essay is very creditable to the author and to the judgment of the American Neurological Association.

CHOLERA IN CALCUTTA AND ANTI-CHOLERAIC INOCULATION.¹

WE have received these two deeply interesting reports through the kindness of Dr. W. I. Simpson, health officer of Calcutta. They cover the entire period from Dr. Haffkine's first inoculation in April, 1893, to the end of August, 1895. In judging the results of inoculation Dr. Haffkine speaks with great reserve and modesty of his grand work and his noble efforts to stay this dread disease.

Of the observations made, the doctor selects those in Calcutta, Gya, Lucknow, and the Kolacu Gardens as giving the best basis for judging the results of the inoculations.

In the Gya jail the inoculations made during an epidemic led to a gradual diminution of occurrences in the first ten days of application, a diminution which finally brought about a difference from twenty cases with ten deaths among the uninoculated to eight cases with five deaths among the inoculated—a reduction of two and a half to two times respectively.

¹ "Anti-Cholera Inoculation," Report to the Government of India, by W. M. Haffkine, M.D., Sci.D.

In the Kolacu Gardens the result of the inoculations was a reduction of cases and deaths in the proportion of one to four, the number of occurrences being four times less in the inoculated as compared with the uninoculated.

With reference to the results obtained from March, 1894, to July, 1895, in 19,473 individuals inoculated, Dr. Haffkine said: "They seem to indicate that in inoculation by this method we possess a means of effectively combating cholera epidemics." He goes on to say, moreover, that the process is still in the experimental stage, but the results "justify steps being taken to give the inoculations a more extended application."

It seems that the effect of the vaccines lasts but a limited time, and Dr. Haffkine says that of course the power of producing a lasting effect would increase the value of this inoculation very greatly. It is possible that such an effect can be obtained by a simple increase in the strength of the vaccines in the doses administered, but this again is a question which can be solved only by long years of observation.

The very guarded and modest statements as to the good results of his great work are evidently not shared by Dr. Simpson, the health officer of Calcutta, who speaks enthusiastically of Dr. Haffkine's labors. He says: "The most important event which has happened during the year in connection with cholera has been the introduction by the commissioner of Professor Haffkine's system of inoculation. It was introduced as a tentative measure for the period of one year, but the results have been so favorable that I trust that steps will now be taken to make the inoculation a permanent institution in Calcutta."

In speaking of an outbreak on March 25th in a certain section of Calcutta grouped about two tanks (the great source of cholera epidemics in India), Dr. Simpson says it "led to the inoculation of one hundred and sixteen persons in the bastee (district) out of about two hundred. Since the one hundred and sixteen were inoculated ten cases of cholera had appeared (up to the time of his writing, August, 1895) in the bastee.

All these ten cases occurred among the uninoculated portion of the inhabitants, and none of the inoculated were affected.

Furthermore, in summing up the final results of the inoculation in India, Dr. Simpson says: "It must, I think, be admitted that the evidence which is accumulating is gradually becoming so strong as to remove all doubts regarding the efficacy of the inoculation in rendering the body more resistant against cholera. As to the duration of the protection, time alone can settle."

'**Scrumptox** is a new disease to which football has given rise in England. It is a pustular eruption, coming indirectly from dirty jerseys and affecting especially the forwards in Rugby football, who have to shove in scrimmages. It has been proved to be contagious. Bacterioscopic examination has shown the presence of the *staphylococcus pyogenes aureus*.

NEO-VITALISM.

A TENDENCY in some quarters to return to the old "vitalistic" theory of living matter has been noticed. Professor Bunge gave the first serious impulse to this movement in a series of lectures delivered several years ago. In his presidential address before the American Microscopical Society last summer, Professor Simon H. Gage said: "It can be stated without fear of refutation that every physiological investigation shows with accumulating emphasis that the manifestations of living matter are not explicable with only the forces of dead matter." This announcement places Professor Gage among the neo-vitalists also. Sir William Thomson (Lord Kelvin) affirms essentially the same view. Professor Burdon-Sanderson evidently sees in this revival of a modified animism danger to scientific progress, and in a lecture recently delivered before the Royal Institution argues against it. The mystery of vital phenomena he prefers to call still a mystery. He denies that it is a new form of force, but rather an unexplained form of known forces, chemical or physical.

The neo-vitalists do not assert that the life force is something spiritual, a *deus ex machina*, as was formerly held. Their contention is that it is another form of force, having its chemical and physical equivalents.

We confess to a sympathy with the neo-vitalists, nor do we see any danger to continued serious investigation in supposing that there is a peculiar and unique phase of energy, a specific mode of etheric vibration perhaps, underlying the activities of living cells.

News of the Week.

More Rays of Light.—There seems to be no end of discoveries in connection with the recent announcement of the remarkable work of the now famous professor of Würzburg. The latest addition to our knowledge of what until recently seemed a field of darkness comes from Dr. Emmens of this city, who is known as an investigator and the inventor of a powerful explosive, "emmensite." There seems now to be a possibility of reflecting the "X" rays and so concentrating them that photographs instead of mere shadow pictures can be produced. Dr. Emmens is said to have obtained pictures of objects enclosed beneath the vulcanite screen exposed to sunlight for thirty-six hours. Certain outlines and shadows convince him that "X" rays are reflected. Pursuing his investigations and acting upon the theory and belief that "X" rays are universal, an attempt was made with apparent success to collect them from darkness by the aid of various chemical compounds. An instrument which he has invented and calls the photoscope will, it is thought, when completed, enable the surgeon to see with his own eye the interior of certain portions of the body. In this connection we again refer to Professor Salvioni's method for enabling us to see through solids as through a photographic camera. The appa-

ratus used consists, as previously described, of a cardboard tube, one end of which is closed by a sheet of black paper coated with a layer of fish glue and calcium sulphide or platinum cyanide, either of which compound is very phosphorescent under the action of the "X" rays. The other end of the tube contains a lens giving a clear image of the phosphorescent paper. The plan is to transform the Roentgen rays into ordinary luminous ones before they reach the eye. The paper is thus illuminated in those portions which receive the rays and the silhouettes of the objects appear dark. Professor Salvioni maintains that by the aid of a camera not only the shadows but the images of the objects can be reproduced, facts which appear to have been proven by Professors Battelli and Garbasso, of Pisa.

Diagnostic Features of Cutaneous Syphilis.—Before the section on general surgery of the College of Physicians of Philadelphia, Dr. George Henry Fox, of New York City, delivered on March 13th an address on "The Diagnostic Features of Cutaneous Syphilis," illustrated by a large number of lantern slides. Dr. Fox maintained that the cutaneous lesions of syphilis are characterized by appearances so distinctive as to be diagnostic to the experienced eye.

A Birthday Greeting to the Medical Record.—Dr. Thomas Osmond Summers, editor of the *St. Louis Clinique*, gives us the following sentiment on our thirtieth birthday:

"Of all the medical journals of America, whose name is legion, it is a conceded fact that the MEDICAL RECORD stands 'foremost on the files' of American independent journalism. There are many who 'assume this virtue though they have it not!' This cannot be said of the MEDICAL RECORD. Although we have ever felt sincerely the rupture which, like a manifest destiny, appeared unavoidable between the MEDICAL RECORD as the general representative of New York Medical 'cultus' and the American Medical Association, we have never, even in our close allegiance to the Association and the 'Old Glory' of American medicine—the code of ethics—ceased to recognize the spirit of progress, the wide sweep of journalistic power and influence, the lofty tone, and the leading trend of American medical thought that have made the MEDICAL RECORD the ringing keynote of American medicine. One thing is certain, however, whether professionally or commercially considered—the latter, of course, being the direct corollary of the former—the New York MEDICAL RECORD is the *deus ex machina* of American medicine—and 'there you have it.'"

[We tender thanks accordingly, and take fresh courage.—Ed.]

The Medical Record's Roentgen's Skiagraph.—It will interest our subscribers to know that the Roentgen picture in our issue of February 15th is on sale in at least one optician's window in this city, at one dollar per copy. It is probably one of the best that has yet been issued. We sent out nearly twenty-five thousand copies of the picture.

State Care Clothes Tax.—The lunacy commission persists in demanding that patients for asylums transferred from city institutions shall be supplied with new suits of clothes at the city's expense. This is another indication of the senseless autocracy of the lunacy commission in absurd details.

A Doctors' Car to the American Medical Association's Meeting in Atlanta.—To relieve any one who may desire to attend the meeting of the American Medical Association in Atlanta from as much care as possible, the publishers of the MEDICAL RECORD will on application furnish full information as to the route via rail, with cost of reduced round-trip tickets, etc. It is probable that a sufficient number will go from or through this city to secure an entire through "car for the doctors." There will be nothing lost by an early application for information.

Obituary Notes.—DR. WILLIAM SAVERY died at his home in Germantown Pa., on March 13th, at the age of sixty-three years. He was graduated from the Philadelphia College of Pharmacy in 1854, and was appointed resident apothecary and medical registrar in the Friends' Asylum for the Insane at Frankford, serving in that capacity until 1860. He was graduated from the medical department of the University of Pennsylvania in 1861, and was resident physician in the Wills Eye Hospital from 1861 to 1862, and in the Pennsylvania Hospital from 1862 to 1863. He was a volunteer surgeon in the United States Hospital at Fredericksburg, Va. In 1870-71 Dr. Savery was physician to the Winnebago tribe of Indians in Nebraska, and from 1872 to 1888 attending physician to the Hospital of the Good Shepherd near Bryn Mawr.—DR. PHILIP R. PALM died at Allentown, Pa., on March 6th, at the age of seventy-one years. He was a descendant of a long line of physicians, his great-grandfather having come to America in 1750, and was graduated from Jefferson Medical College in 1846. He was a member of the Pennsylvania Legislature in 1859, and was a voluntary assistant surgeon in the war of the Rebellion.

Free Antitoxin for the Poor.—At a recent meeting of the Philadelphia Board of Health a resolution was adopted providing for the free use of the diphtheria antitoxin prepared in the municipal laboratory and for the free practice of intubation among the indigent sick, always upon the request and with the co-operation of the attending physician.

The Leidy Fellowship.—The fund for the Leidy Fellowship of Anatomy has reached the encouraging sum of \$12,000, and it is hoped that the entire amount of \$30,000 will be realized before the close of the year.

Dr. S. Weir Mitchell, well known as investigator, practitioner, and writer, and designated by the University of Edinburgh last summer, in conferring its honorary degree of Doctor of Laws, as "the chief ornament to medical science in the New World," recently read his play, "Francis Drake," before the Garrick Club of the University of Pennsylvania.

A Chinese Physician in St. Louis.—Dr. Yung Mung Fueng, a graduate of the Royal Medical College of Canton, was recently registered as a practising physician in St. Louis, and has expressed his determination to open an office there.

A Worthy Example.—The physicians of London, Ontario, have entered into an agreement whereby one and all refuse to do contract lodge work any longer.

Tuberculin Denounced.—A cablegram from Berlin informs us that Koch's tuberculin has been warmly denounced in the Balneological Society. It is reported that Koch himself has by no means given up his investigations, and that he is about to publish a work advocating the further use of tuberculin.

Typhoid Antitoxin.—Dr. Chantemesse, of Paris, is the latest discoverer of a typhoid antitoxin. He has used the serum in three cases and claims that it had a rapidly curative effect, the patients passing quickly into the convalescent stage.

California State Society.—The twenty-sixth annual meeting of the Medical Society of the State of California will be held at Los Angeles, April 21st to 23d.

Sero-Therapy.—At a recent meeting of the St. Louis Medical Society the Subject of sero-therapy was discussed earnestly, seriously, and vivaciously during two meetings until long after midnight. The energy of giving and tolerance of receiving are exemplary virtues in our brethren of the city of professional love.

An Irate Female.—A female medical student who failed at a recent examination in London so effectually lost control of her inhibitory moral sense as to retaliate in the following ungrammatical convulsive outburst: "Very soon doctors will be drawn from we pure, noble-minded women, and you vile, drunken, filthy men expelled forever."

Longevity.—An interesting account of longevity in one family was recently published in the St. Thomas Hospital Reports. Mrs. B., born in 1630 (five years after the accession of Charles I.), died March 13, 1732. She was tended in her last illness by her great-granddaughter, Miss Jane C., born 1718, died 1807, and Miss Sarah C., born 1725, died 1811. A great-niece of one of these two ladies, Mrs. W., who remembers one of them, was born in 1803, and is at the present time alive and well. It will be seen from the above facts that there are three lives only to bridge over the long period between 1630 and 1896, and that there is at present living a lady who personally knew Miss C., who had nursed a relative born in 1630. The last lady of this remarkable trio is hale and hearty, and has just successfully undergone an operation for cataract.

Officers of a Medical College to be Arrested.—Warrants have been issued for the arrest of a number of persons connected with "Hering" Medical College, of Chicago, for the alleged illegal disposal of two bodies by putting them into a barrel and dumping the barrel into an alley.

A Wonderful Horse.—Dr. Paltauf, of Vienna, has a horse of which he is very proud. The causes of pride in horseflesh are usually the superb beauty of the animal, his record in the matter of speed, his ancestry, his temper, his style, his color, or his price. But none of these things have inspired the enthusiasm of the Vienna physician. His horse has beaten the record simply in the production of antitoxin units. The animal is a six-year-old gelding and the strength of his serum is five hundred antitoxin units. In the last year this noble animal has produced six quarts of toxin, and, while others have saved their hundreds, this horse has saved its thousands of lives. In the civilization of the future, and perhaps in the annual New York horse show of the future, the element of antitoxin may yet be taken into consideration in testing the qualities of the horse. We should respectfully submit to those gentlemen who run future horse shows that a collection of animals labelled with their toxin-bearing capacity would form a most interesting addition to the parade of fair women which is put on view on this occasion.

The First Hearing on Vivisection before the judiciary committee of the Massachusetts legislature was held recently and, according to the *Boston Medical and Surgical Journal*, the advocates of the measure did not make out a very strong case. No serious proof was offered of cruelty to animals in the physiological laboratories of Massachusetts or elsewhere, and one witness for the bill asserted that all those whose testimony did not agree with his were "liars."

The American Medical Publishers' Association will hold its third annual meeting in Atlanta, Ga., on May 4th. The secretary is Dr. C. W. Fassett, of St. Joseph, Mo.

The Tri-State Medical Society will hold its annual meeting in Chicago on April 7, 8, and 9, 1896. A long list of interesting titles of papers to be read has been published.

The Cornell Brain Association is an organization for mutual autopsy. It is said that this association has already received eight brains and has the promise of twenty-five others.

Municipal Appointments in Baltimore.—Baltimore has recently had a number of medical appointments under the new political régime and the mayor has named two homœopathic physicians to attend upon the inmates of the jail. These appointments have aroused a good deal of indignation among members of the regular profession in the city.

New Buildings for the City's Medical Charities.—The Commissioners of Charity have decided to build a new morgue, as the present one is entirely inadequate in its facilities. It is proposed to place it on an iron pier extending two hundred feet into the East River from the foot of Twenty-Sixth Street. The commissioners also contemplate the remodelling and extension of the almshouse buildings on Blackwell's Island and the erection of a new reception hospital at Fordham, in the annexed district of the city. The

cost of the proposed improvements will be about \$1,200,000, and it is expected that the legislature will grant an appropriation for the purpose.—*Boston Medical and Surgical Journal*.

The Phonendoscope.—This instrument is claimed by its inventors, Bazzi and Bianchi, to render perceptible all the normal and morbid sounds in the body far more distinctly than the ordinary stethoscope. It renders audible the sounds made by the fœtus, by the circulation, by the muscles, etc., and also locates displaced organs by the noises made by their contents. It resembles a watch in appearance, and the two ear tubes can be multiplied indefinitely, so that several can listen at the same time. In auscultating a large surface one disc is simply placed upon it and the tubes are placed in the operator's ears. A tube is inserted into this disc when it is desired to circumscribe the auscultation. The contour of an organ can be accurately determined by the sound made by its contents through the tube as the operator lightly manipulates it with his fingers.—*Journal de Médecine de Paris*.

Elsner's Ready Method of Recognizing the Typhoid Bacillus.—In the *Zeitschrift für Hygiene*, Bd. xxi., 1895, p. 25, Elsner describes this method, to which reference has already been made in these columns: Ordinary gelatin is cooked with an infusion of potato (500 grams to the litre of water), and to this is added enough normal sodium solution to give a slight acid reaction, according to the method of Holz. It is then filtered and sterilized. When it is to be used, one per cent. of iodide of potassium is added, the mixture being then inoculated and plates made. Elsner has examined by the aid of this medium surface water, soil, etc., and when colon bacilli were present they grew with almost entire exclusion of other bacteria. The proteus and root bacillus, which he found grew readily on media containing carbolic acid, only occasionally grew at all on the new culture medium, and then were placed in the background by the colon bacilli. The colonies of colon bacilli show the characteristics which are present when they grow on any acid medium. The typhoid bacillus grows characteristically, so as to be readily distinguished from the colon. On the iodide-of-potassium-potato-gelatin, in twenty-four hours the typhoid-bacillus colonies are almost invisible under a moderate magnifying power, while the colon-bacillus colonies appear well grown out; in forty-eight hours the typhoid colonies appear as small, clear, shining, drop-like, finely granular growths, while the colonies of the colon bacillus are large, much more coarsely granular, and brownish. He has tested thirty different cultures of colon and typhoid bacilli, as isolated upon this culture material, by Pfeiffer's method (*i.e.*, the use of the specific property of the blood serum from typhoid-immunized animals), and in every case the identification was shown to be correct. In one instance a bacillus which was not distinguishable from the typhoid bacillus by ordinary culture methods was found, upon the use of the iodide-of-potassium-potato-gelatin plates, and also by Pfeiffer's method, to be a variety of colon bacillus. The typhoid bacilli

could be readily detected, even if very few in numbers. By the use of this method, typhoid bacilli were isolated from the evacuations of fifteen out of seventeen cases of typhoid fever; of the two other cases, one was in the seventh week, and defervescence had taken place in the second.

The Southern Empire State Medical Association of Georgia is an association composed entirely of colored regular physicians. The association is now entering upon its fourth year. Its three meetings have been well attended. The first meeting was held in Augusta, the second in Macon, and the third in Atlanta. At the last meeting the following papers were read and discussed: "The Uses of Mercury and Iodide of Potash in Syphilis," by Dr. Richard Cary, Griffin; "The Progress of Medical Science," by Dr. C. J. Cain, Rome; "Pneumonia," by Dr. G. P. Washington, Waycross; "Typhoid Fever," by Dr. E. H. Moyer, Columbus; "Care of the Teeth," by Dr. J. R. Porter, Atlanta; "Sickness and Injury Feigned," by Dr. H. R. Butler, A.M., Atlanta; "Blood Poisoning," by Dr. A. O. Lockhart, Atlanta; "Practical Therapeutics," by Dr. T. H. Slater, A.M., Atlanta. The officers of the association are as follows: Dr. E. E. Greene, *President*, Macon; Dr. C. S. Swan, *First Vice-President*; Dr. G. P. Washington, *Second Vice-President*, Waycross; Dr. J. E. Asbury, *Treasurer*, Atlanta, and Dr. T. H. Slater, *Secretary*, Atlanta.

Pleasant Laxatives.—Starting with the proposition, "Woman, thy Name is Constipation," Dr. Ben H. Brodnax, in the *Cincinnati Medical Journal*, contributes some notes upon his experience in the relief of the condition which he so thoroughly identifies with the gentler sex. Cascara sagrada is a good remedy, he says, but bitter, and he is not satisfied with the extract in pill form. He cordially recommends chionia, on the ground that it is pleasant to take and creates no habit. A preparation of castor oil and saccharin is, he says, very much more popular with children and himself than the original oil. Dr. Brodnax is very enthusiastic over a certain cathartic vegetable pill of somewhat the same composition as the compound cathartic pill and he also likes the phosphate of soda, which is now put up in a palatable form and sold under a trade name.

The Whale Cure for Rheumatism.—It is reported that at the town of Eden, a place in Australia which stands on the shores of Twofold Bay, there is a hotel where rheumatic patients congregate. Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours as in a Turkish bath, the decomposing blubber of the whale closing around his body and acting as a huge poultice. This is known as the "whale cure for rheumatism."

Official Surgery in Germany.—The *Centralblatt für innere Medizin* thus scarifies that absurd reflex "philosophy" which has found expression in "official surgery": How a cough is cured in Kansas may be of interest to all, even if the cure be not imitated.

The writer of the paper, while passing his vacation at Manitou, the Mecca of America, was consulted by a vigorous, blue-eyed, light-haired Swedish girl of twenty-six summers on account of a cough and various nervous disturbances. The cure was as follows: First, the lady must reside in the same house with the physician. Then came phosphate of iron, chloride of potash, galvanization of the body, faradization and dilatation of the rectum (*North West Lancet*). Then followed galvanization of the solar plexus and of both vagi, nasal sprays, verbasum oil in the ears, and finally excision of the hymen and further dilatations and faradizations as already described, together with regulation of the diet and inhalations of oxygen, and the cure burst in upon this treatment like an avalanche in the mountains of the moon or an earthquake in the Sierra Nevada. A poem by an unnamed writer closes this medical history.—*Medical Standard*.

The Third International Congress of Dermatology will be held in London August 4 to 8, 1896. The subjects proposed for discussion and the names of those who will take part in them are as follows: "Prurigo."—Drs. Besnier, Paris; J. C. White, Boston; Kaposi, Vienna; and Payne, London. "The Etiology and Varieties of Keratosis."—Drs. Unna, Hamburg; V. Mibelli, Parma; H. G. Brooke, Manchester; and W. Dubreuilh, Bordeaux. "Syphilitic Re-Infection."—Drs. Fournier, Paris; Alfred Cooper, London; Lang, Vienna; and Fitzgibbon, Dublin. "The Connection of Tuberculosis with Diseases of the Skin other than Lupus Vulgaris."—Drs. J. Nevins Hyde, Chicago; Radcliffe Crocker, London; Hallopeau, Paris; and G. Riehl, Vienna. "The Duration of the Period of Contagion of Syphilis."—Drs. Hutchinson, London; Lassar, Berlin; Campana, Rome; and Feulard, Paris. "Ringworm and the Tricophytons."—Drs. Sabouraud, Paris; Rosenbach, Göttingen; and Malcolm Morris, London. "The Nature and Relations of the Erythema Multiforme Group."—Drs. de Amicis, Naples; P. A. Morrow, New York; T. H. Veiel, Stuttgart; and Stephen Mackenzie, London. "Malignant Syphilis."—Drs. Handlung, Copenhagen; Tarnovsky, St. Petersburg; and Neisser, Breslau. The congress has secured for its use the building known as Examination Hall, on the Victoria Embankment. This will afford every facility for all kinds of demonstrations—cases, pictures, museum, etc. It is urged that those intending to join the congress should notify the secretary, Dr. J. J. Pringle, 23 Lower Seymour Street, London, W., of their intention as soon as possible. The membership fee is \$5, which should be sent in the form of a pound-sterling draft on London, or P. O. order to the same amount.

Army Surgeons in Cuba.—Twenty surgeons of the Spanish army in Cuba have died during the year that the insurrection has been in progress. Of this number only three died from bullet wounds, the remaining seventeen of disease, in fifteen cases the disease being yellow fever. This is not a high mortality rate when it is learned that members of the medical corps in Cuba number more than three hundred.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume VI. Diseases of the Respiratory Organs. New York: William Wood & Co. 1896.

THE successive volumes of this encyclopædia appear at intervals of three months with a regularity that is as pleasing as it is unusual in works of the kind. The present volume, which is number six of the series, is really the fifth in order of publication, Volume V. being promised as the next to appear. This one deals with the diseases of the respiratory organs from the nose to the lungs. The first article, on "Diseases of the Nose," is by Dr. Prosser James, of London, a writer who needs no introduction to those who are familiar with the literature of affections of the upper respiratory passages. After an introductory section on rhinoscopy and general nasal therapeutics, the various affections of the nose, both external and internal, are dealt with in order and most satisfactorily. Dr. James' style is that of an experienced writer, and when to this is added a wide and matured knowledge of the subject we have a treatise that will commend itself to all who seek for an authoritative guide to the diseases of this organ. Next in order comes a contribution on the "Affections of the Accessory Sinuses of the Nose," by Dr. Jonathan Wright, of Brooklyn, whose original investigations have done much to throw light upon this hitherto obscure subject. The value of the article is much enhanced by some excellent illustrations showing the anatomical relations of the parts, and how a discharge from the frontal sinus may drain into the antrum without appearing at all in the nasal cavity.

Dr. E. J. Moure, of Bordeaux, justifies his reputation as one of the foremost of French laryngologists by a most comprehensive and perspicuous monograph on the "Diseases of the Nasopharynx and Pharynx." The same author treats in an equally satisfactory manner of the "Diseases of the Tonsils." The only illustrations of this article are of acute ulcerative lacunar tonsillitis, an affection which the writer has observed several times and which is ordinarily confounded with tertiary syphilitic ulceration, although entirely distinct from it. The possessors of this work are to be congratulated upon having these two treatises from such a master hand.

Dr. Albert H. Buck, of New York, contributes a short but thoroughly practical article on "Diseases of the Ear." The author has purposely avoided a disquisition on all the various and unusual ailments of this organ which could be of use only to the specialist, and has wisely utilized the necessarily somewhat limited space at his disposal by a presentation of what concerns especially the general practitioner. After an introductory section on the classification of aural affections, the author takes up in order the diseases of the external auditory canal, those which involve the middle ear, the methods of examination of the middle ear, and the diseases of the labyrinth and auditory nerve, the article closing with a discussion of the general principles of aural therapeutics.

The next article is on "Diseases of the Larynx," by Dr. F. H. Bosworth, of New York, whose name is a guarantee that the subject is well handled. The author does not think much of the larynx as a self-suffering organ, most of its catarrhal diseases being traced to similar and pre-existing affections of the nose and nasopharynx; consequently their treatment is principally that of the parts above. The author's therapeutic creed was indeed foreshadowed by the formula of the Connecticut Sunday-school teacher, whose advice to his pupils was always: "Be a good boy and keep your nose clean." The illustrations of this article are numerous and helpful. Considerable space is devoted to a consideration of the neuroses of the larynx, and the section on laryngoscopy is especially satisfactory.

"Diseases of the Trachea and Bronchial Tubes" are treated by Sir T. Grainger Stewart and Dr. George A. Gibson, of Edinburgh. The introductory sections are devoted to a consideration of the anatomy, physiology, pathology, symptomatology, and therapeutics of these affections, and then the individual affections of the trachea and bronchia are taken up seriatim. The treatment of these diseases receives special attention, many formulæ which the authors have found particularly beneficial being given. The section on bronchiectasis is an elaborate treatise on this affection and is

the best presentation of the subject that it has been our fortune to read. The closing article of this volume is on "Diseases of the Lungs," from the pen of Dr. Winslow Anderson, of San Francisco. It includes a consideration of all the affections of these organs except croupous pneumonia and tuberculosis. It is easily seen by the way the author handles his subject that it is one with which he is perfectly familiar, and he also possesses the happy faculty of imparting this knowledge to others in a most satisfactory manner.

The book, like its predecessors in the series, is well bound and clearly printed on good paper; the subjects treated of are among the most important in medicine; the authors are masters of their themes; and altogether the volume is one of the most instructive of any that have yet appeared.

AN ESSAY ON MALARIA AND ITS CONSEQUENCES. By ROBERT LINDSAY, A.M., M.B., F.R.C.S. Eng. London: H. K. Lewis, Gower Street. 1895.

THIS little book, comprising about one hundred pages, gives an interesting description of what the author believes malaria to be, laying great stress on the activity of carbonic-acid gas as a causative factor.

The interesting fact that micro-organisms and infection are active elements is completely ignored. The treatment is given in the author's own way, according to his experience, which appears to be quite extensive.

A MANUAL OF THE PRACTICE OF MEDICINE. By GEORGE ROE LOCKWOOD, M.D. Philadelphia: N. B. Saunders. 1896.

THIS manual, comprising over nine hundred pages, is composed of ten chapters. The author follows the classification of Osler almost throughout. There has evidently been considerable labor expended in bringing this book to completion, and although nothing really new is presented it is eminently practical. It is written in a very clear style and is profusely illustrated.

The book has been written to date, for in discussing the infectious diseases antiseptic treatments, besides bacteriological diagnosis, are carefully detailed. In discussing diphtheria the author gives everybody the benefit of doubts, for he mentions and illustrates calomel fumigation, which we think is a thing of the past. He also gives the formula of Loeffler's local treatment, but finally gives antitoxin ample justice, quoting by an illustrated chart the temperature, pulse, etc., of a typical case of diphtheria treated by Dr. L. Fischer.

Other illustrations showing the author's observation of Charcot's knee are exceedingly valuable. The author deserves credit for his first attempt and we hope his book will be well received.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. JACOBI, M.D., Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York. Philadelphia: J. B. Lippincott Company. 1896.

THE author is so well recognized as the leading exponent of pædiatrics in our country that no doubt his views concerning therapeutics in children will be carefully perused.

I. Feeding of sick children. In the opening Jacobi gives general rules for the feeding of infants and lays stress on the necessity for giving (a) water, (b) cane sugar—not milk sugar, (c) common salt. He elaborates on this theme, but points also to the efficiency of water as a drink for healthy and for sick children, noting besides that water is indicated to aid in liquefying viscid expectoration in bronchitis and laryngitis; and its value in anæmia and fevers, when a deficiency of pepsin and HCl exists, to stimulate secretion of gastric juice.

Jacobi has found that cane sugar given to children for constipation will benefit them, especially if given with oat meal water. The author finds that when breast milk behaves like cow's milk in regard to solid curdling and consequent indigestibility, salt must be given.

II. Treatment of the newly born. Commencing with detailed management of asphyxia, including other methods besides the author's, he deals with atelectasis pulmonum, cephalæmatoma, hæmatoma of the sterno-cleido-mastoid muscle, and sclerema. The article on bathing is a most valuable contribution to medical literature. He treats also of the mammæ, mastitis, perimastitis, angioma, the care of the cord, omphalitis, umbilical gangrene, arteritis and phlebitis, umbilical hemorrhage, icterus, melæna, trismus and tetanus.

We next come to blennorrhœa, umbilical fungus, hernia, and congenital constipation. Each subject is carefully detailed and valuable hints are given where required.

III. General therapeutics. Under this head Jacobi tells when and how to give an enema to children, detailing anatomical peculiarities. He tells how to prescribe and how to apply drugs by inunction; rectal medication and subcutaneous medication, the author believes, ought to be made more frequently than is customary. The chapter on inhalation is very instructive, particular attention being given to anæsthetics in tracheotomy. Jacobi, in discussing gargles, doubts their efficacy; preference is expressed for sprays or an insufflation of powder. Sinapisms, vesicatories, and depletions are minutely discussed.

IV. This chapter is highly interesting and deals with just such questions as are propounded daily. On page 93, for example, Jacobi elaborates the uselessness of continued nursing after ten months if no teeth appear, and gives dietetic directions for this condition.

In speaking of rhachitis, Jacobi mentions the fact that many cases should be prevented by attending to the parents before conception. He makes a new point by insisting on looking after the ears, for he believes that the slightest internal or external otitis is liable to produce convulsions. He then gives modern views on scrofulosis and therapeutic hints in tuberculosis. His next chapter deals with syphilis. This is truly a masterly article, for although the author condenses it into about five pages nothing has been omitted. The hemorrhagic diathesis and diabetes are discussed.

V. In this the author describes intermittent and typhoid fever, cholera, dysentery, scarlatina, measles, rôtheln, mumps, variola, varicella, erysipelas, diphtheria, rheumatism, pertussis.

VI. Diseases of the digestive organs.

VII. Diseases of the genito-urinary organs.

VIII. Diseases of the respiratory organs.

IX. Diseases of the organs of circulation.

X. Diseases of the nervous system.

In the last chapter are closely condensed such points as are necessary for such puzzling questions as are submitted to the average physician.

Jacobi clearly defines the uselessness of operations for the relief of idiocy. He details the method employed by Quincke of tapping the spinal canal at about the third lumbar vertebra, but adds that it never cures and merely aids in the diagnosis by proving the presence of bacilli in the cerebro-spinal liquor. Jacobi's book ends with a brilliant addendum in which all modern practical points are carefully brought out. His article on antitoxin shows that the author has carefully studied its application in diphtheria and readily indorses it. The painstaking labor of Dr. L. Fischer in bringing the new treatment into general use is not given its proper credit. Sterilization is thoroughly discussed.

Indeed, summing up, it is by far the best work on infant therapeutics in print to-day and, being up to date, is a valuable addition to the library and will be most readily consulted when the physician is baffled.

SPECTACLES AND EYEGLASSES, THEIR FORMS, MOUNTINGS, AND SPECIAL ADJUSTMENTS. By R. J. PHILIPS, M.D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine; Ophthalmic Surgeon to the Presbyterian Hospital in Philadelphia, etc. Philadelphia: Published by P. Blakiston, Son & Co. 1895.

THIS little work now appears in the form of a revised second edition of one hundred and one pages. It is of convenient size and is excellently printed. The book is issued as an aid to those who prescribe and who sell eyeglasses and spectacles, for the purpose of enabling them to reach the most satisfactory and beneficial results in the adjustment of lenses to the eyes of patients. Since the proper adjustment of spectacles and eyeglasses is of very great importance, it is desirable that the rules and suggestions contained in this little volume should be familiar to every oculist and optician. The book before us presents the subject in a concise and fairly complete form. The first chapter describes the materials employed in the manufacture of lenses and frames, the forms of lenses, equivalents of lenses by different nomenclatures, etc. The second chapter deals with the centering and decentering of lenses, the proper relation of lenses to the eye, etc., and is an excellent exposition of this part of the subject. Chapter third describes the various measure-

ments required for the proper fitting of frames, and chapter fourth enters into the consideration of the inspection and adjustment of spectacles and eyeglasses. The remarks on prisms contained in this chapter are worthy of perusal. The work is sufficiently illustrated to promote a clear understanding of the ideas that the author has endeavored to present.

AN ATLAS OF OPHTHALMOSCOPY, WITH AN INTRODUCTION TO THE USE OF THE OPHTHALMOSCOPE. By O. HAAB, M.D., Professor of Ophthalmology, University of Zurich. Translated and Edited by ERNEST CLARKE, M.D., B.S. Lond., Fellow of the Royal College of Surgeons, Surgeon to the Central London Ophthalmic Hospital, Ophthalmic Surgeon to the Miller Hospital, etc. New York: William Wood & Co. 1895.

THIS admirable work consists of an octavo volume of fifty-five pages of text and sixty-four plates with the description of each plate placed opposite to it. The whole forms a small convenient volume, and is a happy contrast to the large cumbersome atlases that we are familiar with. The text, which is included in the work in the form of an introduction, gives a concise description of the principles of ophthalmoscopy and of the methods employed, without including perplexing formulæ. The simple language of the introduction will appeal to the student and general practitioner as well as to the specialist in ophthalmology, and give the work a much wider field of usefulness.

The plates represent the normal and pathological fundi of the eye, as seen by means of the ophthalmoscope, in chromo-lithography. The drawings are original. They were sketched from the image obtained by means of the indirect method and the details supplied by the direct method. The physiological and pathological conditions depicted are ninety-eight in number; they are excellently chosen as representative of the various conditions met with, and the work is beautifully and truthfully executed.

The interposition of the descriptions of the plates between the plates in their order adds much to the value of the work, as immediate information may be obtained without referring to other parts of the volume.

The present work forms one of a series of atlases to be published by Wm. Wood & Co.

The publishers are to be congratulated on the beauty and value of the first volume of the series.

LES SUPPURATIONS DE L'APOPHYSE MASTOÏDE ET LEUR TRAITEMENT. Par A. BROCA et F. LABET-BARBON. Mémoire Couronné par l'Académie de Médecine (Prix Meynot, 1894). Paris. 1895.

THE work presents an able review of a subject which has called forth probably more discussion than any other in the otological world. The advisability of opening the mastoid process in cases of acute and chronic purulency of the middle ear is strongly set forth by the authors, but we shall not attempt a discussion here of the advantages or disadvantages of such surgical procedures. The symptoms of involvement of the mastoid region are ably discussed and should aid considerably in cases of difficult differential diagnosis. The latter has always been more or less of a *bête noire* among otologists, and any help in the right direction should be made welcome. Space will not permit us to go more deeply into the subject under consideration; we can truly state, however, that it has given us much pleasure and satisfaction to read this book, and we heartily recommend it to otologists for careful study.

HISTORY OF ANÆSTHESIA OR PAINLESS SURGERY. By WILLIAM R. HAYDEN, M.D. (Pamphlet.)

CHARLES LAMB regretted that Charles I. did not hang Milton. We do not quote this *à propos* of any given person, but why will people return to such a perennial subject as the discovery of anæsthesia by ether? Dr. W. R. Hayden rushes once more into the breach for Morton. He calls a good many people rather hard names and proves to himself, at least, that it was Morton to whom we owe this discovery. The doctor makes a great to-do over the statue in the Boston public garden which Dr. Holmes said should be inscribed to "E(i)ther." Our own impression is that, if either Dr. Morton or Dr. Wells could return to earth and see this same monument, he would indignantly deny the soft impeachment.

A HANDBOOK OF OBSTETRIC NURSING, FOR NURSES, STUDENTS, AND MOTHERS. By ANNA M. FULLERTON, M.D. Fourth Revised Edition, Illustrated. Philadelphia: P. Blakiston, Son & Co. 1895.

THIS little book consists of practical hints for mothers, nurses, and physicians. While almost all points necessary for the accouchement have been detailed, such points as treatment of asphyxia have not been overlooked. It is well adapted for beginners, and as antiseptics forms part of this little book it is well adapted to give points to those not familiar with this subject.

THE RETROSPECT OF MEDICINE: A Half-Yearly Journal Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by JAMES BRAITHWAITE, M.D. Lond., Obstetric Physician and Surgeon to the Leeds General Infirmary, etc. Assisted by E. F. TREVELYAN, M.D. Lond., B.Sc., M.R., C.P., Assistant Physician to the Leeds General Infirmary, etc. Vol. CXII., July-December. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1895.

THE *Retrospect* now looks back over fifty-six years of existence and claims our respect accordingly. The present issue contains a short *résumé* of nearly every important advance made in medicine, surgery, and obstetrics during the past six months. Although the arrangement under the subheadings is alphabetic, there is a good synopsis of contents and a full index.

DENTAL MATERIA MEDICA AND THERAPEUTICS. By JAMES STOCKEN, L.D.S. Eng., Pereira Prizeman for Materia Medica, Late Dental Surgeon to the National Dental Hospital. Fourth Edition. Revised by LESLIE M. STOCKEN, L.R.C.P., M.R.C.S., L.D.S., and J. O. BUTCHER, L.D.S. Eng., Assistant Dental Surgeon to Guy's Hospital. New York: J. H. Vail & Co.

IN one hundred and fifty pages this small volume gives all the essentials of practical therapeutics as it is apt to interest the dentist. New remedies which have proven of practical worth to the dental surgeon have been added, as well as an index of diseases, and many portions have been rewritten.

THE JOHNS HOPKINS HOSPITAL REPORTS. Vol. V. 1895.

THERE is, perhaps, at this late day, no necessity for us to emphasize the great scientific and practical value of anything coming from those attached to this great hospital, and the report before us is no exception.

We regret that want of space will not allow us to do more than call attention to the elaborate and valuable study of "The Malarial Fevers of Baltimore," by Drs. William Sydney Thayer and John Hewetson; and to "A Study of Some Fatal Cases of Malaria," by Dr. L. F. Barker, Assistant Resident Pathologist. The plates illustrating the parasite of tertian, quartan, and æstivo-autumnal fevers are exceptionally beautiful; we notice, by the way, that they were done in Leipzig.

The remainder of the report is taken up with "Studies in Typhoid Fever," by Professor Osler and his assistants. Of these the most important is by Osler himself, entitled "Five Years' Experience with the Cold-Bath Treatment in Typhoid Fever." Osler to our thinking is the most learned and scientific clinician on this side of the water, and an expression of opinion from him upon such an important point in the treatment of this disease merits more than casual comment.

Professor Osler says that "for the past five years, ending May 15, 1895, systematic hydrotherapy has been used, the method of Brand, with certain minor modifications"; to wit, a tub bath of twenty minutes at 70° F. every third hour when the rectal temperature is at or above 102.5° F.

Frictions were applied in the bath and a warm drink or a stimulant was given afterward. In a large majority of cases no other treatment was employed. If the pulse was feeble whiskey was given and strychnine. The diet was either wholly milk or in part broths and egg albumen.

In connection with the method of compiling those troublesome and often delusive things called "statistics," he makes the important point that in estimating the value of any treatment all circumstances should be taken into account, and he has dealt with the statistics as so many patients admitted, of whom so many died; and he goes on to say that "this should be done in all institutions. Give the total num-

ber of cases of each disease treated to a conclusion and the number of dates, irrespective altogether of the length of stay in the hospital or the condition on admission."

After reviewing the various cases or groups of cases treated the author says: "Two advantages are claimed for hydrotherapy in typhoid fever: a mitigation of the general symptoms of the disease, and a reduction in the mortality. Our experience during the past five years bears out these claims."

As to the first of these, Osler thinks it is a mistake to claim that severe nervous symptoms are never seen. In the first three years there were thirteen and in the last two years nine cases of delirium.

As to the reduction of mortality, the author states that the average mortality in general and special hospitals throughout Europe and America may be placed at between fifteen and twenty in each one hundred cases. And he declares that "the cold-bath treatment, rigidly enforced, appears to save from six to eight in each century of typhoid patients admitted to the care of the hospital physician."

As far as his own personal experience goes, and this is after all the great point of interest and importance to practitioners, Osler concludes as follows: "While I enforce the method for its results, I am not enamored of the practice. I have been criticised rather sharply for saying harsh words about the Brand system. To-day, when I hear a young girl say she enjoys the baths, I accept the criticism and feel it just; but to-morrow, when I hear a poor fellow (who has been dumped, like Falstaff, 'hissing hot' into a cold tub), chattering out maledictions upon nurses and doctors, I am inclined to resent, and pray for a method which may be, while equally life-saving, to put it mildly, less disagreeable."

After all our function, as Robert Smith said, "is not to make angels of men." We wish there were more observers like Professor Osler and that the average practitioner would read, mark, learn, and inwardly digest their teachings.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS. Vol. IV. For the Collegiate Year 1894-1895.

THIS work, which is a collection of reprints of various articles printed in medical journals, proves two things: First, that this great institution of medical education has within its walls a corps of bright young men who are willing to devote hours of labor to original research which is not directly remunerative; and secondly, that the college encourages such work by setting upon it the seal of its approval and publishing the results to the world. The papers treat of subjects which are not speculative and theoretical, but are of intense practical value to the community. In most instances the work seems to have been done accurately and thoroughly, and the results are expressed clearly and concisely. Altogether it is a valuable contribution to medical literature.

INSANITY. Popular Errors Corrected, Summary Commitments, Inquisition, etc. An Address Delivered before the Society of Medical Jurisprudence, November 11, 1895. By HON. DAVID MCADAM, Judge of the New York Superior Court.

THIS address of Judge McAdam is a timely contribution to the literature of insanity, especially just now, when a popular interest has been aroused in the conduct of the various asylums to be placed under the control of the State. The prevailing notion that it is an easy matter to incarcerate a sane person in an asylum by conspiracy between relatives, physicians, and lawyers is shown to be disproved by the facts. The responsibility of the physicians is clearly defined and the difficulties in the way of a positive diagnosis are presented. With the address the society has published the lunacy laws of the State, some court decisions, articles by various authors bearing on the subject, and other matters of general interest to the profession.

ELECTRO-THERAPEUTICAL PRACTICE. A Ready Reference Guide for Physicians in the Use of Electricity. By CHAS. S. NEISWANGER, PH.G. Chicago: E. H. Colegrove & Co. 1895.

THE book gives rules for guidance in the use of electricity in practice, principally as an adjunct to other therapeutic agents. All kinds of electrodes are illustrated, and the indications for the use of the different currents in the different ailments are given.

Therapeutic Hints.

Tinea Versicolor.—

R Hydrarg. chlor. corros..... gr. iv.
Spt. vini rectificat..... fl. 3 vi.
Ammon. muriat..... 3 ss.
Aq. rosæ..... q.s. ad fl. 3 vi.
—TILBURY FOX.

Flatulency.—

R Ol. terebinthinae..... fl. 3 i.
Sig. Three to five drops on sugar.
—BARTHOLOW.

Pruritus of the Scrotum.—

R Phenic acid..... 3 v.
Glycerin..... 3 iss.
Alcohol..... i.
Water..... 3 x.
M. Mix one part of this solution with four of hot water, and steep in it a compress folded eight or ten times, and then apply it to the scrotum, maintaining it in place with an India-rubber suspensory bandage.
—BROCQ.

Leucorrhœa.—

R Creolin..... gtt. xxx.
Ex. hydrastis..... fl. 3 iiss.
M. Sig. Two teaspoonfuls in a pint of warm water, to be used for one vaginal injection.
—*Journal de Médecine, Paris.*

Acne.—

R Camphoræ..... 0.30 gm.
Acidi salicylici..... 0.50 "
Sulphuris precipitatæ..... 10. "
Zinci oxid..... 2. "
Saponis..... 1. "
Ol. delphin..... 12. "
M. Make one application each night, wash the face in the morning with soap and warm water. The camphor in this mixture is for the purpose of masking the disagreeable odor of the oil.
—*Jour. de Méd. et de Chirurgie.*

Uræmic Convulsions.—1. Removal of ten or fifteen ounces of blood, to be repeated if necessary.

2. Inhalations of chloroform until the convulsions are controlled.

3. Administration by enema of a mixture of

R Musk..... gr. viiss.
Chloral hydrate..... gr. xlv.
Yolk of egg..... No. i.
Distilled water..... fl. 3 v.

4. Administration hourly of a tablespoonful of a mixture of

R Strontium bromide..... 3 i.
Syrup of orange-flower..... fl. 3 iss.
Distilled water..... fl. 3 iiij.

5. Restraint of thighs and legs wrapped in cotton. Absolute milk-diet.

Gout.—

R Magnesii sulph..... 3 ij.
Potass. bicarb..... gr. xv.
Tr. colchici sem..... ℥ x.
Infus. buchui..... fl. 3 i.

Ft. haustus. Sig. To be taken every four or six hours, followed by a large draught of water, not too cold.
—FOTHERGILL.

Neurasthenic Headache.—

R Ammonii carbonatis..... 3 iiij.
Tinct. moschi..... 3 vi.
Spts. lavandulæ..... 3 i.
Elix. ammonii valerianatis..... 3 viij.

M. Sig. Two teaspoonfuls at a dose in water.
—HAMILTON.

Acute Pneumonia.—Now what part does cold play in filling these indications? It cannot fill them all, but it covers those of greatest importance. First of all it reduces the pyrexia, strengthens the pulse, tones up the heart, diminishes the pain in the chest, alleviates difficulty of breathing, and gives greater general comfort to the patient. It is capable, however, of doing

a great deal more. In virtue of its power to stimulate nerve function and to contract small blood-vessels it promotes the pulmonary circulation, relieves stasis, hastens resolution, and disperses the products of exudation. Strychnine in large doses to sustain respiratory and cardiac innervation; concentrated food of the most nourishing character, like fresh beef-juice, milk, brandy, etc., to support the constitution; digitalis to maintain the heart; oxygen by inhalation to relieve the breathing; morphine to produce sleep; ice-cap to the head to diminish restlessness; and strapping of the chest in case of great pleuritic pain, are some of the agents which will fill most of the remaining indications.—MAYS.

Trachoma.—1. Trachoma is an infectious and contagious disease which predominates in uncivilized countries and tends to disappear with the progress of civilization and of hygiene. Hygiene and cleanliness are the best preservatives against trachoma. 2. Trachoma is not influenced by altitude; it may spread wherever the people are uncleanly and live in poverty, quite as easily at altitudes of from 1,000 to 5,000 metres as on plains. 3. All races are equally susceptible to the virus of trachoma. An immunity for certain races does not exist.—VAN MILLIGEN.

Bed-sores.—Bed-sores may be aborted if, as soon as the skin reddens, a solution of nitrate of silver of the strength of twenty grains to the ounce is applied with a brush to the part. This measure fails in paralytics.—HARE.

Balsams in Eye Disease.—Balsam Peru and tolu in the form of one to three per cent. ointment are useful in ciliary blepharitis, superficial keratitis, corneal opacities, phlyctenular keratoconjunctivitis, superficial corneal ulcerations, deep ulcers with iritis, hypopyon, and other affections. The remedies are well borne, have an antiphlogistic and antiseptic action, and they serve as excellent cicatrizants, especially for the cornea.—G. NORSA.

Asafetida is a direct sedative to the pregnant uterus and exercises no evil influence over the general system. It is of particular value when abortion is imminent, as it controls uterine irritability. On the other hand, it is of no use as a prophylactic agent in such cases and must not be relied upon when the abortion has proceeded so far as to require manual interference. In habitual constipation and in nervous conditions during pregnancy it is highly beneficial.—WARMAN.

Laryngismus Stridulus.—

R Potass. citrat..... 3 i.
Syr. ipecac..... fl. 3 ij.
Tr. opii deod..... gtt. xij.
Syr. simp..... fl. 3 ij.
Aque..... fl. 3 iss.

M. Sig. Teaspoonful every two hours for a child of two years.

—MEIGS AND PEPPER.

Locomotor Ataxia.—

R Argent. nitrat..... gr. x.
Confect. rosæ..... 3 i.

M. et ft. pil. No. xl. Sig. One or two pills three times a day. Cease giving after a few weeks, to prevent argyria.

—DA COSTA.

Cardiac Affections.—The following are common in girls about the age of puberty: 1. Nervous palpitation and paroxysmal tachycardia in otherwise healthy individuals appearing premenstrually and lasting a short time after the flow. 2. Heart troubles which in chlorotic girls are occasioned by the phenomena of puberty. 3. Heart hypertrophy, developing slowly until puberty, then accelerating, because of disturbances of circulation, unhygienic clothing, or extraordinarily rapid growth of the individual.—KISCH.

Typhoid Fever.—1. Chlorine can be safely administered until complete disinfection of the alimentary canal is obtained. 2. Under its use the tongue becomes cleaner, the appetite and digestion improve, fever declines, and the stools lose their offensive odor. 3. The general strength, the intellectual processes, and nervous conditions improve. 4. The disease is shortened in duration, and usually proceeds to rapid and complete recovery.—WILCOX.

Angina Pectoris.—During the paroxysm nitro-glycerin, nitrite of amyl, chloroform, and morphine. During the interval most careful and abstemious diet, especially toward evening. Vascular stimulants in combination with cardiac tonics, especially arsenic. Exercise is to be avoided, and undertaken only when duly prepared for by the ingestion of some vascular stimulant.—BALFOUR.

Milk Filtered through Cotton.—Dr. Seibert, of New York, has made a number of experiments with milk filtered through cotton. He finds that while the greater part of the germs are eliminated no cream is lost. Plain milk showed from thirty-eight hundred to two hundred thousand germs, while the same milk filtered showed about one-fourth that number. If this is true, filtration is about as good as sterilization and has an advantage in that sterilized milk is not so good a food as plain milk.—*Canadian Practitioner*.

The Treatment of Diphtheria with Antitoxin.—Dr. Eulenburg reported at a meeting of the Berlin Society for Internal Medicine that of 10,240 cases of diphtheria 5,790 were treated with antitoxin with a mortality of 9½ per cent.; the remaining 4,450 were treated without antitoxin with a mortality of 14.7 per cent.—*Medical News*.

Common Salt for Ringworm.—Dr. F. J. Reilly concluded from the fact that children suffering from tinea tonsurans soon improve if sent to the seaside, that common salt would be good in the treatment of ringworm. He accordingly treated three successive cases in this way with remarkable success; a cure being effected in less than four weeks. A strong solution of sodium chloride was applied for five successive nights, washing it off in the morning with boric acid.—*British Medical Journal*.

Irrigation of the Peritoneal Cavity.—Dr. John T. Pitkin, of Buffalo, N. Y., thinks that whenever the general peritoneal sac becomes the receptacle of a purulent discharge from an hepatic abscess, from a suppurative mesenteric gland, from a pyosalpinx not radically removed, from a pyothorax via the diaphragm, and from suppurative peritonitis local or diffuse, the umbilical fenestra should be opened and a soft-rubber drainage tube inserted. This should be followed by repeated irrigation *ad lib.* with warm, sterilized, normal saline and antiseptic solution.

Fibroid Tumor of the Uterus.—Dr. W. Easterly Ashton finds that for the pains vaginal injections of hot water twice a day, followed by the introduction of cotton-wool tampons saturated in a ten-per-cent. solution of ichthyol in glycerin, are useful. The tampons are inserted two or three times a week and removed on the following morning. He also gives tincture of cannabis indica along with the bromide of sodium.

Hay Fever.—Dr. W. F. Strangways advances a new theory to explain hay fever (*Physician and Surgeon*, January, 1896). The author denies the commonly accepted theory that hay fever is due to the irritation caused by the impact of pollen in the nares of a neurotic person with some peculiar pathological condition of the upper air passages. His objections

to this theory are that the pollens that cause hay fever are very light and are never found in comparatively large quantities. The irritation caused by them cannot be so great as that caused by dust, yet hay-fever patients may be unaffected by even large quantities of dust. Blakely says that the largest number of pollen grains deposited in one day on a contrivance which he devised for the purpose was eight hundred and eighty. From this we calculate that scarcely one thousand grains of pollen enter the nares in a day, which would be but one grain for every twenty-five inspirations. If there were one hundred times as many they would not cause sufficient irritation to excite a coryza. Again, if the cause is a mechanical irritation it is hard to explain why one person is affected by rose pollen and not by rag weed and *vice versa*. Then, too, when hay fever attacks a man he ceases to breathe through the nares on account of the partial or complete stenosis, consequently the pollen is not drawn into the nose; yet the hay fever continues.

The new theory advanced by Dr. Strangways claims that hay fever is caused by a toxin generated from pollen by a fermentative process in an alkaline solution. It is possible that this toxin may be generated from other substances than pollen. Pollen may simply supply the microbe that generates the toxin from substances belonging to the nares of hay-fever subjects, and it is possible that other substances than pollen may convey such a microbe into the nares. This toxin produces a vasomotor paresis with paroxysms of sneezing. Some pathological lesions of the nose may predispose to hay fever by causing altered secretions suitable for the fermentative process and by causing a sluggish circulation and thus lessening the normal inhibitory powers. It seems possible that in pollen there are certain protoplasmic elements which in warm alkaline solutions change into the toxin causing hay fever.

Eggs.—A mustard plaster made with the white of an egg will not leave a blister.

A raw egg taken immediately will carry down a fish bone that cannot be gotten up from the throat.

The white skin that lines the shell of an egg is a useful application for a boil.

White of egg beaten with loaf sugar and lemon relieves hoarseness—a teaspoonful taken once every hour.

An egg added to the morning cup of coffee makes a good tonic.

A raw egg with the yolk unbroken taken in a glass of wine is beneficial for convalescents.

Theory to Account for Melæna.—Loranchet attributes melæna to the gradual chilling of the surface of the body after birth. The cold acts as a general debilitant and depressant of the nervous system; general circulation is disturbed; peripheral circulation is slowed; the vasomotor system is unbalanced. The change from the splanchnic cycle of the foetus to the cardio-pulmonary cycle of the new-born infant is interfered with, and in the struggle of the reflexes there is a reversion to the splanchnic cycle with passive congestion of the gastro-intestinal mucous membrane, which gives rise to the hemorrhage.—*Gazette Heb. de Méd. et de Chir.*, 1895.

Corneal Ulceration.—In cases of corneal ulceration occurring in the course of keratitis, ophthalmia neonatorum, or gonorrheal ophthalmia take care in separating the eyelids to press upon the edge of the brow and not upon the eyeball, as pressure on the eyeball may cause perforation of the cornea, extrusion of the lens, and sometimes loss of a considerable quantity of vitreous humor.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

OBSCURER RENAL PAIN—DEMONSTRATION OF THE NEW PHOTOGRAPHY AT THE MEDICAL SOCIETY—PROTECTION OF THE PROFESSION—THE DEFENCE UNION AND THE B. M. A.—CURIOUS EDITORIAL RECONTANTATION—PAVY VERSUS PATON—DISCIPLINE—DISCUSSION ON PARASITES OF MALARIA (CONTINUED).

LONDON, February 28, 1896.

AT the Medical Society meeting on Monday Mr. H. Fenwick read a paper on the aid afforded by the painful manifestations in determining the position of stone in the kidney. He said that when located in the pelvis there are frequent attacks of colic with radiation of the pain accompanied by irritability of the bladder, but when the stone is embedded in the cortex these symptoms are oftener absent. Again, with a stone in the pelvis of the kidney the patient can lie on the opposite side, but when it is situated in the pyramids he can sleep only on that side. Furthermore pelvic stones usually cause pus in the urine within a year or so, but embedded stones may be present twenty or more years without doing so.

A paper by Dr. Rolfe followed, in which renal pain was considered from a medical in contradistinction to the surgical point of view. He separated cases in which the pain is due to reflex nervous influence from aching kidney. The reflex cases are met with in valvular disease of the heart, especially when the aortic valve is involved; also in aneurisms, both thoracic and still more frequently abdominal.

Aching kidney he considered to be usually due to floating kidney, or tight lacing, or excess of some constituent of the urine, especially of acidity.

But the *piece de résistance* at this meeting was a demonstration of the new photography by Mr. Sidney Rowland. He began with the electric spark and showed that it was affected by diminution of the pressure of the air through which it is passed, and that when exhaustion is, as far as practicable, complete the character of the discharge is altogether altered. The utilization of discharges *in vacuo* was then enlarged upon. Crookes' tubes were shown and various experiments performed. That mechanical energy may be obtained from the cathode rays was shown by the revolution of a mica vane, and this accords with Prof. J. J. Thompson's theory that the impact of these rays on the glass is the point of evolution of "X" rays.

The Tesla method was considered the best at our disposal if only the tubes can be made to bear the strain. At present only a few have been equal to it. The probable applications to practice were considered by Mr. Rowland, who announced that by a new plan of preparing sensitive plates he had succeeded in obtaining a picture of the skeleton of a hand in only twenty seconds.

The protection of the character and interests of practitioners concerns the public as well as the profession. It is not likely, however, to be attained to any reasonable extent except by union among ourselves. The necessity of such union has been shown by the ruin which has too often overtaken individuals. The Medical Defence Union has made itself felt and the annual report for the past year shows that its work has been most valuable. In several cases it was no sooner known that the union undertook the case than redress followed. The report touches on the subject of amalgamation, on which I have previously written, and it is pleasant to learn that there is "every possibility"—I wish it were probability—of this end being accom-

plished. It is absurd to waste strength in two organizations, and unless the amalgamation is speedily effected the members of the "London and Counties" would do well to transfer their support to the union. Similar action might be taken by those who have supported small local societies, which cannot expect to obtain the power and influence of a central society with large funds. In this connection a somewhat unexpected development has taken place. For a long time certain members have urged that the work of defence ought to be taken up by the British Medical Association. The notion has been met by an obstinate *non possumus*, fortified by counsels' opinions as well as by an exhibition of pretended horror at the fear of confounding the association with a trades union. The *Medical Journal* has, of course, held this policy of the leaders and repeated every argument in its favor.

Now, however, the editor announces his conversion which, however, he does not admit to be a sudden change. He declares he has held for years the opinion that the association should undertake the work of protection and defence of its members, and he now declares that all the legal impediments hitherto insisted on can be easily overcome. He is careful, however, to signify that this recantation is purely personal and only his editorial confession. So, whether it will carry conviction to the rulers or is only a straw thrown up to show which way the wind blows, remains to be seen. This somewhat curious incident reminds me that when the editor was appointed, in the course of a discussion of his merits at a club where we met, it was most forcibly laid down by one of the ruling spirits and assented to by others that they were taking a man with no opinions of his own and who would always advocate theirs. I smiled then and have often laughed since at the recollection, which appears with renewed distinctness at this fresh development. We had a pleasant enough meeting in that club. Alas, that the intervening years have carried more than one of those present over to the majority.

If the British Medical Association should take up defence heartily, its great pecuniary resources would be of enormous advantage, but if it is not done *con amore* no good need be anticipated. There is something in a remark made at the meeting of the Defence Association, that their officers were experienced in the matter. But perhaps these could be retained in the event of amalgamation. It seems, too, that about a third of the members of the Defence Union do not belong to the association, and some members of the latter might oppose the project. In any event a year or more will elapse before the association can be at work and in the mean time the union is doing good work. Let it then persevere and decline to amalgamate until certain that it would be wise to do so.

A pretty critical duel is going on about the glyco-genic function of the liver. You know that Dr. Pavy has always repudiated C. Bernard's views and his recent book on the carbohydrates has brought out a sturdy opponent in Dr. Noel Paton. There have been some smart personal hits and each denies the other's facts. Dr. Paton writes in the *Edinburgh Journal* and Dr. Pavy in a London publication, which is rather awkward for some who do not see both regularly.

The Medical Council has elicited that most of the corporations possess disciplinary powers which might well be exercised over their licentiatees, etc. The powers differ much in the various bodies, but most of them have hitherto been left in abeyance. We shall see what we shall see.

The adjourned discussion on the "Parasite of Malaria" was opened by Dr. George Thin at the ordinary meeting of the Royal Medical and Chirurgical Society with an account of the appearances found in the

tissues of a fatal case of pernicious malaria at Sierra Leone, illustrated by an interesting series of microscopic preparations. The temperature was 100° F. when the patient was first seen; during the night it rose to 106.2° F. On the second day it was 98.4° F. On the third day it rose to 106° F., and was brought down by treatment to 102.4° F. He died on the morning of the fourth day. The cerebral functions were disturbed when the patient was first seen and he soon became comatose. Surgeon-Captain Duggan sent Dr. Thin portions of the tissues. Brain: The vessels of the pia mater were congested, with some colloid-looking plugs penetrating the surface of the brain, apparently in the tracks of the vessels. The substance of the brain itself seemed to be little changed, but the blood-vessels contained many parasites of malaria. The large vessels contained very few and many none at all, but the small vessels contained many parasites and many capillaries were filled with them. The parasites were in the red corpuscles and were found in all stages of development. The most numerous forms were those which were in a very early stage, appearing a little more than a stained point in the centre of the red corpuscles. Others were of an intermediate size, occupying an appreciable extent of the corpuscle. Others, much fewer in number, had a comparatively large mass of central pigment and almost entirely filled the red corpuscles. The tissues not being in a perfect state of preservation, the finer structure of the spores of the mature parasite could not be observed. Spores in various stages, from the smallest forms to those of central pigment, could in some instances be found in the same vessel. Some of the endothelial cells of the vessels contained pigment. Spleen: All the sections examined contained many white corpuscles laden with pigment. These pigment-bearing cells were most numerous in the spleen pulp. Many of the very large white corpuscles which contained considerable blocks of pigment were evidently undergoing degeneration, their nuclei being scarcely susceptible of staining. A few of the white corpuscles contained, in addition to small pigment spheres, red blood corpuscles with parasites in their interior. The small lymphoid cells of the spleen did not contain pigment and very little of it was observed in the Malpighian corpuscles. The red blood corpuscles in the spleen contained very few parasites. Several were observed after a long examination. They were in an early stage. Large white corpuscles containing pigment were observed in the veins. Bone marrow: In a few sections of bone marrow examined some white corpuscles containing pigment were observed, but they were few in number compared with those in the spleen. No parasites were observed in the bone marrow. The marrow was from a rib. Liver: Parasites were not observed in the liver so far as the examination had gone, but it presented much pigment. The pigment was contained in large white corpuscles in the interlobular network. In some parts the liver cells contained pigment. Apart from the deposit of pigment the liver seemed normal. Kidney: All the structures of the kidney in the parts examined were normal except the convoluted tubes. In these tubes the epithelium was swollen and granular; some cells were broken down and in many of those which were still entire the nucleus refused to stain. These were in marked contrast to the straight tubes, which were quite normal. The glomeruli presented nothing abnormal. A few cells containing pigment were observed in them. There were no evidences of an interstitial congestion, the morbid appearances being limited to those of an acute catarrh of the convoluted tubes. No parasites were found in the tubes, and extremely few were observed in the red corpuscles in the vessels. The appearances suggested that the toxic products of the parasites, while being eliminated by

the kidney, had exercised a destructive effect on the epithelium of the convoluted tubes. All these appearances were similar to those described by Marchiafava and his pupils in the pernicious fever of southern Italy.

Dr. John Anderson referred to a very valuable paper in the Johns Hopkins Hospital Reports for last year, in which were recognized the usual types of malarial fever associated with three forms of parasites by Dr. Thayer and Dr. Hewetson, who do not altogether agree with Dr. Thin. It should be remembered that some sudden seizures might really be due to heat apoplexy, in which the hypodermic administration of quinine had often proved useful. The length of time during which the fever might remain latent varied in an extraordinary degree. In one case the malaria occurred nineteen years after the exposure to a last attack. In a case under his own observation an officer resided at Peshawur for five years and had no fever there, but after his return to England he suffered from ague resembling the ague of the Peshawur valley. He quoted an instance in which in a battery of horse artillery every man was attacked. A patient who left China twenty-three years ago and had not resided in a malarial country since, still suffered from malaria occasionally. Another patient suffered from brow ague, and yet it was forty years since he left a malarial country; this brow ague yielded to the free use of quinine. As to the method of propagation—whether by air, water, or mosquitoes—it was stated that when soil had been turned people had been attacked who lived in houses in a line with wind blowing from the soil. There were several cases to support the water-borne theory. There was certainly less disease at Peshawur since better water had been introduced. Water served as a vehicle not only when drunk, but in the form of inspired watery vapor. He thought that a point against the mosquito theory was this, that as a rule the recent arrivals in India suffered from mosquito bites, while those who had been there a little time appeared to suffer most from malaria. Cases of malaria with cholera features were sometimes difficult to discriminate; the malaria had a much less mortality than cholera; the disease was not epidemic and it was cured by quinine. In central India in three years six cases of severe sudden intestinal hemorrhage occurred; two of them died, but no intestinal ulceration was found. As a prophylactic he recommended a small dose of quinine daily. The hydrochlorate of quinine was the most suitable preparation, and if administered subcutaneously with antiseptic precautions gave rise to nothing but slight local pain. He had found iodine and arsenic valuable.

Dr. Manson, who showed microscopical specimens to illustrate his views, thought that the forms which had been described were not natural but factitious, and due to the rupture of the blood corpuscles and the escape of the parasite. Sometimes a parasite escaped voluntarily as a vital fact, and then gave birth to flagella; sometimes double infection of a corpuscle happened and conjugation of the parasites took place. He did not think that the mosquito acted as the intermediary host, for these parasites passed from one definite host to another. The flagellate bodies appeared in the blood only when the latter had escaped from the vessels; they were the homologues of spores and they swam about free from the parasite. The function of these bodies lay outside the human organization, and they were brought from outside by something that preyed upon the blood, and most likely the mosquito was the agent required for giving the parasite the opportunity for continuing its life history outside the body. In the mosquito the crescent bodies developed flagella, and these broke free and swam about in the blood in the mosquito's stomach. The parasite

of the pigeon was specifically different from that found in the human body. He could not entertain the idea that the flagellar movements were "death agonies," for the movements were most lifelike. He knew from personal observation that mosquitoes did bite birds, and canary fanciers in India were in the habit of protecting their charges at night with a mosquito curtain. In favor of the water-borne theory was the fact that the natives would point to certain wells as sources of malaria. He believed that the malaria parasite died in a very short time, for epidemics soon ceased. He concluded by deprecating the study of these organisms from the bacteriological standpoint. They were protozoa, and it was not necessary to study the stained parasite when the living animal could be obtained to look at.

Professor Cayley (Netley), who remarked that he had come to hear something more of the relation which a special form of parasite bore to a particular variety of malarial fever, but had heard very little that was certain on that point, believed that all the varieties were but modifications of the same parasite; similarly, all the forms of malarial fever were merely modifications of one type—modifications by climate, by temperature, by the quantity of the parasite introduced, by its virulence, and by the power of resistance of the individual. One particular form of microbe was invariably found, the amoeba; two or three in a field might assume the rosette form and sporulate, and thus give rise to another generation of microbes. The differences of shape he believed to be accidental; the sporule might gradually become pigmented, and the pigment be aggregated or scattered. Most of the flagella appeared to be found when the fever had taken on a chronic form. He believed quinine should be given in the sweating stage and repeated in the next few hours; this prevented recurrence. It never would prevent an attack if given before it. As to its use as a prophylactic, he believed in a five or ten grain dose every morning, and the late Surgeon-Major Parke found it simply invaluable when so used in Africa.

Brigade-Surgeon Lieutenant-Colonel Temple Wright, who served in Indian regiments composed of different classes of natives, could say that malarial fever was the chief cause of invalidism and that most of the soldiers admitted to hospital had large spleens. He believed that exposure had a good deal to do with the exciting cause of malaria. In treatment he believed that antiscorbutic measures were useful when combined with quinine.

Dr. Galloway thought that the study of the protozoa was still in its infancy and that we had only histological examinations on which to rely; therefore he deprecated dogmatic statements with reference to the stages of these organisms, especially when such statements referred to negative results. The experience gained in the study of coccidium oviforme should not be lost upon investigators. He had convinced himself that flagellar movement was a vital and not a degenerative process.

Brigade-Surgeon Scriven said that the chief difficulty in India was to decide whether the fever was typhoid or malarious, and perhaps the parasite would help to decide this point. He quoted a remarkable effect of change of air. A patient living in a malarious district and contracting malaria might move to another more malarious district and yet get rid of his malaria. This seemed to point to a parasite of a different kind. He thought there was evidence that the parasite might be contracted through water.

Fissure in Ano.—The more I treat fissure the more I am satisfied it can be cured by slight dilatation, often by means of a small speculum, dilating until slight pain is evinced, and in the majority of instances the fissure disappears.—MATTHEWS.

OUR PARIS LETTER.

(From our Special Correspondent.)

TYPHOID FEVER SUCCESSFULLY TREATED BY SEROPATHIE — DESQUAMATION — SEINE WATER OFTENEST THE CAUSE—EARLY DIAGNOSIS BY MEANS OF BACTERIOLOGICAL EXAMINATION OF DEJECTA, ETC.

PARIS, March 1, 1896.

THERE is perhaps no disease that interests and threatens the public health more directly and as constantly as typhoid fever, whether in epidemic, endemic, or sporadic form. Owing to the efforts of the municipal government to supply the city of Paris with pure, uncontaminated drinking-water, the danger has been partially averted, as the continued low death rate from typhoid fever has shown during the last few years as compared with that of preceding years. Nevertheless, every summer the water of the river Seine is turned into the pipes to be used as drinking-water, and although the inhabitants are duly warned beforehand and cautioned to boil their water before drinking, thousands neglect this precaution and we therefore see a recrudescence of the disease shortly after. Filtering alone is of very little use, for, as is well known, the bacillus of Eberth passes uninjured through the best-made filters. Boiling is sufficient, but boiling first and filtering afterward is best, as boiling alone destroys the microbes but leaves their cadavers in the water. If this then be filtered it becomes absolutely pure and innocuous. It should not be forgotten, either, that milk is often the vehicle of typhoid fever, not so much because the milk itself contains the bacillus when taken from the cow, which is sometimes the case, but because it is before selling diluted with typhoid water. We consider the bacillus of Eberth the pathognomonic characteristic of typhoid fever, because it is always to be found in the dejections of typhoid patients if properly sought for. This has been demonstrated effectively by Professor Chantemesse, of the Faculty of Medicine of Paris, in a paper read at the last meeting of the Biological Society. And who is better qualified to speak on a matter of such great hygienic importance than he who is the *chef de service* at the Institute Pasteur (*médecin des hôpitaux*), and who edits the chapters on typhoid fever that appear in almost all our contemporary works on the practice of medicine. He now proposes to generalize his method of early diagnosis of typhoid fever by the bacteriological examination of the dejections and to treat the disease itself *ab initio* by the famous seropathie. What results he has already attained we shall presently see. Professor Elsner has recently discovered a new procedure for the culture of the typhoid bacillus. The antiseptic that permitted him to cultivate the bacillus of Eberth, while preventing the development of other microbes, is the iodide of potassium. Professor Chantemesse utilized Professor Elsner's method to look systematically for the bacillus of Eberth in the dejections of persons in good health, of persons affected by different maladies, and of patients with typhoid fever. He examined the dejections of two persons in good health, of one patient with erysipelas, of two with grippe, of one other with pleuritis, and none of these examinations ever showed the presence of typhoid bacilli. He then submitted to the same analysis the dejections of sixteen patients who had had or who actually had typhoid fever; in thirteen cases the results of the analysis were positive; in three cases only were they negative. But as to those three cases Professor Chantemesse hastens to add that the absence of the bacillus of Eberth can be explained by an error of technique. It will be seen then what great service this method will render in making an early diagnosis of typhoid fever. Moreover, we shall be

able to employ at once a specific treatment that has been wanting up to the present time; we refer to the seropathie of typhoid fever.

Let us hear a moment Professor Chantemesse: "I must say in this connection that since the month of June, last year, I have immunized several horses against the typhoid virus. The serum that I obtained possesses a preventive power so great that one-fifth of a drop with which a guinea-pig was inoculated twenty-four hours beforehand protected it efficaciously against the dose of typhoid virus which was mortal for the other animals" (non-inoculated and serving as witnesses). Now for the application to man: "After having assured myself that this serum was preventive and curative for animals and that it had no bad effects whatever, either on them or on man in good health, I utilized it in treating three typhoid patients having the bacillus of Eberth in their dejections. Seven days after the beginning of the injections these three patients were restored to health."

It would indeed seem that we are really touching with our hands the realization of a rational treatment of this terrible disease, a treatment at once easy to manipulate, efficacious, and specific.

The days of heroic drugging in typhoid fever have long since been numbered, and experience has shown how much more is to be gained by relying upon rest, wines, milk, brandy, at times; at others, quinine and disinfection of the intestinal tract by means of salol. Seropathie will relegate to disuse the much-vaunted cold baths, which are a real torture for most patients but to which they have been obliged to resign themselves, as it was the best treatment hitherto known. While upon this subject it is worthy of note that at the Hospital Trousseau last year in thirty-one cases of typhoid fever desquamation was observed when looked for carefully in all except two mortal cases and occurred at the defervescing period. This desquamation is, however, not confined to typhoid fever alone, but may also be observed in other acute diseases in which we would not expect to find it, such as pneumonia, pleuritis, rheumatism, etc., being due to sudor sudaminis and having no wider semeiological importance.

It is to be hoped that we shall soon have fuller data regarding the number of injections used in each individual case, exact quantity of the serum employed, and its strength. When the ordinary duration of typhoid fever is reduced from twenty-one, twenty-eight, thirty, or even forty days to seven, we may truly say that medicine is approaching magic.

INJECTIONS INTO THE TESTICLE FOR THE CURE OF PROSTATIC HYPERTROPHY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A few weeks ago there appeared in the MEDICAL RECORD an article recommending as a measure of relief for the cystic troubles resulting from enlarged prostate the injection of cocaine into the body of the testicle. It was claimed for this treatment that "it is not severe and is effective"; further, "that the secretion of spermatozoa is arrested," etc. I have not demonstrated by trial the fallacy of such treatment nor do I care to do so. There can scarcely be a doubt that malignant disease and inflammatory troubles may in rare instances follow.

It would seem clear to most minds that unless orchitis ensues the testicle will continue its function as soon as the effect of the cocaine disappears. A suppository in the rectum would do as well. Orchitis when severe enough will arrest the sperm. But what of that? Who would care to risk it in a feeble old man?

Besides, where would be the gain, since the testicular fluid would be produced and fill up the vesiculæ as before? Castration most probably has its *rationale* in the atrophy and disappearance of the vesiculæ seminales and not in any change in the prostate. These vesicles extend at right angles to the prostate antero-posteriorly across the bladder. When full of semen, as they are in old men most of the time, they act as a stay against the contraction of the base of the bladder and thus prevent the complete emptying of the viscus.

No opportunity has occurred to me to verify the above suggestion. It may readily be done upon the cadaver by injecting the vesiculæ to the point of distention and ligating the exit. If the suggestion proves this to be a fact, castration may be relieved of its opprobrium and further trial continue to prove its value.

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WHAT IS AMATEUR SURGERY?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your correspondent in last week's issue takes exception to my use of the words "amateur surgery" as applied in discussing Dr. Delavan's paper on cancer of the larynx.

He complains that my expression was "meant to be severely condemnatory" and asks "is there really such a bastard entity as a professional amateur?"

My own words as reported were as follows: "It is easy to remove a cancer of the tongue; it is almost impossible to prevent its recurrence. The study of the lymph channels and removal of all infected glands in a case of this character has given the subject a new impetus, and, while it places a cure within the range of possibility, it at the same time removes the operation from the field of amateur surgery. The same remarks apply to cancer of the larynx."

After the meeting I was thanked by several members for having taken the stand against men of no special surgical training attempting to do operations of gravity, and was told there were some men present "squirming in their seats at the recollection of a fatal case recently bungled over by them which they ought never to have dared to touch."

Contrary to your correspondent's views I believe there is a considerable amount of grave surgery done to-day by practitioners whose temerity is stimulated by inflated statistics of small mortality under modern surgical practice, and whose feeling that they would like to do serious surgery is entirely unjustified by their training. Such novices in the larger field of work are rightly called amateurs. They may be professional men but they are amateur surgeons.

Your correspondent is apparently unaware of the fact that there is more than one legitimate use of the word amateur. The usual acceptance, which he understands, means simply the opposite of professional, or one who does not win money by work.

There is, however, another that is mentioned by Littré, the greatest authority on the French language, and described as follows: "Derogatively, 'he is an amateur,' that is to say, he is a man of mediocre talent."

That is precisely what I wished to convey in speaking as I did. No man of mediocre talent or training should attempt operations involving grave risk to human life and obviously beyond his depth. He should confine himself within minor surgical limits.

I think your correspondent will agree with me that such men exist, and if he does, that there should be a word said to cut short that sort of work.

ROBERT ABBE, M.D.

NEW YORK, March 12, 1896.

TYPHOID FEVER IN INFANTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial in the issue of February 29th prompts me to report an experience of two cases of typhoid fever in infants of fifteen and eighteen months of age. The former case was observed in November and December last, and presented the following well-marked signs of the disease: Continued fever with morning remissions, nose bleed during the first week on two occasions, abdominal distention, moderate diarrhoea with characteristic stools, rose-colored spots upon the abdomen and chest after the seventh day, palpable spleen. The urine on the application of Ehrlich's test at two different examinations showed distinctly the diazo reaction, which disappeared after the cessation of fever. The highest temperature recorded was $104\frac{3}{4}^{\circ}$ F. in the axilla on the twelfth day. The entire duration of fever was about twenty days. In the management of the fever I was agreeably impressed with the effect of the cold-water coil applied to the abdomen, which was placed when the thermometer was found above 102° F. For instance, the chart one day showed a temperature at ten o'clock of $102\frac{3}{4}^{\circ}$; the coil was placed and the temperature at 11:30 was $101\frac{3}{4}^{\circ}$ F.; the coil was then removed. At 1:30 the temperature was $104\frac{3}{4}^{\circ}$ F.; the coil was placed, with iced water running; at 2:30 the temperature was $100\frac{1}{4}^{\circ}$ F. and the coil was removed. At 5:30 the temperature was $103\frac{1}{4}^{\circ}$ F.; the coil was placed; at 6:30 the temperature was 100° F., when the coil was removed. At 8 the temperature was $103\frac{3}{4}^{\circ}$ F.; the coil was placed; at 9 the temperature was $99\frac{1}{4}^{\circ}$ F.

There was much emaciation and some bronchial catarrh. On inquiry it was ascertained that there had recently been a case of typhoid fever in the family of the milkman who supplied a part of the neighborhood in which my case occurred, but no others were traced.

The other case, a child eighteen months old, I have not the notes of, but the symptoms were sufficiently distinctive to warrant the diagnosis. It occurred several years ago, the child having been at a summer hotel in the country for a few weeks and brought home with a fever. This ran for about three weeks and was followed by a mitral regurgitation, which was still present four years later.

The query occurs: If it is shown, as seems to me it has been conclusively, that children under three years are not immune to typhoid fever, can it not be that the disease is more common than is supposed and is frequently overlooked? The common occurrence of continued fever with intestinal and bronchial catarrhs in infants, and the general teaching that typhoid fever is not found in these subjects, are apt to militate against a closer examination which might reveal typhoid fever more commonly. It seems to me that well-conducted foundling asylums would hardly be the place to look for the disease.

On looking up the literature at my command I find the following: Ashby and Wright, second edition by Northrup, page 278: "It is not common in children under three years of age, though it undoubtedly does occur even in infants, and may be fatal." Pepper's "American Text-Book of Theory and Practice," vol. i., page 54, by Pepper: "It is far more general in early life than is usually recognized. Murchison reports its occurrence in an infant six months old, and Chancellay reports two cases in infants but a few days old, while several observers have discovered evidences of the disease in the fœtus. I have observed several cases during the first year of life."

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Surgical Suggestions.

Gastro-enterostomy.—1. Gastro-enterostomy should never be performed in extremely cachectic patients. There is nothing to gain and much to lose. 2. The posterior wall of the stomach is the preferable locality for the approximation. 3. Supporting sutures, outside of the button, are not necessary, except for the relief of tension. 4. The peritoneum of the stomach should be scarified at the point of approximation, as union is thus hastened.—MURPHY.

Cholecystoduodenostomy.—The indications for this operation are (1) permanent obstruction of the cystic duct, (2) obstruction of the common duct, (3) cases of septic cholecystitis when a long period of continuous drainage is desirable, (4) cases of fistula of the gall-bladder when the patient is becoming emaciated from loss of bile.—MURPHY.

Umbilical Hernia.—The following cases should be subjected to operation: 1. Umbilical hernias of the new-born if strangulation occurs, or if persistent gastro-intestinal troubles are induced which seem to be dependent upon the hernia. 2. The hernias in children of from two to seven years present analogous indications. 3. Children of this age, belonging to poor families, who do not receive proper attention if at the end of a year or eighteen months the hernia is still of the same size. 4. Hernias that persist after the seventh year, that are rebellious to treatment and tend to increase in size. 5. If the skin covering the hernia is inflamed or ulcerated. 6. If the hernia interferes with the occupation that the person has selected. 7. Umbilical hernias with a large ring. 8. Those that are subject to strangulation or inflammatory accidents. 9. Those that cause pain and gastro-intestinal disorders, and consequently interfere with the development of the child.—CAHIER, *Revue de Chirurgie*.

Head Injuries.—The great bulk of the hemorrhage comes from the vessels of the arachno-pial membrane and of the temporo-sphenoidal lobe of the brain and not from the fractured bone. The path of the discharges is along the sheath of the auditory nerve through the lamina cribrosa to the vestibule, thence through the middle ear and the ruptured membrane to the external meatus. Excluding the extra risk of sepsis, the prognosis is on the whole better when these signs exist than when they do not.—MILES.

Epididymitis.—

R Sodii bromidi,
Acidi borici.....ss ʒ viij.
Tr. aconiti..... gtt. viij.
Tr. belladonnæ..... fl. ʒ i.
Liq. potassii citi..... q. s. ad fl. ʒ viij.
M. Sig. Tablespoonful three times a day.

—WHITE.

Appendicitis.—I am not always in a great hurry to operate, but I am inclined to wait for the more acute symptoms to wear off, and operate, if at all, after suppuration has taken place, or during the quiescent stage, between the attacks. I wish my voice was strong enough, just here, to call a halt to the men who say: "Operate at once—not this afternoon or to-morrow, but now," in all cases when the disease is recognized.—MCGUIRE.

Incisions of Face.—Incisions made in the skin of the face should be placed where there is a shadow, or in the bottom of the furrows produced by the habitual expression of the patient. When this cannot be done, the incision should be parallel to the facial line rather than across it. A slightly curved incision makes a less conspicuous scar than a straight or abruptly curved one.—ROBERTS.

Stages of Ether Anæsthesia.—When produced by inhalation there are four stages of anæsthesia. (1) The stage of stimulation, characterized by excitement and a pleasing intoxication. (2) The anodyne stage, characterized by impaired sensation, retained reflexes, delirium, which is most marked in robust individuals, tetanic contraction of the muscles, turgescence of the face, etc. (3) The anæsthetic stage, characterized by the abolition of the ordinary reflexes and of all conscious excito-motor sensibility. (4) The paralytic stage, characterized by diminution of unconscious excito-motor sensibilities, and, finally, by death from paralysis of the respiratory centre.—JOHN CHALMERS DA COSTA.

Intestinal Obstruction.—Obstruction of the small gut gives rise to dysuria and there is usually an increased amount of indican in the urine, due to decomposition of albuminous matter, forming indol; while if the obstruction be in the large intestine, indican is not increased, as the albuminous substances are not present there in such quantity.—WILLIAMS.

Mucous Polypus.—Long-standing chronic catarrh of the hypertrophic variety causes the middle turbinate to return to its embryonic condition, that is, it becomes cleft in two portions running antero-posteriorly. Between this cleft, the blood supply not being sufficient, true mucous membrane is not formed, but in its stead a myxomatous structure accumulates, which by gradual enlargement increases the space thus formed and which in its final development is a true mucous polypus.—WOAKES.

Recurring Epistaxis.—Among the general causes of recurring epistaxis are: 1. Diseases affecting the blood-vessels or associated with alteration of the constituent parts of the blood, as in scorbutus, purpura hæmorrhagica, simple and pernicious anæmia, plethora, hæmophilia, malaria, and exceptionally in septic diseases such as pyæmia, septicæmia, etc. 2. Certain acute diseases, such as typhoid and relapsing fever, and occasionally in pneumonia, diphtheria, etc. 3. Diseases producing local or general vascular congestion, such as valvular disease of the heart, pulmonary affection, cirrhosis of the liver, chronic nephritis, amyloid degeneration, and mediastinal tumors. 4. It may be the expression of a vicarious menstruation, or, 5. May accompany the course of a pregnancy. Among the local causes may be assigned: 1. Tumors such as fibroma, carcinoma, and sarcoma, particularly angiosarcoma, fibro- and myxosarcoma. 2. Varicose enlargement of the veins, particularly on the anterior portion of the septum. 3. Perforating ulcer of the septum. 4. Trauma. 5. Local ulcerations caused by syphilis, tuberculosis, and lupus, and, finally, 6. Deformity of the septum, associated with erosion or ulceration of the mucous membrane of the septum.—VAN SANT.

Laryngeal Phthisis.—Surgical treatment is followed by relief of pain; there is ease of swallowing food, improvement of voice, cough, and respiration. The indications for curettage are: 1. In case of primary tuberculous affections without pulmonary complications. 2. In cases of concomitant lung disease, which is either in the incipient stage or has at least not progressed to softening and hectic conditions. 3. It is best adapted for circumscribed ulcerations and infiltrations of the larynx especially. 4. For the dense, hard swelling of the arytenoid region, the ventricular band, the posterior wall, for tuberculous tumors, and for the affections of the epiglottis. 5. In advanced lung disease with distressing dysphagia resulting from infiltration of the arytenoids, curettage is justifiable as the quickest means to give relief. Contraindications are:

1. Advanced pulmonary disease and hectic. 2. Disseminated tuberculous disease of the larynx, leaving little or no area of healthy tissue. 3. Extensive infiltration producing severe stenosis, when tracheotomy is indicated.—GLEITZMAN.

Ludwig's Angina.—The specific identity of the affection has always been a mooted point. Ludwig gave as its characteristic features: (1) A peculiar wooden induration of the tissues, not receiving impression; (2) a uniform spread of this induration in such a way that it is always sharply bordered by a zone of entirely unaffected cellular tissue; (3) a hard sublingual swelling with a bolster-like mass around the interior of the lower jaw of a deep red or bluish-red color. Treatment embraces early incision, subsequent rigid antisepsis, and general support.—JAS. E. NEWCOMB.

Anæsthetics.—Schleich holds that anæsthetics are more dangerous the more their boiling-points differ from the temperature of the body. He has devised an anæsthetic mixture (chloroform and petroleum ether) whose boiling-point is the same as the temperature of the body, and has obtained excellent results, all disagreeable sequelæ being absent.

Cocaine.—Réches always limits the strength of the solution to one per cent., and makes multiple punctures when using it hypodermically. He advises against its adoption in those suffering from hysteria or heart disease.

Iron not Necessarily a Large Ingredient in our Food.—Dr. Stockman tells us that the average amount of iron consumed daily by a person averages ten milligrams, and an analysis of the excreta shows a like quantity. He thinks this fact should be borne in mind by those members of the profession who are in the habit of prescribing large quantities of ferruginous tonics.—*Jour. of Physiology*, vol. xvii., p. 488.

Disinfection.—1. Washing with warm water and soap, with vigorous use of brush. 2. The same, with the addition of sand. 3. Washing with warm water and green soap, then scrubbing with carbolic acid. 4. The same, substituting lysol for carbolic acid. 5. The same, with tricresol. 6. Corrosive sublimate used in several ways. 7. Chlorine water. 8. Soap and water, permanganate of potash, and oxalic acid.—REIYECKE.

Asphyxia Neonatorum.—The method of resuscitation consists in suspending the child by the feet, the head being lightly supported. If no assistant be available to hold the child's feet, the operator grasps the ankles between the fingers of his left hand. With the right he grasps the chest, the thumbs being in front, and makes six to eight regular compressions; at first expiration, the nose and mouth are freed from any mucus, which allows air to enter with the inspiratory effort.—PROCHOWNICK.

Intussusception.—

℞ Tabaci 3i.
Aq. bullientis Oi.
Macera per sextum horæ partem, et cola. Sig. Inject one-quarter or one-half, and repeat in half an hour, if necessary, carefully watching its effects.

—GUY'S HOSPITAL.

Chloroform in Parturition.—It is the extraordinary development of the vasomotor and circulatory system that gives immunity to pregnant women, at parturition, from the evil effects of chloroform. This immunity does exist; less than forty deaths in the world, to date, from this cause, is proof enough. The doctor uses chloroform to relieve pain at any stage, to shorten labor by relaxing the cervix and perineum. He does this without disturbing the uterine contractions. He

also thinks that chloroform tends to prevent post-partum hemorrhage and lacerations. He gets great satisfaction from the use of chloroform in retained placenta, with contracted and rigid os and perineum. All parts are relaxed so that extraction is a matter of routine only.—BROWN.

Aphrodisiac.—

R Powdered vanilla	gr. 45
" canella	" 45
" mace	" 15
" black pepper	" 5
" nux vomica	" 5
" iron carbonate	" 4

M. ft. in cachet No. x. One after meals.

—LUTAUD.

Empyema in Children.—In cases of double general effusion, it is better to aspirate first on both sides, in order to diminish the quantity of fluid and relieve the heart from the incumbrance to its action. Next day operate on one side, and a few days to a week later operate on the other. The left side should be chosen for the first operation, and local rather than general anæsthesia employed.—CANTLEY.

Osteomalacia is a chronic disease peculiar to adult life, which leads to a gradual withdrawal of the earthy salts from all parts of the skeleton, and consequent softening and abnormal pliancy of the bones, with ultimate deformity of the trunk and limbs.—SENATOR.

Circumscissus.—Local indications: Hygienic, phimosis, paraphimosis, redundancy (where the prepuce more than covers the glans), adhesions, papillomata, eczema (acute and chronic), oedema, chancre, chancroid, cicatrices, inflammatory thickening, elephantiasis, nævus, epithelioma, gangrene, tuberculosis, preputial calculi, hip-joint disease, hernia. Systemic indications: Onanism, seminal emissions, enuresis, dysuria, retention, general nervousness, impotence, convulsions, hystero-epilepsy.—RICKETS.

Ear Piercing.—Fournier reports a number of cases of lupus, syphilis, and tuberculous nodules from ear-piercing as practised by jewellers. While such a small operation can be performed by almost any intelligent person, the needle should be thoroughly sterilized by heat and the skin washed.

Influence of Circumcision in Preventing Syphilis.—

Total of venereal cases, not Jews, 272; gonorrhœa, 107; syphilis, 165; proportion of gonorrhœa to syphilis, 0.6 to 1. Total of venereal cases, Jews, 58; gonorrhœa, 47; syphilis, 11; proportion of gonorrhœa to syphilis, 4.3 to 1.—JONATHAN HUTCHINSON.

Local Anæsthesia.—

R Chloroform	10 parts.
Ether	15 "
Menthol	1 "

The anæsthesia resulting from the application lasts about five minutes.—LE GERANT AND E. PIERRE.

Rules for the Surgeon to observe in order to prevent the absorption of poison during operations on septic patients: 1. After the hands and arms are made aseptic, dip them in strong ammonia water, or in a saturated solution of oxalic acid. This procedure will instantly reveal to the surgeon the least abrasion of the skin from any cause. 2. All small abrasions, or separations of continuity of skin, should be painted with flexible collodion, and immediately covered with a few fibres of absorbent cotton. Dry this dressing quickly with heat from alcohol lamp, and again paint with flexible collodion, and dry in the same manner. Then sterilize finger in 1 to 100 bichloride solution. 3. If the wounds are on the joints, apply a strip of adhesive plaster over the cotton and collodion dressing, passing

the plaster quite around the finger, at least twice. Fasten this dressing securely with thread. Or, instead of the adhesive plaster, draw on a rubber cot or glove. Sterilize finger or hand and dressing in 1 to 100 bichloride solution. 4. If the hand or finger is wounded during an operation, stop long enough to place on the wound a drop of saturated solution of carbolic acid, or lysol, or creolin, or touch it with a nitrate of silver point. Cover the wound with a small pledget of absorbent cotton, well saturated with carbolized or creolin water, and cover this cotton thoroughly with adhesive plaster. Fasten this plaster securely with thread. Sterilize the finger and dressing by immersing it in 1 to 100 bichloride solution, and proceed with operation. 5. Remember that your health is, or should be, as valuable as the patient's, and that if you have a good assistant to watch the patient, five minutes' time given to dressing your own wound will make no appreciable difference in the result of the operation you are performing.—HORACE T. HANKS.

The Curette in the course of acute gonorrhœa is one of the surest means of causing extension to the tubes and ovaries. The mucosa, acting as a barrier against microbic infection, having been destroyed, entrance of specific pus from the vagina sets up uterine gonorrhœa of aggravated type, and the parametrium is liable to invasion through open and damaged lymphatics. Enforce rest. Leave the uterine cavity alone. Swab vagina and cervix with a one-per-cent. silver solution once or twice per week. Inject a 1 to 1,000 sublimate solution twice daily.—AUVARD, *Arch. de Tocol., etc.*, June, 1895.

Treatment of Hemorrhoids.—Professor Roux speaks highly of the following treatment of piles: Place patient in the lithotomy position, and introduce the two thumbs into the rectum. Then, making semi-circular movements, gradually separate them, until, by dilatation of the rectum, they come in contact with the ischium. When the piles are brought plainly into view, take a hypodermic syringe, filled with a fifty to eighty per cent. solution of carbolized glycerin, and inject two drops of the solution into each pile, holding the base of the pile between the thumb and index finger, while the needle is entered near the anus and pushed to the base of the pile, not going directly through the mucous membrane. This is a precaution against bleeding, which is, however, very slight. Professor Roux thinks the good results are due rather to the dilatation than to the injections.—*L'Union Médicale*.

Forced Irrigation or hydraulic curetting for ulcer and abscess of the cornea.—After cocaine separate the lids and throw a jet of an antiseptic solution against the ulcerative tissues by means of a syringe. Only diseased tissue is attacked.—SANTARNECCHI, *Ann. d'Oculist.*, September, 1895.

Vibrations are advised for subinvolution and other uterine diseases (Brandt and Kelgren's principle). They must be regular and penetrating and can be transmitted through the abdominal walls. A vibrator is fitted to a portable dynamo and placed with the right hand against the parietes, toward which the uterus is pushed with the left forefinger in the vagina. It is useful also in metrorrhagia due to fibroid.—BOURCART, *Ann. de Gyn. et d'Obst.*, June, 1895.

Treatment of Aneurisms by Extirpation.—Dr. Delbet claims that before 1888 the mortality was between eleven and twelve per cent., but in the 76 cases since reported there is not a single death. Of 109 cases treated by ligation 12 had gangrene, while of the 76 cases extirpated there were but 7 instances of this accident, and in 4 of these the gangrene existed before the operation. Recurrence is one of the dan-

gers of ligature, but it is much less apt to take place after extirpation, if indeed it is possible.—*Sem. Méd.*, October 30, 1895.

Sympathetic Ophthalmia.—After enucleation, bacteriological examination of nerve and globe were both negative. Any stimulation, however, of the ciliary nerves of one eye was followed by disturbances in the other which were appreciable under the microscope. They consisted in foci of fibrinous excretion and extravasation of blood corpuscles. Coagula of fibrin are probably the initial lesions in the production of sympathetic ophthalmia.—*BASH, Ann. d'Oculist.*, September, 1895.

Erysipelas.—

R. Ichthyol. 3 iiss.
Collodion flex. 3 iss.

M.

This was directed to be applied every three hours, always commencing the application about one inch beyond the line of demarcation, between the healthy and inflamed skin. I believe this to be of the greatest importance.—*DEWITT.*

Permanganate of Calcium as an Oxidizing Agent.

—Nardas thinks permanganate of calcium superior to bichloride of mercury as an oxidizing agent. When placed in contact with organic matter it is immediately resolved into lime and manganese dioxide, giving off oxygen. It also has the advantage of being quite free from both caustic and toxic properties.—*Gaz. Méd. de Paris.*

Genu Valgum.—In the Macewen operation the incision is made vertically on the inner aspect of the thigh, and the bone divided "at a point where the two following lines meet: one drawn transversely, a finger's breadth above the external condyle, and a longitudinal one drawn one-half inch in front of the adductor magnus tendon." In the MacCormac operation the incision is made transversely on the outer aspect of the thigh at a point about two inches above the lower femoral epiphysis.—*GRAVES.*

Otitis Media.—Inflammation of the middle ear occurs most frequently as a complication or sequel of some other disease, and is the result, as we say, of extension of inflammation or perhaps, to speak more scientifically, of migration of bacteria from the throat or other outer parts of the respiratory system through the Eustachian tube to the tympanic cavity.—*BALL.*

Nearly all of the children who had died of bronchopneumonia showed otitis, and in thirty-three of the forty-three in which the secretion was rigidly examined the pneumococcus was present.—*RASCH.*

Operations on the Intestines are divided into the following classes: (1) Resections of the bowel for gangrene: *a*, for internal obstruction; *b*, for hernia; (2) resection of the bowel for the cure of fecal fistula; (3) resections for internal obstructions other than malignant disease; (4) resections for malignant growths; (5) resections for perforations of the intestine, traumatic or otherwise; (6) resection of the rectum; (7) Bacon's operation.—*MURPHY.*

Food Infection with Toxicogenic Germs.—The relation of the germ to the production of the untoward symptoms may, according to the case, be stated in one or the other of the following ways: (1) The chemic poison is generated only and wholly in the food before it is taken; (2) The infecting organism may begin the elaboration of its poisonous products outside, and continue the same within, the body; (3) The infection may not result in the production of poisons until the food is taken into the body.—*VAUGHAN.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 14, 1896:

	Cases.	Deaths.
Tuberculosis.....	120	120
Typhoid fever.....	10	0
Scarlet fever.....	153	3
Cerebro-spinal meningitis.....	3	6
Measles.....	570	23
Diphtheria.....	205	32
Small-pox.....	0	0

Regulations Regarding the Isolation of Cases of Diphtheria in Private Houses by Health Department.

—In private houses the duration of isolation of cases of diphtheria after apparent complete convalescence of such cases shall be determined by the physician in attendance, with the following conditions:

1st. Children convalescent from diphtheria shall not be allowed under any conditions to attend any kind of school; *i.e.*, day school, Sunday school, dancing-school, etc., until cultures show the absence of diphtheria bacilli in the throat.

2d. Circulars of information regarding the persistence of virulent diphtheria bacilli in the throats of convalescent cases of diphtheria and the dangers from infection arising from such cases shall be furnished by the Health Department and presented by the attending physician (if the patient is a child) to the mother, father, or guardian, or, if the patient is an adult, to the patient, and the meaning of the circular and the significance of its contents explained to them.

3d. The attending physician, when continued isolation is not maintained, shall immediately notify in writing the Chief Inspector of Contagious Diseases of the Health Department of his action, and disinfection of the premises may then be performed by the Health Department.

Exceptions to this rule regarding the time of isolation of convalescent cases of diphtheria in private houses shall be: (1) Teachers of all kinds. (2) Persons whose occupations bring them into immediate contact with children. The regulations of the Health Department regarding isolation of cases of diphtheria in boarding-houses, apartment houses, hotels, and tenement houses heretofore observed shall be continued. [Signed] GEORGE B. FOWLER, M.D., *Commissioner of Health.* By order of the Board of Health. CHARLES G. WILSON, *President*; EMMONS CLARK, *Secretary.*

Circular of Information Regarding the Danger of Cases of Diphtheria Communicating the Disease to Others after Convalescence.

—Diphtheria is due to a germ known as the diphtheria bacillus. This germ is present in the membrane and in the secretions of the mouth, nose, and throat of cases of diphtheria. The disease is only produced by the reception of these germs into the mouth or air passages of other persons. The discharges from the nose and throat of cases of diphtheria containing these germs may be received on handkerchiefs, towels, bed clothing, carpets, rugs, personal clothing, toys, books, etc., dry, become pulverized and breathed in as dust, or they may be transmitted directly from the sick to the well through personal contact, as in the use of drinking-cups or eating-utensils which have been employed by the sick, or through kissing the sick, or through the direct discharge of the secretions on the hands or face or clothing of the nurse or physician in attendance, in

making applications to the nose or throat of the sick person. Thus, in numerous ways the germs find their way from the throat of the sick to the mouth or air passages of the well, and if then the conditions are favorable for the development of diphtheria in the throat of the person receiving them, after a varying period the disease is produced. Diphtheria only follows the reception of the germs in the throat if favorable conditions for their growth exist there. In many cases the germs remain for many days and increase in number in the throats of healthy persons who have been in contact with cases of diphtheria, without producing the disease. Well persons who have these germs in their throats may convey them to others who contract the disease while they themselves escape. During convalescence from diphtheria the germs of this disease often persist in the throat for many days after all signs of disease in the throat have disappeared, and after the individual is entirely well. Investigations show that in about thirty per cent. of cases they persist for three weeks or longer after the beginning of the disease; in fifteen per cent. for four weeks or longer; in five per cent. for five weeks and occasionally even for a much longer time. Experiments have shown that almost invariably these germs are virulent and capable of inducing the disease in others, so long as they persist in the throat, and persons having such germs in their throats may convey the disease to well persons at any time. Observation, however, has proven that the chances of communication of the disease to well persons after complete convalescence are not great, excepting among children, who are far more susceptible to the disease and who are much more likely to become infected through the frequent introduction of articles into the mouth. The danger of communicating the disease to others after recovery is less than during the disease, because the number of germs is smaller and because the secretions are less abundant and not likely to be discharged so that they would be received by other persons. Where persons do not remain completely isolated, as they are strongly advised to do, until cultures made from the throat show the absence of the diphtheria bacilli, they should constantly remember the facts set forth in this circular and use every precaution to prevent the communication of the disease to other persons, and should be particularly careful in their relation and contact with children. Under no conditions will children whose throat secretions still show the presence of diphtheria bacilli be allowed to attend school of any kind, and under no conditions will adults be allowed to return to their occupation, where this involves immediate contact with children. [Signed] GEORGE B. FOWLER, M.D., *Commissioner of Health*. By order of the Board of Health. CHARLES G. WILSON, *President*; EMMONS CLARK, *Secretary*.

Fatigue.—The experiments of Masse, of Turin, and of Michael Foster, the physiologist, have shown that the sense of fatigue is due to poisoning of the cerebrum by the products of retrograde metamorphosis. "The blood of a tired animal is poisoned, and when injected into another animal causes the phenomena of fatigue." The toxicity of the blood may become so great as to prove fatal, as was shown by Foster, in rabbits that had been hunted to death.—*Dr. Bartour, in American Practitioner and News, January 25, 1896.*

The Doctor's Lien on the Baby.—An esteemed correspondent sends us the following: "The item in your issue of February 22d, in which the colored midwife of Gallatin, Tenn., wished to levy on the baby in order to secure the payment of her hard-earned fee, brings to

mind an incident which occurred in my own practice. I attended the wife of a young man in her first confinement, delivering her of a fine large boy. Several weeks after the father called at my office and asked for his bill, which being made out, receipted, and handed to him, he paid the money, remarking with evident satisfaction as he placed the receipt in his pocket: 'That boy belongs to me now.' It would be well for the profession if parents generally believed that the doctor had a lien on the child until the fee for the confinement is paid."

The Chemistry of Cleanliness.—The virtues of cleanliness are more than merely æsthetic. The sudoriferous glands perform the important function of throwing off the moisture produced during the combustion of waste tissue by the oxygen of the blood and secrete twenty-three ounces of perspiration in twenty-four hours. The conversion of perspiration into vapor renders latent a great amount of heat and keeps the body cool. Water at 120° F. is almost unbearable, but heat in an oven to the extent of 325° F. may be borne for a time. In the twenty-three ounces of perspiration secreted daily there is about one ounce of animal matter. This is left behind on evaporation. Sebaceous glands also secrete oily and resinous substances. This, mixing with the solid matter and dirt, forms a compound which tends to clog the pores of the skin. The removal of this compound is largely the source of the feeling of refreshment following a vigorous morning bath.—*Nature.*

The Simulation of Death by Indian Fakirs.—Dr. Kuhn has had occasion to observe two cases the genuineness of which he had no reason to doubt. One of the fakirs in question had been interred for six weeks and the other for ten days, says the *New York Medical Journal*. The fakirs, who are hysterical to the highest degree, possess the faculty of producing artificially a condition identical with cataleptic ecstasy. They use all possible means, such as mortification of the body by a special diet, the internal employment of different plants known only to themselves, and the adoption of a peculiar posture of the body for many hours, etc. When they have practised this for a sufficient length of time, they assume one of the postures prescribed by the sacred books of the Indians and fall into a hypnotic condition induced by looking fixedly at the end of the nose. Hasheesh is still made use of by them to diminish the respiratory force, for this hypnotic, when associated with other plants and employed in a peculiar manner, makes up for the loss of air and nourishment. The fakirs have hallucinations when hypnosis begins; they hear certain sounds, they see angels, and their faces express a feeling of happiness. But, little by little, consciousness disappears and the body acquires a peculiar rigidity. This is evidently, says the writer, a matter of self-hypnotism in hysterical persons who are sufficiently predisposed to it. This lethargy is looked upon by the people as death, and when the subjects are aroused it is God who has brought them to life. In Greek or Roman literature, says the writer, we may find accounts of persons who have died and returned again to earth. There is nothing astonishing in these facts, for Bouchut, in his treatise on the signs which enable us to recognize real death, reported the case of a woman who had been disinterred in order that a friend might look at her again. She was found to be alive, and she lived for many years afterward. Also in the Department of the North there was a case reported of a girl who had remained in a lethargic condition for several years. She had fallen into this condition on hearing that she was to be arrested for having committed a crime.

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Original Articles.

MILK AS AN AGENCY IN THE CONVEYANCE OF DISEASE.

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DURING the past twenty-five years a large amount of evidence has accumulated about the causation of disease by milk, and many cases of illness and many epidemics caused by contaminated milk have been reported. It has thus seemed desirable to consider, as far as possible in a short paper, the conditions under which milk can become the means for the conveyance of infectious agents; to bring together and tabulate the recent epidemics of disease which have been attributed to milk, and, finally, to draw certain conclusions as to the methods which should be adopted to avoid such disease-producing contamination of milk.

Great Britain consumes¹ two hundred and fifty million gallons a year which costs £17,000,000 or \$85,000,000. The United States consumes² five billion gallons a year. One may gain a more accurate conception of this latter amount by considering that it is nearly equal to the amount of Croton water consumed in New York City in one month. New York City consumes more than seven million gallons a year, an amount that would more than one-third fill the Bryant Park reservoir.

The Consumers of Milk.—Milk is consumed largely by infants and invalids, for many of whom it is the exclusive article of diet. It is, moreover, usually taken uncooked, either from indifference or on account of the altered taste of cooked milk. This particularly susceptible portion of the community is thus less protected than the robust adult people, who use for the most part food that has been more or less sterilized by cooking. The desirability then of great care in the handling of milk is evident.

Sources of Contamination of Milk.—Milk as it exists in the udder of a healthy cow is germ free, that is, it is practically sterile.

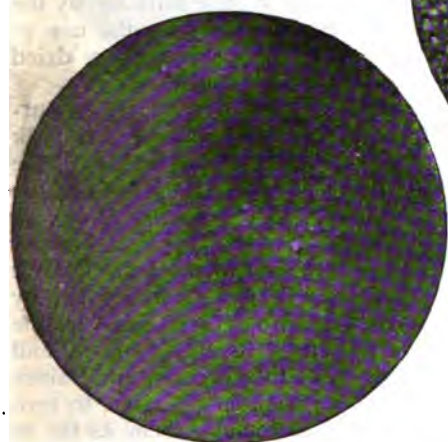


FIG. 1.—Petri plate exposed two minutes out of doors. Contains six colonies.

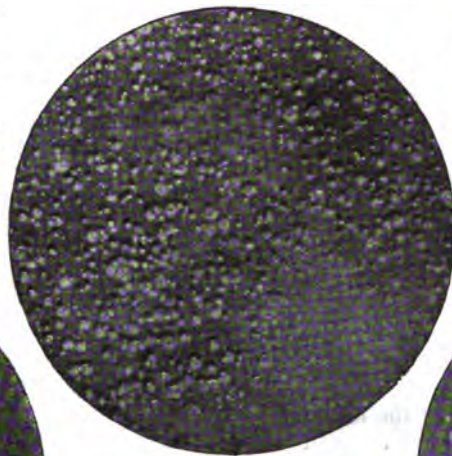


FIG. 2.—Petri plate exposed two minutes under cow being milked. Contains 1,800 colonies.

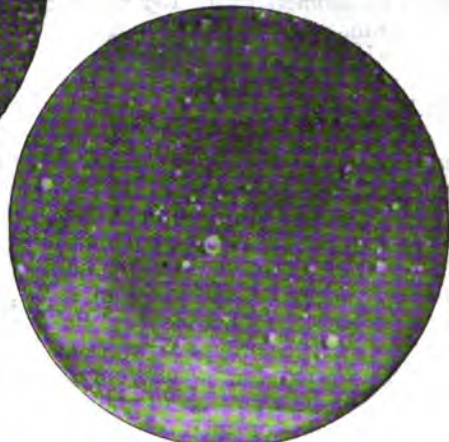


FIG. 3.—Petri plate exposed two minutes in barn. Contains 111 colonies.

I have collected and tabulated at the end of this article 53 epidemics of typhoid fever attributed to milk, 26 of scarlatina, 11 of diphtheria, 2 of foot-and-mouth disease, 3 of throat affection, 2 of acute poisoning by milk, and 1 of cholera asiatica. Only those occurring since 1880 are included, since a tabulation up to that date was prepared by Ernest Hart.³

In inducing these diseases milk has served merely as the vehicle in which the micro-organisms producing the disease have been transported. In order to show clearly how the micro-organisms enter the milk, and why so much disease has been caused by milk, it may be well to look into the milk traffic and the methods employed in expressing the milk from the udder of the cow and the subsequent manipulation and delivery to the consumer.

Magnitude of the Milk Traffic.—The amount of milk produced, transported, and sold is very large.

But in fact milk as it comes to the consumer does contain a large number of living germs. These enter the milk in dirt, in dust, and in dirty water in various ways, and increase as rapidly as time and temperature allow. It is unfortunate that milk must be drawn from a hair-covered udder on the under surface of a hair-covered cow. This part of the cow's hide retains particles of any dirt on which the cow may lie, as well as dried faecal material, especially if the cow has loose evacuations. The droppings of dust and bacteria from the hide of cows during milking, even when the animals are kept fairly clean, are very great. The accompanying illustrations (Figs. 1, 2, and 3) are a practical demonstration of the extent of this contamination. Three Petri plates, three and one-half inches in diameter, containing a layer of sterile nutrient gelatin, were exposed for two minutes each on a gentleman's farm

near New York. One was exposed out of doors, a second in the barn, and a third under a cow just in front of the milk pail during milking. Subsequent examination showed that the plate exposed out of doors received six bacteria, while that exposed in the barn received one hundred and eleven bacteria, and that exposed under the cow received one thousand eight hundred bacteria. If one thousand eight hundred bacteria will fall from the belly of a cow during milking in a circle three and one-half inches in diameter in two minutes, one can easily appreciate the immense number that will fall into an ordinary milk pail during the whole period of milking. This, however, is only one of the sources of contamination. The milkman, wearing clothes from which much dust falls, leans forward over the pail, his arms especially being shaken over the pail. The friction between the milkman's hands and the teats of the cow causes the removal of the dirt and epithelium from both the hands of the milkman and the teats of the cow. This friction is often lessened by what is known as wet milking. When this is practised, a stream of milk from the teat is directed against the palms of the milkman's hands, first one hand and then the other, the hands being then applied to the teats. The result is that the teats of the cow and the palms of the hand of the milkman are practically washed over the milk pail and drops of milk expressed from between the hand and the teat fall into the pail below. A less important but still material source of contamination is the dust of the barn. In the illustrations to which I have already called attention (Figs. 1 and 3) it is seen that while only six bacteria fell into the plate out of doors, one hundred and eleven fell during the same time in the barn.

Contamination of milk by impure water is of frequent occurrence. Such water is often used in washing the pails, or it may be introduced into the milk by submersion of the milk in pails or cans in contaminated water for cooling. Or adulteration of milk with dirty water may occur. The quality of the water used in many dairies has apparently received little attention.

It is thus seen that during and immediately after milking, an extensive contamination of the milk takes place, and by no practicable method yet adopted has it been possible to entirely prevent it. Fresh milk appears to have some germicidal action. The writer has found a constant diminution in the number of bacteria in certain specimens of milk during the first twelve hours after milking. Fokker¹ has reported similar results, noting a diminution in the number of bacteria during the twenty-four hours after milking. Such germicidal action of milk, however, cannot be depended on, for milk will sometimes sour within twenty-four hours after milking. It is, therefore, desirable that milk should be kept cold and consumed or sterilized within twenty-four hours after milking. The influence of temperature on the growth of bacteria in milk was well shown by the following experiment: From a specimen of milk a certain amount was put in four sterilized test tubes. These samples were left for twenty-four hours at different temperatures. At the end of twenty-four hours a fixed amount from each sample was planted in a plate and the number of colonies that developed in each plate was counted. A photograph of the plates at the time the counts were made is shown (Figs. 4, 5, 6, 7). The one kept at 7° C. (45° F.) had 445 colonies; that at 10° C. (50° F.) 1,362 colonies; that at 13° C. (55° F.) 67,170 colonies; while the one at 20° C. (68° F.) showed 134,340 colonies. Such experiments show that milk should be kept at a temperature below 10° C. (50° F.) until sterilized or consumed. It has been stated already that milk should not be kept raw for

more than twenty-four hours. New York milk, even that of the better sort which is brought to town in bottles and sold at eight or ten cents a quart, is usually thirty-six or forty-eight hours old when delivered to the consumer. Some milk shipped to New York from a distance of over three hundred miles is actually nearly twenty-four hours old when shipped. The transportation of milk is by milk trains, which are very slow, often making only seventeen miles an hour.

A consideration of the foregoing statement prepares one for the results of the examination of ordinary New York milk, which often contains from a hundred thousand to several million bacteria in each drop. Our present dairy methods allow ample opportunity for the entrance of bacteria, either non-pathogenic or even pathogenic, should the latter sort be present. The long interval between milking the cow and delivering the milk to the consumer allows ample opportunity for the bacteria to multiply.

Disease Conveyed by Milk.—The diseases which, it is believed, may be conveyed by milk are conveniently divided into three classes:

I. Those in which the pathogenic micro-organisms which are introduced into the milk are conveyed from the body of the diseased cow, as tuberculosis, anthrax, foot-and-mouth disease, and acute enteritis.

II. Those in which the pathogenic micro-organisms are introduced into the milk from some other source either during or after milking, as cholera, typhoid fever, scarlet fever, and diphtheria.

III. Those caused by milk which contains poisonous agents developed by bacterial growth.

I. Diseases Conveyed by Milk from a Diseased Cow.—Contamination of milk with disease germs which emanate from the cow may occur while the milk is still in the udder, in the case of certain general diseases and especially in diseases of the udder, or the contamination may take place during milking by the dropping of particles of faecal matter from the cow or from the dust of the barn, which may contain dried particles of faecal material or saliva of the cow.

Liability to Faecal Contamination of Milk During Milking.—Most cases of contamination of milk with disease germs originating from the cow have been attributed to milk infection in the udder; on the other hand it is evident that contamination is very liable to occur from dried particles of faecal matter dropping into the pail, especially when the animal is having loose evacuations. Socrates, as quoted by Xenophon in his "Memorabilia," discourses on the wisdom of the gods in placing our eyes, nose, and mouth in the position which they occupy, and "since what passes off from the stomach is offensive, to turn the channels of it away and remove them as far as possible from the senses." Had the wise Socrates pursued his observations in a dairy, I fear he would have been inclined to criticise the judgment of these deities in the case of the cow in turning her channels loose just above the udder, thus not only endangering the sucking calf, but making the inevitable position of the milk pail one of considerable hazard. Watery evacuations from a cow pass naturally along its thighs and on to the posterior portion of the udder. It is not unusual in a dairy to see an udder that is soiled by faecal matter with large dried masses hanging by its hair, and these are shaken over the pail during milking.

Tuberculosis in Cattle.—Tuberculosis is probably the most important of those diseases whose germs are liable to be conveyed by milk and in which the contamination of the milk may arise from the cow. It is a very prevalent disease, existing to the greatest extent in the neighborhood of large cities. Estimates as to the proportion of cattle that are tuberculous in

different sections of this country and abroad vary widely. Those estimates which are based simply on the opinions of veterinarians from physical examination alone should be rejected as unreliable. Slaughter-house statistics furnish definite information, although some cases with but slight tuberculous disease undoubtedly pass unrecorded.

In the following table is given the percentage of cattle reported tuberculous in the slaughter houses of certain cities and countries:

Berlin ⁵	4.57%
Munich ⁵	2.44%
Augsburg ⁵	2.24%
Mulhausen ⁵	3.4%
Hanover ⁶	60-70%
France ⁶	5%
Paris ⁶	6%
Holland ⁶	20%
Pomerania ⁶	50%
Mexico ⁷	34%

The use of tuberculin followed by autopsy in cases where a significant reaction is obtained gives a basis of statis-

but no evident involvement of the udder. By a very thorough examination of stained specimens of milk of thirty-six such cows, the bacillus tuberculosis was found in twelve or thirty-three per cent. Moreover, it should be remembered that milk from a cow with general tuberculosis which is free from tubercle bacilli when it leaves the udder of the cow may become contaminated during milking. Should such a cow have a tuberculous enteritis and pass tubercle bacilli in its feces, its milk is very liable to become contaminated by the dropping of dried particles of fecal material from the posterior portion of the udder during milking.

Action of Gastric Juice on the Bacillus Tuberculosis.—Considering the immense amount of milk used, the large amount of tuberculosis among cattle, and the fact that cows with no lesion of the udder may produce milk containing tuber-

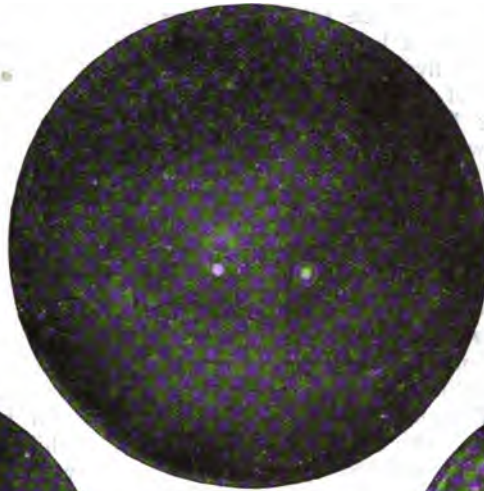


FIG. 4.—445 colonies, 24 h. at 7° C. (45° F.).

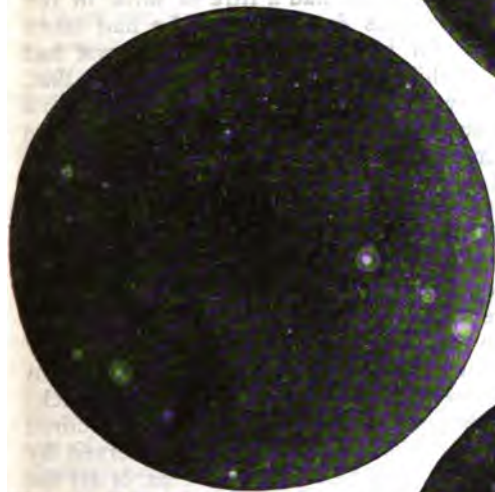


FIG. 5.—1,362 colonies, 24 h. at 10° C. (50° F.).

tics which should indicate a larger percentage of tuberculous animals than any other, for tuberculin will give a reaction where lesions exist that are so small that they might easily be overlooked in any ordinary physical examination or even autopsy.

Statistics derived from the use of tuberculin will never be quite satisfactory so long as herds are examined with tuberculin only when the owner requests such an examination. In Massachusetts⁸ more than one-fourth of the cattle in herds examined by request are found to be tuberculous, the percentage of tuberculous cows in a herd varying from 0.9 to 95 per cent. In New York State⁹ the use of the tuberculin test has made it seem probable that nearly seven per cent. of all the cattle of the State are tuberculous.

A consideration of these statistics leads one to inquire whether all tuberculous cows produce milk containing the bacillus tuberculosis. Do tubercle bacilli appear in the milk only when there is disease of the udder, or may they be present when the cow has general tuberculosis but no lesion of the udder? Bang¹⁰ found that of sixty-three cows having general tuberculosis, but no nodules in the udder, nine gave milk containing the bacillus tuberculosis. Ernst¹⁰ found the bacillus tuberculosis present in a much larger proportion of cows having general tuberculosis,

FIGS. 4, 5, 6, and 7 show the effect of different temperatures on the growth of bacteria in milk.

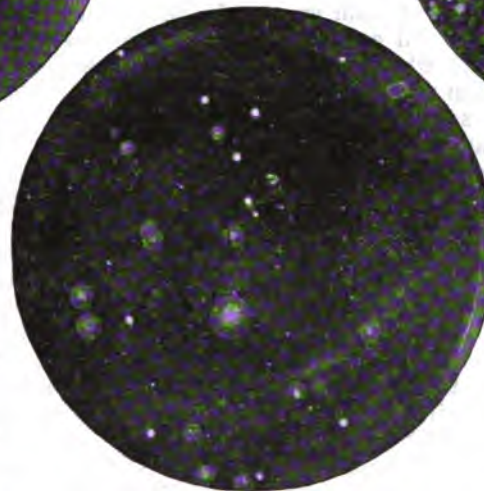


FIG. 6.—67,170 colonies, 24 h. at 13° C. (55° F.).

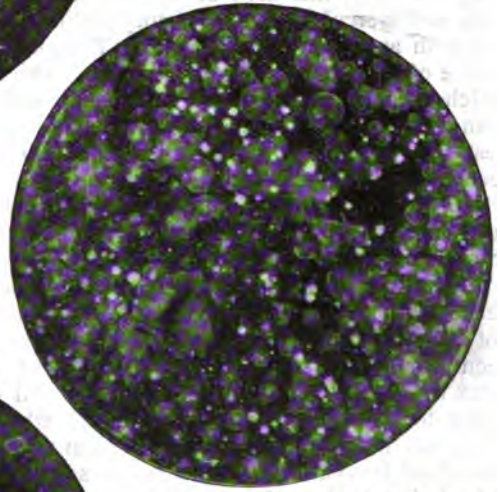


FIG. 7.—134,340 colonies, 24 h. at 20° C. (60° F.).

cle bacilli, one may be surprised that milk does not produce more tuberculosis in men. A certain amount of protection is provided by the mixing of milk in large cans, thus, so to speak, diluting the virus.

Gebhardt¹¹ found that milk of tuberculous cows which was virulent when pure lost its virulence when diluted, in some cases forty times, in others fifty or one hundred times.

Cooking and sterilizing milk

also renders a considerable amount innocuous.

It has been thought that a protection may be provided by a germicidal action of the gastric juice on the tubercle bacilli. That such protection is not afforded by the gastric juice of guinea-pigs has been shown by experiments of Baumgarten¹² and of Fischer,¹³ nor by artificially prepared gastric juice by those of Falk.¹⁴ In fact, primary intestinal tuberculosis in man does occur. Dr. Sims Woodhead¹⁵ states that he has seen a very large number of cases in which infection seemed to be from the intestine. Cohnheim, Aufrecht, and Peterson¹⁶ hold the same view. Three cases of evident primary tuberculosis of the intestine have been reported in this city recently: one in an adult by Dr. Hodenpyl¹⁷ and cases in infants by Dr. Northrup,¹⁸ and by Dr. J. Lewis Smith, and the writer.¹⁹

Clinical Evidence of the Transmission of Tuberculosis by Milk.—Clinical evidence of the transmis-

sion of tuberculosis by milk is less satisfactory than that furnished by some other diseases on account of the less acute character of this disease and the varying degree of susceptibility to it in different individuals. Some cases, however, are reported in which the evidence against the milk is fairly strong. Thus, in a dairy in England "three cows were found to have tuberculous disease of the udder. In the institution to which this milk was supplied the mortality from tuberculosis during the last year was thirty per cent. and during the preceding year forty per cent. of the total mortality. Brouardel" reported that in a boarding-school in which there were fourteen girls five contracted tuberculosis from drinking the milk of a tuberculous cow. Ollivier" tells of another boarding-school in which milk from a tuberculous cow was used and in which thirteen cases of tuberculosis occurred. Dr. Demme" states that in the Child's Hospital at Berne four infants, with no tuberculous ancestry, died of intestinal and mesenteric tuberculosis as the result of feeding on the unsterilized milk of a tuberculous cow. Many cases have been reported in which, from among a number of persons using the milk of a single cow, one child has died of tuberculosis. There has been no tuberculous family history and no known contact with any tuberculous person. The only apparent source of infection has been the milk. The cow from which the milk was obtained has been examined and found tuberculous. Such cases the writer has thought best not to include in this paper, as the evidence seemed insufficient although significant.

It may be considered an established fact that tuberculosis may be induced in man by drinking raw milk from a cow suffering from tuberculosis.

Anthrax.—Concerning anthrax there is some evidence that it is communicated by milk, although it is not altogether satisfactory. The anthrax bacillus has been found in the milk of animals suffering from anthrax by Nocard" and others. The clinical evidence seems to rest largely with Heusinger," who wrote in 1850, and in whose statements German writers place considerable confidence. Heusinger said that it was proved that milk and butter from animals suffering from anthrax possess virulent properties by numerous observations in America and Russia, and that the malady produced was the milk sickness of America. Heusinger was evidently in error in his opinion that anthrax and milk sickness are identical. Milk sickness certainly differs in symptoms and prognosis from intestinal anthrax. I have found no American writer who associates the two diseases.

Foot-and-Mouth Disease.—That foot-and-mouth disease may be communicated by milk has been demonstrated experimentally. Hertwig" and two friends drank daily for four days a quart of milk each from a cow suffering from foot-and-mouth disease. In less than two days the symptoms of the disease appeared in each and lasted five days. The mucous membrane of the mouth became swollen and on that covering the inner surface of the cheek small vesicles appeared. Vesicles appeared also on the hands in one case. The results of Hertwig were confirmed by Jacob.

In 1884 an epidemic" occurred in Dover, England, which involved one hundred and thirty consumers of the milk of one milkman. The attacks were characterized by shivering followed by headache, fever, pain in limbs, thirst, parched lips, and a vesicular eruption of the throat. On one of the farms supplying this milkman the cows were found to have been suffering from foot-and-mouth disease. Other cases of foot-and-mouth disease transmitted to man by milk are reported by Weigel and Noack," Schäffer and Esser," Esser and Schütz," and Weissenberg." In this country foot-and-mouth disease is comparatively unknown.

Acute Enteritis.—Another disease which has been demonstrated to have been caused by milk infected by the cow is acute enteritis. The following case reported by Gaffky" is particularly interesting, since the milk in the cow's udder contained no bacteria, the bacteria being introduced into the milk probably during milking from the dried particles of fecal matter on the posterior portion of the udder, which, during milking, fell into the pail. This case presents so much good evidence that I will briefly review it. On October 10, 1891, three men connected with the Hygienic Institute at Giessen were suddenly taken sick; they were the assistant, the chemist, and the janitor.

They had chills, fever, diarrhoea, and constitutional symptoms. The assistant was very sick for two weeks, his temperature reached 106° F., he was delirious, passed blood with his stools, and had albuminuria. The chemist had the same sort of illness, but less severely, his temperature never rising above 104.7° F. The janitor again had the same type of illness but still less severely, with a temperature never above 104° F. On investigation it was found that the only article of diet of which they had all partaken was milk. The assistant had a litre of milk in the laboratory the previous day, of which he had taken more than half for his breakfast; the chemist had taken one cup, while the janitor had less than that, finishing what was left. This milk was traced to a cow that was suffering from hemorrhagic enteritis and passing watery feces containing blood clots. The milk of this cow as it left the udder contained no germs. In the feces a short active bacillus was found, which proved very pathogenic for mice and guinea-pigs, and which corresponded to what had already been found in the stools of the patients. Here, then, we have a clear case of fecal contamination of the milk from the cow.

In Manchester, England, in November, 1894, an epidemic occurred" characterized by diarrhoea, sickness, and abdominal pain. There were one hundred and sixty cases in forty-seven houses, all served by the same milkman, they being fifty per cent. of all the houses he served. This was referred to a case of garget in a cow at the dairy.

II. Diseases Conveyed from One Human Being to Another by Milk.—Passing now to those diseases in which milk appears to be a carrier of infectious material through contamination by some person suffering from one of these diseases, we must first note that evidence of such contamination has not been demonstrated bacteriologically. Although typhoid fever, cholera, diphtheria, and scarlet-fever epidemics have been attributed to milk, in no case, so far as I know, has it been possible to demonstrate the particular organism in the specimen obtained. The organism of scarlet fever is not known, but those of typhoid fever, cholera, and diphtheria are familiar to bacteriologists. From this negative bacteriological evidence some writers are disinclined to accept the evidence we have as conclusive.

Characteristics of Epidemics Due to Milk.

—There are certain characteristics of epidemics due to milk, whether they be epidemics of typhoid fever, scarlatina, diphtheria, or gastro-enteritis, which it may be well to point out.

1. The cases appear suddenly, many new cases each day, and the subsidence is equally marked a few days after stopping the harmful milk supply.
2. The houses invaded are often widely distributed and not restricted to some particular part of the town.
3. The houses of the rich are apt to be more seriously invaded than those of the poor, because poor people as a rule use very little milk. The houses invaded often have the best hygienic surroundings and frequently they have a different water supply and

a different sewage system from others in which the disease exists, so that these possible causes of the epidemic may be eliminated. In the Yorktown and Camberly epidemic of diphtheria due to milk in 1887, while eighty-four per cent. of the houses of the better class using the milk were invaded, only twenty-two per cent. of the poorer class using the milk were invaded, and while thirty-three per cent. of the consumers of the better class acquired diphtheria, only six per cent. of those of the poorer class acquired it.

4. The special milk drinkers in each family are most liable to become affected. Thus in the epidemic I have quoted seventy-eight per cent. of the special milk drinkers were affected, while only twenty-seven per cent. of those not special milk drinkers were affected. Those who take but little of the infected milk are not, however, exempt from the disease. In a recent epidemic of typhoid fever caused by milk, one gentleman who carefully procured his milk from an excellent dairy inadvertently purchased ice cream without inquiring the source of the milk from which it was made. The ice cream had been made from the milk of the infected dairy; the result was the death of one child from typhoid and the illness of all the other members of the family, including the father, mother, and one other child.

5. Children are most liable to be affected. In the Stamford epidemic of typhoid fever out of three hundred and eighty-six cases one hundred and thirty-four, or 34.8 per cent., were children, although the greatest liability to typhoid exists between the ages of twenty and thirty. In the Yorktown and Camberly epidemic of diphtheria, while only 17.6 per cent. of the adult drinkers of the milk were affected, 30.2 per cent. of the children suffered.

6. In the epidemics those affected are found to be for the most part the drinkers of a certain milk supply—in Stamford, 376 of a total of 386; in Springfield, Mass., 135 of 150; in Somerville, Mass., 30 of 35; in Manchester, England, 107 of 115. In some other epidemics, as may be seen by the tables near the end of this article, all the cases were among drinkers of the contaminated milk. When it is found that the same milkman does not supply most of the houses invaded, it is sometimes found that several milkmen obtain their supply from one dairy and that in this dairy the infection has taken place. In other epidemics but a small proportion of the suspected milkman's route is invaded, as in Springfield, and this is on investigation explained by the fact that the milkman obtained but a small proportion of his milk from the farm where the infection took place.

7. In more than half of these epidemics due to milk cases of the disease preceding the epidemic have been found among the milk handlers. When such cases have not been found, it is usually not possible to say that they have not existed.

Typhoid Fever.—In the case of typhoid fever we have a large amount of evidence which, while it is circumstantial, is at the same time very conclusive. Although the *Bacillus typhosis* has not been found in any of the specimens examined, it does not follow that it was not present at the time the epidemic was started. The organism of typhoid fever thrives in milk. It does not seem possible that any one who has studied the recent literature concerning epidemics of typhoid fever due to milk could doubt the causative relation of the contaminated milk. Very many outbreaks of this sort have been inadequately reported without exact statistics and some have never been reported at all. We have, however, a sufficient number which have been capably investigated and accurately reported to furnish conclusive evidence. Ernest Hart collected fifty outbreaks of typhoid due to milk

previous to 1881. I have collected fifty-three occurring between 1881 and 1895, which are tabulated near the end of this article. In all these the evidence was fair, while in certain of them it seems to me absolutely conclusive, as in the recent Stamford epidemic, in which the distribution of cases followed almost exactly the milk route of the offending milkman; or that at Bay Head, where fifteen out of the sixteen cases were among the drinkers of the milk from a dairy where an employee had suffered from typhoid; or that at Montclair, N. J., where one hundred and thirty-five out of a total of one hundred and fifty cases were among drinkers of milk from a filthy dairy, the owner of which had himself suffered from typhoid just previous to the epidemic. Compare these statistics with those of epidemics due to polluted water. In the Lowell and Lawrence, Mass., epidemic of 1891," for instance, of four hundred and eighty cases only fifty were supplied by one milkman, while the cases occurred among the customers of one hundred and thirty-five milkmen. Of the fifty-three outbreaks of typhoid fever which I have collected and tabulated, ten occurred in this country and thirty-one in Great Britain. These epidemics were distributed pretty equally during the year. I note the months in which thirty-three of these epidemics occurred, some, of course, running through several months, as follows: January, 4; February, 4; March, 6; April, 4; May, 5; June, 5; July, 6; August, 10; September, 4; October, 3; November, 4; December, 4. The greatest number (ten) occurred in August, while the smallest number (three) occurred in October. Of fifty-one epidemics," in thirty-three a case of probable or positive typhoid was found, which was believed to have caused the contamination of the milk. In six the water used was polluted (and one of these was found to contain the *Bacillus coli communis*), while in two the premises were found in bad condition. In thirty-one epidemics a case of typhoid was found to have occurred in the house of the farmer or milkman preceding the epidemic. The means of transmission of the typhoid germs in these epidemics was simple. In some cases the typhoid existed in a mild form, so that the patient actually worked in the dairy. Often the same person nursed the patient and worked about the dairy, sometimes milking the cows. The dairy pails were often washed in the kitchen, which in one case opened into the sick-room, and the same towel may be used for the patient and for drying and cleaning the pails, or the privy may be found close to the dairy well, no disinfection of fæces having taken place. In one place (Springfield) the contents of the privy in which the stools of a typhoid patient were deposited were spread over a field through which the farm laborers walked, thus affording opportunity for infecting their shoes. The milk was cooled by submerging it in a well covered by boards on which lay lumps of manure. Before being submerged the milk cans were stoppered by wooden plugs. There was some leakage around these plugs in four of nine cans tested, so that the water from the well entered the cans. The water of this well was found to contain the *Bacillus coli communis*, thus giving evidence of faecal contamination. In some epidemics, in which the disease has occurred mostly among the consumers of one milk supply, no typhoid fever has been found either at the dairy or in the family of the milkman. Among these there has been found, in different cases, a sewage field near the dairy, a tank of filthy water at the dairy, a sewer trap within a foot of the well. It does not of course follow that because no evidence of infection of milk by a person can be secured that therefore such infection did not take place. In the investigation of epidemics it has always been most difficult to secure the facts, since those who pos-

sess them are very unwilling to communicate them, fearing injury to their business.

A new danger due to modern methods of handling milk is the creamery. It is the custom at creameries to receive from the farmers in the neighborhood milk which is mixed in the separator, and after separation the skim milk is returned to the farmers in the proportion in which it was contributed. In three recent epidemics (Svarteberg, 1889, one reported by Welpey, 1893, and that at Castle-Island, Ireland, in 1894) the disease appeared first in one of the contributing farms and spread through the contamination of the milk at the creamery to the other contributors. In the epidemic reported by Welpey all the twenty-three cases occurred among contributors to the creamery. Attention having been called to this danger, the authorities in some places have taken steps to control it. In a recent number of the *British Medical Journal* it was stated that during a serious outbreak of typhoid fever at Castle-Island, Ireland, the proprietor of a creamery was fined £5 for accepting milk from farms on which typhoid fever existed.

Scarlatina.—In studying the relationship of scarlatina to the milk supply, we find some very conclusive evidence that certain epidemics of this disease have been caused by contaminated milk. In about the same proportion of the cases, however, as in typhoid fever do we find evidence of the contamination of the milk by a person suffering from scarlatina. Thus, of twenty-six recent epidemics, all occurring in England, in fifteen cases there was evidence of contamination from a case of the disease in man. The lack of such evidence in some cases has directed attention to the condition of the cows furnishing the milk, although it may be accounted for by the high degree of contagiousness of the disease and the fact that very mild cases occur which can never be recognized except as they occur with others. A series of publications by Klein attribute some of these epidemics to slight lesions about the udder and teats of the cows producing the milk which caused the sickness. Klein's work, however, has never been confirmed. It seems to me a humiliating fact that not one epidemic of scarlet fever due to contaminated milk, so far as I have found, has been reported in this country. This is not in all probability because they do not occur, but for the reason we all know to exist, because the source of milk supply is not ordinarily inquired into. It should certainly be the duty of all inspectors of boards of health to ascertain the milk supply of each family in which any case of contagious disease occurs.

Diphtheria.—Some epidemics of diphtheria have been found to exist almost solely among the consumers of a certain milk supply. Diphtheria epidemics traced to milk are, however, less common than those of scarlet fever. In only five of eleven epidemics of diphtheria traced to milk that I have tabulated was any diphtheria found at the dairy. Of the seven epidemics reported by Hart, in only one did he find diphtheria at the house of the milk dealer. In certain of these epidemics the cows have been suspected of being the cause on account of a contagious eruption on the teats or aropy consistency or unpleasant taste of the milk. These observations concerning the animals are strongly opposed by many authorities, and should not be considered until more evidence is produced, for many light cases of true diphtheria exist which do not produce severe constitutional symptoms. It is not altogether improbable that all these epidemics may have been caused by diphtheria in man, and that either the man was unaware that he had the disease or that its existence was not known to the authorities. The *Bacillus diphtheriæ* grows well in milk. Of thirteen epidemics of diphtheria attrib-

uted to milk contamination, one occurred in January, none in February or March, one in April, two in May, four in June, four in July, three in August, none in September, three in October, two in November, and four in December, while in two the month in which they occurred is not stated. All but two of them occurred in Great Britain and one was reported in this country. One of these epidemics, that at Yorktown and Camberly, reported by Power, presents so many instructive features that it seems worth while to point to some of them as illustrating certain characteristics of epidemics due to milk. One hundred and forty persons in fifty-seven households were taken sick in October and ninety per cent. of these during an interval of ten days between October 8th and 18th. Of the fifty-seven households affected, forty-eight, or 84.2 per cent., had the suspected milk, and of the one hundred and forty persons one hundred and twenty-four, or 88.5 per cent., drank the suspected milk. Rich people were attacked in larger proportion than the poor, and this fact would seem to be accounted for by the fact that rich people consumed an average of over five pints a day, while poor families averaged less than a pint each. While eighty-four per cent. of the families of the better class were affected, only twenty-two per cent. of the families of the poorer class were affected. Thirty-three per cent. of consumers of the better class were affected and only six per cent. of those of the poorer class. In these statistics also we have an example of the greater liability of children on account of the amount of milk they consume, for while twenty-nine per cent. of the adults of the better class were affected, fifty-four per cent. of the children of the better class were affected. These statistics also show the greater susceptibility of special milk drinkers, for, while only twenty-seven per cent. of the consumers who were not special milk drinkers were attacked, seventy-eight per cent. of the special milk drinkers were attacked. And again, among children ten per cent. of those not special milk drinkers were attacked, while seventy per cent. of the special milk drinkers sickened. It was also found that cream drinkers were not more affected than those using milk. A valuable lesson is taught in the fact, that on account of the larger amount of milk consumed, it is much easier to trace such an epidemic to its source by investigations among the well-to-do than among the poor.

Cholera Asiatica.—That cholera may be spread by milk we have good reason to believe. The bacillus of cholera grows well in milk when it has been previously sterilized. It is, however, considered that its growth in milk may be retarded by the presence of many other bacteria. Basenau¹¹ has found cholera bacilli active in raw milk thirty-two hours after their introduction in several experiments at different temperatures. Gaffky,¹² who has written on cholera in India and Egypt and is considered a reliable observer, says that milk is not infrequently a means of communicating cholera. An epidemic of cholera on ship-board reported by Simpson¹³ furnishes conclusive evidence of infection through milk. Of the ten sailors who drank the milk, all had cholera, while of the remaining fourteen members of the crew only one had cholera. The milk was furnished by a man who did washing for the crew. He afterward acknowledged that he mixed the milk with one-fourth part of water from a tank. The water from this tank was found to have caused an epidemic of cholera in the neighborhood.

III. Diseases Caused by Milk which Contains Poisonous Agents Developed by Bacterial Growth.—Cases of poisoning by milk and milk products have been reported. A serious case of milk poisoning supposed to have been caused by a ptomaine occurred at

TABLE SHOWING TYPHOID-FEVER EPIDEMICS DUE TO MILK CONTAMINATION.

Date.	Town.	Reported by	Reference.	Total Number of Cases.	Cases among Consumers of the Infected Milk.	Deaths.	Was Typhoid Found among the Milk Handlers?	Remarks.
Aug., 1881	Hawick		Br. Md. Jr., '81, ii., 273	...	...	..	Yes.	Nearly every case received milk from a farm where typhoid prevailed. Milk supply stopped.
1881	Christ Church, New Zealand.		Br. Md. Jr., '81, ii., 570	...	...	..	No.	All houses infected (including a lunatic asylum) were supplied by same dairy. Dairy premises in a filthy condition.
1882	Glasgow		Br. Md. Jr., '82, ii., 590	...	...	..	Yes.	Cases were consumers of milk from a dairy where typhoid had recently existed.
Nov., 1882	Grangemont		Br. Md. Jr., '82, ii., 911	...	...	..	Yes.	Cases supplied with milk from a house where there was a case of typhoid. Milk was ordered destroyed until the typhoid patient was removed.
Aug. and Sept., 1882	Stonechair	Briddon	Br. Md. Jr., '82, ii., 749	11	11	1	Yes.	Two suspicious illnesses at dairy, which had preceded epidemic and were thought to be typhoid.
July., 1882	Clapham	Parsons	Br. Md. Jr., '82, ii., 216	20	19	..	No.	All attacked within twenty-four hours of each other. Spread of disease stopped within a few days of stoppage of milk supply.
May, 1882	Glasgow	Russell	Br. Md. Jr., '82, ii., 61	59	50	8	No.	Nearly all taken sick within a week.
Jan. to July, 1883	Cologne	Auerbach	Schmidt's Jahrb., '83, ccvii., 72	280	61	..	Yes.	Several cases of typhoid at dairy. One case nursed near cow stable.
1883	Warwickshire	Wilson	Br. Md. Jr., '83, i., 1,136	12	12	1	Yes.	Milk dealer died from typhoid and his son contracted it from him. Milkman's water supply polluted.
1883	Dundee		Br. Md. Jr., '83, ii., 839	102	36	..	Yes.	Several members of dairyman's family were suffering from typhoid.
Feb., 1883	Gatehead	Green	Lancet, '83, ii., 986	...	...	..	No.	Several cases. All but one received milk from one dairy. Premises in bad condition.
Aug., 1883	St. Pancras	Murphy	Lancet, '83, ii., 652	431	368	62	Yes.	Of twenty employees of milkman, eight contracted typhoid.
1883	Upsala	Almquist	Ztschr. für Hyg., vol. 800, p. 137	37	...	..	Yes.	Followed typhoid in milkman's family.
Oct. to Dec., 1884	Port Jervis	Curtis	Rep. N. Y. Bd. of Health, '84, 185	148	128	..	Yes.	Typhoid at dairy in August and September, three cases. These were nursed by the same person who attended to the dairy work.
Dec., 1884	Aberdeen	Simpson	Br. Md. Jr., '85, i., 193	65	43	7	No.	
Dec. to March, 1885	Groningen	All Cohen	Schmidt's Jahrb., ccxx., 197	58	43	..	No.	The first five cases occurred near the dairy. Probably due to polluted dairy water.
1886	Shoreham	Kelly	Practitioner, '86, xxxvii., 223	80-100	80-100	..	No.	Traced to one dairy. Probably pollution from water.
March to May, 1887	Cariale	Brown	Practitioner, '88, ii., 413	25	23 or 24	..	No.	Febrile disorder among the cows at the dairy early in March.
1887	Minnégue	Janssen	Rouvier, Le Lait, p. 208	...	...	..	Yes.	All the cases had milk from one dairy. In one family all who drank the milk raw contracted typhoid, while those who drank it cooked escaped. Water supply near privy. Case of typhoid previously in farmer's family. Epidemic stopped with withdrawal of milk.
July to Aug., 1888	Providence	Swarts	Not published.	90	86	..	Yes.	Three cases of typhoid at dairy. One a few weeks preceding epidemic.
1888	Durham	O'Hanlon	Lancet, '88, ii., 941	12	12	..	No.	
Nov., 1888	Cambridge, Mass.	Harrington	Rep. Mass. Bd. of Health, '88, p. 25	73	58	..	Yes.	Traced to one milk route. Typhoid fever found at one of the farms supplying this milk route.
March, 1889	Melbourne	Allen	Intercol. Med. Congress, Melbourne, '89	43	43	..	Yes.	Originated in a case in the family of the milk dealer.
1889	Sterling	McFadyen	Br. Md. Jr., '89, i., 1,250	40 or 50	40 or 50	4	Yes.	Several cases at the dairy preceding the epidemic.
1889	Leeds	Goldie	Br. Md. Jr., '89, ii., 110	20	20	..	No.	Originated from milk supply.
July and Aug., 1889	Belgrade	Roth	Schmidt's Jahrb., vol. ccxxviii., 204	10	10	..	Yes.	Son and grandson of woman who kept a milk store had typhoid preceding the outbreak of typhoid, which was confined to drinkers of this milk.
June to Sept., 1889	Svarteberg	Almquist	Ztschr. für Hyg., '90, viii., 137	104	...	11	Yes.	Epidemic originated in a creamery. Typhoid occurred in one of the contributing farms, contaminated its milk, and thus all the milk was infected.
June, 1890	Waterbury	Smith	Conn. Bd. of Health Rep.	50	41	..	Yes.	Three cases of typhoid in the milkman's family in May and June.
1890	Geneva, Switzerland	Vincent	Lancet, '90, ii., 730; Br. Md. Jr., '92, i., 1,279	...	...	..	No.	Traced to the milk of one dairy. It was shown that the dairyman washed his pails in a stream in which the linen of a typhoid patient was washed. Milkman sued dairyman for damages and got 1,500 francs.
1891	Whitechurch		Br. Md. Jr., '91, ii., 1179	...	...	..	Yes.	Cases occurred among drinkers of milk from a dairy where a child sick from typhoid was allowed to handle dairy utensils. Milk dealer fined.
Feb. to April, 1891	Sutton-Coldfield	Hill	Br. Md. Jr., '91, p. 136	40	40	5	No.	All cases had contaminated milk. Epidemic stopped by stopping milk supply.
Sept. to Nov., 1891	Edinburgh	Littlejohn	Edinb. Med. Jr., ccxxix., '91	63	63	..	Yes.	Child sick with typhoid at the dairy.
Aug., 1891	Showland near Glasgow, Scotland	Monro	Public Health, iv., p. 275	42	37	6	Yes.	A probable case of typhoid at dairy from June 13th to August 10th.
Aug. and Sept., 1892	Dundee	Anderson	Br. Md. Jr., '92, ii., 902	82	43	6	Yes.	Typhoid at dairy in August. Milk supply stopped August 28th.
June, 1892	Nottingham	Boobyer	Public Health, '92, iv., 110	7	7	..	Yes.	Dairy assistant worked for three weeks while suffering from fever, vomiting, and diarrhoea. Dairy supplied twenty-six families.
Dec., 1891, to Jan., 1892	Clermont-Ferrand	Cayon, etc.	Rev. de H., '92, 993	23	18	6	Yes.	Originated in dairy where the proprietor and his daughter had typhoid.
1892	Near Leeds	Ballard-Arney	Stevenson and Murphy, Hygiene, i., 334	...	...	..	No.	Every case except one supplied by milk which had been mixed with contaminated water.
1892	Plymouth	Williams	Br. Md. Jr., '92, i., 1,157	12	...	1	No.	The one fatal case was that of a young man on a milk diet.
Aug., 1892	Springfield, Mass.	Sedgwick	Bost. Md. and Surg. Jr., '93, ii., 489	150	135	25	No.	Bacillus coli communis found in dairy-well water. Milk cans cooled by submerging in well after plugging with wooden plugs which leaked.
1892	Somerville, Mass.	Sedgwick	Bost. Md. and Surg. Jr., '93, ii., 489	35	31	..	Yes.	Son of dairyman had typhoid and worked in the dairy during the early part of the epidemic.
Aug., 1893		Welpey	Lancet, '94, i., 992	23	23	..	Yes.	Creamery case. Typhoid on one of the farms contributing to the creamery. Nineteen cases infected from the creamery milk.

TABLE SHOWING TYPHOID-FEVER EPIDEMICS DUE TO MILK CONTAMINATION—Continued.

Date.	Town.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Infected Milk.	Deaths.	Was Typhoid Found among the Milk Handlers?	Remarks.
1893	E. near Strasburg.	Schmidt.	Hyg. Rundsch., '94, p. 694	....	....	..	No.	All the cases had milk from one milkman. Seventeen per cent. of those who drank the milk had typhoid, while among three hundred others there was no case. Epidemic stopped on withdrawal of milk.
1894	Castle-Island, Ireland.	.....	Br. Md. Jr., '94, i., 815.	....	....	..	Yes.	Creamery case. Local creamery had received milk from a family in which typhoid existed.
March, 1894	Montclair	Hunt.	Rep. N. J. Bd. of Health, '94, 35.	115	107	15	Yes.	Son of milkman had typhoid just preceding epidemic.
July, 1894	Bay Head	Hunt.	Rep. N. J. Bd. of Health, '94, 41.	16	15	..	Yes.	Case in an employee of dairy preceding epidemic.
1894	Brixton	Verdon.	Br. Md. Jr., '94, i., 1,112.	60	....	10	No.	Polluted water at dairy.
1894	South Lambeth	Verdon.	Br. Md. Jr., '94, i., 1,149.	59	55	10	No.	Polluted water at dairy.
Oct., 1895	Shettleston	Wilson.	Br. Md. Jr., '95, ii., 1,204.	35	15	2	Yes.	Case of typhoid at dairy in September. Dairy supplied sixteen families and seven of these, or over forty per cent., suffered.
		Tripe.	Rouvier, Le Lait, p. 209	....	....	..	Yes.	A farmer nursed his son sick with typhoid; twenty-one days later typhoid became epidemic in two institutions supplied by him with milk, as well as in most of the families he supplied.
Jan., 1895	Great Harwood.	Sargeant.	Br. Md. Jr., '95, i., 1,110	80	80	5	Yes.	Forty-nine families involved, being one-third of all supplied by this milkman. A man suffering from typhoid fever had been working in the dairy during all of January.
April to May, 1895	Stamford	Smith.	Rep. on the Stamford Typhoid-Fever Epidemic.	386	376	22	No.	Evidently due to washing milk cans with contaminated water. Origin of typhoid contamination not discovered.
May to June, 1895	Plumstead	Davies.	Br. Md. Jr., '95, ii., 1,561.	177	159	23	No.	
Nov., 1895	Providence	Swarts.	Monthly Bul. R. I. Bd. of Health, Dec., 1895.	30	30	3	Yes.	A boy working at dairy, who had recently driven a night-soil wagon, became sick with typhoid fever in the middle of October. A sister of the boy was taken sick ten days later. Their mother nursed them and washed the dairy utensils, including a cloth strainer.

TABLE SHOWING SCARLET-FEVER EPIDEMICS DUE TO MILK CONTAMINATION.

Date.	Town.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Infected Milk.	Deaths.	Was Scarletina Found among the Milk Handlers?	Remarks.
1882	Greenock.	Wallace	Br. Md. Jr., '82, i., 437; '82, ii., 1,321.	47	12	..	Yes.	Cases traced to one milk supply and four cases found in milkman's children.
1883	Dundee.	.....	Br. Md. Jr., '83, ii., 839	17	17	4	Yes.	Milk sold in kitchen where boy was lying sick with scarlet fever. Seventeen cases occurred among drinkers of milk in four days. Milkman fined £5 and twenty days' imprisonment.
1883	Walborough.	Health Officer.	Br. Md. Jr., '83, i., 78.	....	....	..	Yes.	Of sixteen families attacked nine were supplied by a milkman in whose family there was good reason to believe that scarlatina had existed.
1883	Kingston-upon-Hull.	Mason.	Br. Md. Jr., '83, i., 334.	....	....	..	Yes.	Child of milkman sick with scarlet fever. Five cases of scarlet fever found to have originated among consumers of this milk.
1882	Sunderland	.....	Br. Md. Jr., '82, ii., 100.	....	....	4	Yes.	Case of scarlet fever at dairy: four deaths among drinkers of the milk.
1882	St. Giles and St. Pancras	Power.	Blyth, Public Health, p. 391.	....	....	..	No.	Thought by Klein to be due to disease of the cow. The cases were traced to one milk supply.
1885	Marylebone	Blyth	Blyth, Public Health, 391.	....	....	..	No.	Cases traced to one milk supply at Hendon.
1886 and 1887	Wimbledon and Mer-ton	Cooper.	Br. Md. Jr., '89, 583. San. Record, '88-89, 422.	592	....	..	No.	Cases had a common milk supply. Seventy-four per cent. of all cases occurred within two days of stoppage of milk supply.
Jan. and Feb., 1888	Newcastle-upon-Tyne.	Armstrong.	Lancet, '88, i., 640.	19	17	..	Yes.	Five and one-half per cent. of consumers on one milk route and nine per cent. on another attacked. Sudden outbreak and limited duration. Scarletina in one dairy worker some months before.
1888	Newcastle-upon-Tyne.	Armstrong.	Lancet, '88, i., 640.	116	....	..	Yes.	All in six days, involving sixty-three households.
1888	Garnet Hill.	.....	Br. Md. Jr., '88, i., 868	....	....	..	Yes.	Appeared first in dairy.
1889	Macclesfield	.....	Br. Md. Jr., '89, i., 337.	upward of 100	....	..	No.	Traced to one milk supply. In uptown district fifteen of twenty houses involved received contaminated milk.
Jan. 1-8, 1891	Bristol.	Davies	Public Health, iv., 362	250	....	..	No.	Of 205 households 70 had common milk supply. In three districts one-fortieth of houses and one-seventh of those supplied by infected milk were attacked. Well-to-do people chiefly attacked; no cause found.
Feb., 1891	Cordworth.	Hill.	Public Health, iii., '91, 487.	4	4	..	Yes.	Followed suspicious case at dairy. No new cases after stopping milk supply.
1891	Cordworth.	Hill.	Public Health, iii., '91, 487	17 houses	14 houses	..	No.	No cases at dairy.
1892	Leyton, Essex.	.....	Lancet, '92, ii., 733	....	....	..	Yes.	Sharp outbreak. Most of those affected supplied by a single milk dealer, in whose family was a case of scarlatina.
Mar. and April, 1892	London	Hammer	Lancet, '92, ii., 370.	....	....	..	No.	Thought to be due to disease of cows. After milk was scalded no new cases occurred.
1892	Clapton	Warry.	Lancet, '92, ii., 370.	....	....	..	No.	Associated with a certain milk supply. Cows had high temperature and abrasions and cracks on teats.
Oct., 1892	Glasgow	Carpenter	Arch. Pediatrics, '94, 291.	12	12	..	Yes.	
Dec., 1893	Glasgow	Chalmers.	Br. Md. Jr., '94, i., 426.	30	28	..	Yes.	These cases referred to two sources of milk supply. On farms from which milk came scarlet fever existed.

TABLE SHOWING SCARLET-FEVER EPIDEMICS DUE TO MILK CONTAMINATION—Continued.

Date.	Town.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Infected Milk.	Deaths.	Was Scarlantina Found among the Milk Handlers?	Remarks.
Nov., 1893	Hastings.....	Wilson.....	Br. Md. Jr., '94, i., 815.....	26 houses	18 houses	..	No.	Seventy per cent. of houses invaded had one milk supply. Thirty per cent. of houses supplied by contaminated milk attacked. Cattle had febrile disturbance.
Oct., 1894	Sherley Warren.....	Health Office...	Br. Md. Jr., '94, ii., 956; Br. Med Jr., '94, ii., 1,408.	9	9	..	Yes.	A recovering case of scarlet fever under same roof as dairy, having access to dairy.
March, 1894	Blackheath.....	Murphy.....	Br. Md. Jr., '94, ii., 324.....	89	79	..	No.	March 19th, 3 new cases; 20th, 4; 21st, 17; 22d, 19; 23d, 19; milk supply stopped March 22d; no new cases after March 24th.
1894	Lewisham.....	.....	Diet. and Hyg. Gaz., '94, 246...	....	....	..	Yes.	Very extensive, sudden, and threatening. Traced to one dairy farm, on which several cases of scarlet fever existed.
Jan. and Feb., 1894	Richmond.....	Rowland.....	Br. Md. Jr., '94, i., 1,325.....	55	52	..	No.	Epidemic lasted ten days. Milk supplied from a filthy farm. Cows had to wade through liquid filth knee deep.
Feb., 1895	Stroud Green.....	Clothier.....	Br. Md. Jr., '95, i., 549.....	200	187	0	Yes.	Of sixty cases in hospital fifty-eight had had suspected milk. On January 8th, case of scarlet fever on a supplying farm followed by a bad sore throat in the nurse.

TABLE SHOWING DIPHTHERIA EPIDEMICS DUE TO MILK CONTAMINATION.

Date.	Town.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Infected Milk.	Deaths.	Was the Disease Present among the Milk Handlers?	Remarks.
Nov., Dec., '82-Jan., '83	Hendon.....	Power.....	Lancet, '83, ii., i., 145.....	79	55 (?)	..	No.	Seven-tenths of houses attacked had suspected milk supply. Cans were washed in sewage-polluted water.
April, 1893	London (suburb).....	Mackenzie.....	Br. Md. Jr., '83, i., 874.....	9 houses	9 houses	..	No.	Occurred in scattered houses.
1883	Cardiff.....	Paine.....	Br. Md. Jr., '83, i., 873.....	....	....	..	No.	Diphtheria among consumers of a certain milk. The well at the dairy contained an excessive amount of sewage. After closing the well there was no more diphtheria.
Dec., 1883	Davenport.....	Parsons.....	Br. Md. Jr., '83, i., 876.....	31	31	5	Yes.	Early in December diphtheria occurred in house next to the dairy, the privy of which was separated only by a partition from the room where the milk cans were washed.
Oct., 1886	Yorktown and Cambridgey.....	Power.....	Practitioner, xxxix., 65.....	140	124	16	No.	Ninety-three per cent. attacked between October 8th and 18th.
June and Aug., 1886	Melrose.....	Clark.....	Br. Md. Jr., '87, cxvii., 100.....	23	23	..	Yes.	Milk obtained from family in which diphtheria existed.
June and Aug., 1886	Malden.....	Clark.....	Br. Md. Jr., '87, cxvii., 100.....	27	13	..	Yes.	Source of milk same as in Melrose epidemic.
Oct. 10 to 14, 1886	Frimley.....	.....	Milch Zeitung, '86, 835.....	....	70	15	....	Thirty families involved. Milk from a high-class dairy; no trouble found there.
May to Aug., 1890	.....	Jönsberg.....	Jahrb. d. Ges. Med., '90, ii., 208.	16	6	..	Yes.	Three cases probably arose from visiting a girl sick with diphtheria at milk store.
Dec., 1890	Surbeton.....	Coleman.....	Br. Md. Jr., '91, i., 44.....	27	27	3	No.	Twenty-two houses invaded.
Oct. to Dec., 1893	Croyden.....	Philpot.....	Br. Md. Jr., '94, i., 476.....	97 houses	65	..	No.	Two-tenths per cent. of houses invaded and twelve per cent. of houses supplied by contaminated milk invaded. Three cows with eruption on teats found at farm.
June to July, 1893	Highstown.....	Hunt.....	N. J. B. of H. Rep., '93, 481.....	51	43	12	Yes.	Boy employed at dairy had diphtheria.

TABLE SHOWING OTHER EPIDEMICS DUE TO MILK CONTAMINATION.

Disease.	Date.	Place.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Certain Milk.	Deaths.	Did Disease Exist among the Milk Handlers?	Remarks.
Foot-and-Mouth.	1884	Dover.....	Robinson...	Br. Md. Jr., '84, i., 570...	....	130	....	..	Foot-and-mouth disease existed among the cows at one of the dairies supplying the milkman.
Foot-and-Mouth.	1884	.....	Vincent.....	Br. Md. Jr., '84, i., 575...	Consid. number	....	2	.....	Diagnosis somewhat indefinite. Foot-and-mouth disease prevalent among cattle in neighborhood.
Throat Affection.	1881	Aberdeen.....	.....	Br. Md. Jr., '81, i., 657...	300	....	3	No.	Of one hundred and ten families supplied by one dairy at least ninety were affected.
Throat Affection.	March, 1880	Rugby.....	.....	Br. Md. Jr., '81, ii., 415...	100	....	....	No.	Involved three of the eight boarding-houses of the school; thirty boys in each were affected, all supplied by the same milkman. Fifteen out of thirty-seven families supplied by the same milkman had one or more cases. All cases occurred between March 16th and 18th.
Sore Throat and Erysipelas.	March and April, 1890	Craigmore.....	.....	Glasgow Med. Jr., '90, xxxiv., 241.	80	....	4	Yes.	Traced to a milk supply which was stopped April 2d, cases ceasing almost immediately. May 6th the supply was resumed, but fresh cases occurred, so the supply was again stopped. Farmer had erysipelas at this time, and a dairy-maid had sore throat from March 10th to 17th.
Gastro-enteritis.	Nov., 1894	Manchester.....	Niven.....	Br. Md. Jr., '95, ii., 1,073.	160	160	0	.....	Involved fifty per cent. of houses served by the milkman. Lasted only a few days. Filthy condition of dairy. A cow at the dairy had garget.

TABLE SHOWING OTHER EPIDEMICS DUE TO MILK CONTAMINATION—Continued.

Disease.	Date.	Place.	Reported by	Reference.	Total Number of Cases.	Cases among Drinkers of Certain Milk.	Deaths.	Did Disease Exist among the Milk Handlers?	Remarks.
Gastro-enteritis.	1892	Gipsen	Gaffky.....	Deut. med. Woch., '92, xviii., 14.	3	3	0	.....	Traced to a cow suffering from hemorrhagic enteritis. The same bacillus was isolated and cultivated from the cases and the cows. This bacillus was found to be pathogenic for mice and guinea-pigs.
Poisoning by Milk.	1887	.....	Firth	Practitioner, '87, xxxix., 75.	9	9	0	.....	Occurred in a hospital. Nine out of ten men were affected with nausea, vomiting, dryness and intense constriction of fauces, vertigo, colic, and purging. A residue extracted from the milk produced similar symptoms.
Poisoning by Milk.	Aug., 1886	Long Branch.....	Newton and Wallace	Rep. B. of H., N. J., 1885-86.	73	73	0	.....	Nausea, vomiting, cramps, and collapse. Recovery in a few hours.
Poisoning by Milk.	.....	.....	Madson.....	Schmidt's Jahrb., vol. ccv., p. 131.	.....	.....	.....	.....	A whole family was attacked with diarrhoea and bloody stools after drinking milk from a cow similarly affected and with hæmaturia. The cow was supposed to have eaten a poisonous plant.
Cholera asiatica.	1887	India	Simpson.....	Practitioner, xxxix., p. 144.	11	10	4	.....	Milk adulterated with water from a tank which had been the source of a cholera epidemic in the neighborhood.

Long Branch in 1885." On the 7th of August forty-three persons at two different hotels were attacked with nausea, vomiting, cramps, and collapse from one to four hours after taking the milk. They recovered in a few hours. A week later thirty people at another hotel had the same experience. All these people had milk from the same source and only milk drinkers were attacked. The dairy and cattle showed no cause for criticism except that the milking took place at midnight and noon, and the milk was not cooled but was carted immediately to Long Branch, eight miles distant. In this case the test for the so-called tyrotoxicon of Dr. Vaughn was applied with a positive result. Another case of so-called ptomaine poisoning is reported by Firth."

In summing up we may conclude that infection by milk is well established in typhoid fever, scarlatina, diphtheria, tuberculosis, cholera, foot-and-mouth disease and acute enteritis, and that it may exist in anthrax. Cases of acute poisoning from milk by some undetermined agent also occur. Medical literature furnishes us with reliable evidence of an immense amount of sickness and a considerable death rate caused by milk. The recorded epidemics are but a part of those which occur. Many epidemics are never traced to their source and some which are so traced are not reported. This sickness and death directly due to contaminated milk is to a great extent preventable by proper legislation concerning the inspection of dairies and the handling of milk.

A Study of these Epidemics Teaches Us—I. Whenever a case of communicable infectious disease is reported inquiry into the source of the milk supply should be made.

2. Milk traffic should be separated from houses where people live. The dairy building should be at least one hundred feet from either the house, barn, or privy, and should be on a higher level than any of these, and should have a pure water supply of its own. At this dairy building all the dairy work should be done, including the cleansing of pails and cans.

3. It should be unlawful for any one who has come in contact with a sick person (when this sickness is not positively known to be non-contagious) to enter the dairy building or barn or to handle the milk.

4. All men connected with the milk traffic should be compelled to notify the authorities on the outbreak of any disease in their respective abodes and to abstain from their work until permission to resume is given them by the authorities notified.

5. Cities should accept milk only from dairies which are regularly inspected and where all the cows have been tested with tuberculin and those giving the

characteristic reaction have been killed and the premises disinfected.

6. The tuberculin test should be applied to all cattle and those which react should be killed, the owner being reimbursed from State funds. The premises on which such tuberculous cattle have been kept should be thoroughly disinfected. All cattle which are brought into the State should be quarantined until the tuberculin test has been applied.

7. The use of one long trough for the purpose of feeding many cattle should be avoided, since it is a ready means for the conveyance of pathogenic germs from one animal to another.

From the excellent regulations of the New York City Board of Health for the sale and care of milk I take the following important rule: "Milk shall not be kept for sale or stored in any room used for sleeping or domestic purposes or opening into the same."

Undoubtedly the adoption of the above regulations would do much in reducing the amount of sickness due to the conveyance of pathogenic organisms by milk. It does not seem probable, however, that any regulations can entirely eliminate this danger.

I would, therefore, add one word of caution for physicians who order milk diet. Use some sufficient sterilizing process, so that in case the milk supplied contains pathogenic organisms, they may be destroyed before the milk is used by the patient.

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- 205 WEST FIFTY-SEVENTH STREET.

A CASE OF EXCISION OF BOTH UPPER JAWS, OF BOTH MALARS, OF BOTH PALATINES, OF BOTH NASALS, OF BOTH INFERIOR TURBINATED, OF THE ETHMOID, OF THE VOMER, OF THE LEFT LACHRYMAL, AND OF A PORTION OF THE PTERYGOID PROCESS OF THE SPHENOID FOR THE REMOVAL OF A RECURRENT OSTEOCHONDROMA.

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I AM about to record the most extensive surgical operation on the face that I have ever performed. The literature of surgery does not show a similar one, and I report it because it is of great interest in demonstrating the wonderful tolerance which is shown by the organism against the most severe and mutilating operations performed on the bones and tissues of the face, and also to encourage surgical interference in malignant disease in this region by this example of great relief given in a most aggravated instance.

In nearly twenty years of surgical practice I have operated on forty-one cases of tumors of the superior maxillary bones requiring total excision of this bone. In a few cases, the orbital plate was left and in some others more than the superior maxilla was removed. In three cases, including the one I am about to describe, both superior maxillaries were removed. Cases of epulis and small tumors of the alveolar process are not considered in this report. I have known some very small ones involving nothing but the gums and the alveolar process to give rise to enormous growths, if the primary operation was followed by a return. I desire to consider in this report the surgery of those only which necessitate extensive excisions and resections. Of the forty-one cases thirty-six were of malignant tumors, twenty were certainly carcinomata, twelve were sarcomata, and four were of such a structure that I was left in doubt after examining the sections. This was particularly the case with one tumor, a melanoma, which was remarkable for being so thoroughly infiltrated with pigment that a structure could not be made out at all in many places. Even the submaxillary glands in this case were so black and so friable when hardened that a structure could not be made out.

There were two deaths following operation, one a death upon the operating-table. In that case the tumor had pushed the eyeball entirely out of the orbit and the mass was found to extend into the cranial cavity, having grown through the horizontal plate

of the ethmoid. The other was death from shock about twenty-four hours after the operation.

In these malignant cases the final results were very different. In some few there was immediate recurrence; in others a long period of health was followed by recurrence or metastasis; in one-third, twelve cases, there was no recurrence for more than two years and these may be safely considered cured.

Of the five benign tumors two were large osteomata, one a fibroma, one a cystic odontoma, and one a hyaline enchondroma. All of these made permanent recoveries.

History of the Case.—M. S—, thirty-two years of age, married, farmer, was sent to me from Oswego, Kan., by his physician, Dr. George S. Liggett, and arrived in St. Louis July 6, 1892. I sent him to the City Hospital and he was kept under observation there for eleven days before I performed the operation. Photographs were taken of him and two views are presented with this paper, Figs. 1 and 2, which were taken before the operation, and also a photograph, Fig. 3, taken after his recovery. Dr. H. H. Born and Dr. John Stack, the two senior assistants at the hospital, rendered most valuable services in this case. This history is from notes taken by Dr. Born.

There was no history in the family of any abnormal growth in any of its members. Patient had no ail-



FIG. 1.—Front View.

ment of any kind, had devoted himself to farming, had always been robust and healthy. His habits had been very good, his hygienic surroundings of the best; he drank and smoked but very little.

About April, 1891, the patient noticed an abnormal growth of the upper jaw, which growth gradually began to protrude from the mouth under the upper lip. When he first realized the seriousness of the affection the growth was about the size of a pigeon's egg. It was operated on in Kansas for the first time in June, 1891, and is said to have then been of the size of a small orange, diameter about two and a half inches. The operation had for its object simply the removal of the tumor by excision. By December, 1891, it had again reached its former size. It was removed a second time, the operation being similar to the first one. The growth began to return and in about four months had reached the size shown in Figs. 1 and 2, which are from photographs taken in the hospital in the month of July, 1892. The large tumor involved nearly the whole face, including the superior maxillaries, the palate, the

nose, the malars, and all the soft parts surrounding these bones. The growth was somewhat larger upon the left side than upon the right. Protruding and filling nearly the whole oral cavity was a large tumor, dense in structure, very slightly movable, and somewhat elastic, with a hard coating of dried purulent discharge.

The operation was performed, July 17, 1892, in the following manner:

Tracheotomy was performed below the isthmus of the thyroid gland; the patient was chloroformed there-



FIG. 2.—Side View.

after by means of the Trendelenburg apparatus. A large sponge with a ligature was then pushed back over the tongue and packed into the pharynx in order to prevent the entrance of blood into the larynx and œsophagus.

The first incision was made beginning at the right angle of the mouth and extending three inches outward and upward in the direction of the zygomaticus major muscle to the malar bone. All the tissues were then dissected away from the bones and from the tumor on the right side of the face as high as the external angle of the eyelids. The tissues in the orbit were then separated by means of a Langenbeck periosteal elevator from their attachment to the floor of the orbit.

Next the diseased skin of an area of more than two square inches was removed from over the left superior maxillary bone. An incision near the left angle of the mouth, beginning in the wound of the cheek, was then made through the upper lip. The nose and the remaining skin on the right side were then separated from their attachments to the bone and the tumor. The contents of the orbit on the left side were freed from the floor of the cavity just as they had been on the right side, care being taken not to injure the eyeball.

Both malars were separated from the frontal with the strongest bone forceps, the two nasals from the frontal, and with the chisel the pterygoid process of the sphenoid was broken off. The whole mass was then rolled out over the frontal region and this extirpation or evulsion of the whole mass did not give rise to any serious hemorrhage. The perpendicular laminae of the ethmoid and of the vomer, parts of the lateral masses of the ethmoid, and the lachrymal bone of the left side, were included in the mass, which was now removed by snipping off resisting spiculæ of bone and mucous membrane of the naso-pharynx. On the right side a

portion of the malar and external wall of the antrum were left, because they were clearly free from the growth. All irregularities of tissue and all suspicious shreds were now trimmed off with scissors, leaving in the end a clean, enormous cavity, which was dusted with iodoform powder and temporarily packed with gauze.

The flaps of Schneiderian membrane hanging down from the horizontal plate of the ethmoid and the mucous membrane of the roof of the pharynx and nasopharynx were stitched together with fine silk sutures. The flaps of skin of the cheeks, nose, and upper lip were replaced and carefully stitched together with numerous sutures (see Fig. 3).

The whole upper face cavity was now filled with iodoform gauze, the ends of the strips being allowed to project through the nostrils, which formed good drain holes in the veil of skin which hung down like a mask from the forehead and orbits. The tumor which protruded from the mouth appeared to be cartilaginous. The left antrum was one solid mass of bone which protruded into the nasal cavity and had caused displacement and erosion of the vomer and septum of the nose. The teeth were loose in their sockets and their roots were surrounded by a pulpy cartilaginous growth.

The after-treatment was very troublesome. Patient was fed through a stomach tube for forty-eight hours, and after that he was fed through a pharynx tube for a long time, until he learned to eat and drink after a fashion peculiar to himself.

The patient gained rapidly in health and strength. He expressed himself as exceedingly thankful and was no doubt much pleased at the result. I think that his improvement and satisfaction were largely due to the removal of the offensive and disfiguring mass. Fig. 3 shows him to be anything but a thing of beauty and it is by far the best view that could be given of him. A profile would show a deep and "aching void" where the projection of the face ought to be.

Patient had fully recovered and left the hospital August 22d. "The wound on left cheek is open and



FIG. 3.—After Operation.

will require a plastic operation" are the last words in the hospital record on the day of his dismissal. May 15, 1893, ten months after the operation, word was received at the hospital that the "cancer was returning."

I received several letters from the patient during the six months following his departure, in all of which

he maintained that he was well and refused on account of lack of funds to return for the plastic operation. Dr. Liggett wrote me about a year after his return home that there was a recurrence and has since told me that the patient died in 1894, but I could get no further details of the termination of the case.

That this operation, formidable and mutilating as it no doubt was, conferred great benefit upon the patient and prolonged his life, will be admitted by every surgeon. Furthermore, that no kind of "toxins" or "cancer serum" could cause the absorption of bone and cartilage will probably be admitted also by even the most sanguine and hopeful of the promoters of the serum therapy of malignant tumor.

St. Louis, February 16, 1896.

THE SUCCESSFUL TREATMENT OF DIPHTHERIA WITHOUT ANTITOXIN.

By E. ALEXANDER, M.D.,

JUAREZ, PASEO DEL NORTE, MEXICO.

It is with diffidence, indeed, that I write at this time and in this generation on the treatment of diphtheria with remedies from the *materia medica*.

I feel as if I were compelled to introduce this article with an apology. Mentally I see some metropolitan physicians smile about the "country doctor who takes it upon himself to defend the '*materia medica*' against the horse.

I am not prejudiced against the so-called antitoxin. Many very conservative, highly able, and successful practitioners in the whole civilized world speak in favor of the new treatment; however, there are here and there just as conservative, just as learned, and just as prominent practitioners who do not endorse the new remedy.

It will not be amiss to remark that only a few short years ago highly successful and learned practitioners sang the pæans of various remedies which came from the bacteriological laboratories of France and from the *farbenfabriken* of Germany, and which are now dead, buried, and forgotten. To tell the truth, the writer does not like the commercial aspect of the antitoxin business. Almost every mail carries wagon loads of circulars from the different manufacturers of the diphtheria specific to every physician in the remotest corners—every house claiming to have its own peculiar mode of preparing the stuff.

Many of the medical journals have prominent and flashing "ads" from practising physicians, probably from a graduate of a '94 or '95 class, none of whom treated less than from seventy-five to two hundred and fifty diphtheria cases during the past few months, with no deaths. Great care is taken to interlard the reports with information as to which manufacturer the antitoxin came from.

A physician in actual practice for twenty-five years or even less knows from experience that many classes of diseases appear sometimes for several consecutive years in a very mild form; at other epochs they act with violent malignancy.

Reading English, German, French, and Spanish medical literature, the writer has noticed that diphtheria in the majority of cases has appeared for some years past in a very mild form throughout Europe, in the United States, and in Mexico, which is probably the reason of the proclaimed success of the new treatment. The writer has been practising his profession at Paso del Norte, Mexico, since 1874. This place has a population of some eight or ten thousand inhabitants. Some of the time there was no other regular physician within hundreds of miles. He has seen

many cases of tonsillitis and chronic follicular pharyngitis and of other kindred diseases among the Mexican population; in fact, such diseases appeared among all classes at different times as regularly as the different seasons appear; but he never saw a genuine diphtheria case even of the most simple variety until 1883 or 1884, or about a year after the introduction of sewer works at El Paso, Tex.

Dr. Samanago, a Mexican, a graduate of the *École de Médecine*, Paris, France, a highly polished, refined, practical physician, who has been practising off and on in this locality since 1856, informs me he never saw a genuine case of diphtheria at Paso del Norte until the year 1883 or 1884.

Father Ortiz, about ninety years of age, the parish priest of Paso del Norte, who has been about here more than half a century, an intelligent gentleman who studied a regular course of medicine to enable him to treat the poor of his parish, informs me that he never saw a case of diphtheria here until El Paso, Tex., introduced the sewer works.

Incidentally I make these remarks because only a short time ago I saw that a writer in one of the medical journals claimed that sewer works has absolutely nothing to do with the causation of diphtheria.

I am not going to argue this question here at length, but will remark that the results of the lack of proper attention to the excretions of humankind are exactly like those brought about by the presence of sewer works.

During the seasons the people here suffered from the various non-malignant diseases of the mouth and throat I employed the usual remedies applied in such cases—chlorate of potassium, tincture of chloride of iron, etc. Later on I adopted fluid extract of *phytolacca* with universal and quick success. When diphtheria made its appearance I stuck to *phytolacca* with the addition of aconite. I generally give from two to four drachms of fluid extract of *phytolacca*, according to circumstances, and one drop of tincture of aconite in a four-ounce mixture, of which the patient takes one teaspoonful every half-hour or hour. But the local treatment of diphtheria is all important, and I consider all internal medication of secondary importance. Generally I recommend gargles of a mixture of peroxide of hydrogen to those who can afford to buy the article; to the majority I give a solution of refined carbolic acid, eucalyptus oil, and tincture of iodine diluted with cinnamon water. Of this solution I order a tablespoonful in a wineglass of lukewarm water to be used as a gargle every five minutes. I instruct the mother, in the case of a child, to put a tablespoonful of this mixture in a small-mouthed earthen vessel containing about one pound. The vessel is filled with boiling water, the head of the patient covered with a towel, and the steam of the solution allowed to enter the mouth as long as it lasts. This is repeated three or four times a day, and sometimes at night.

I have treated hundreds of cases of malignant diphtheria during the past several years after the method here given, with prompt and complete recovery in all cases. Antitoxin can do no better.

Of course the bowels have to be attended to, and after the patient is convalescent a tonic treatment has to be continued for some time.

Tracheotomy is almost useless in diphtheria, because of the systemic poisoning which saps the strength. It is not the want of oxygen which kills the patient here, but the absolute debility from systemic poisoning.

In treating diphtheria we have two objective points—to destroy the bacillus creating the diphtheritic membrane and to combat its effect.

There is more joy over one patient that payeth than over ninety and nine dispensary cases that need not pay.

Progress of Medical Science.

Etiology of Idiopathic Hypertrophy of the Heart.

—After a brief history of the clinical recognition of hypertrophy of the heart, Dr. Whittaker proceeds to classify this condition according to its etiology, as follows (*International Medical Magazine*): (1) Hypertrophies due to obstacles in the heart itself, typically represented in valvular disease; (2) hypertrophies due to increased resistance in the vascular system; (3) hypertrophies due to disease of the heart muscle itself; (4) hypertrophies due to affections of the nervous system. The author passes over the hypertrophy due to valvular disease as not being idiopathic, and after a short allusion to a variety described by Germain Sée as the "hypertrophy of growth," in which there is a precocious development of the heart under tardy development of thorax, the hypertrophy of pregnancy is considered. During pregnancy the heart has been shown to increase in weight. The enlargement affects both ventricles and the walls as well as the cavities (Dreysel), and is most marked in young life and least in emaciated women. The cause of this hypertrophy is to be attributed to the increased work thrown on the heart in supplying the mammæ, uterus, and placental circulation. Moreover, Spiegelberg, Gescheidler, and Heissler have shown in animals that there is an actual increase of blood during pregnancy. Hypertrophy of work is then dealt with, and Bolinger's investigations are quoted to show that animals with greatest muscular power are endowed with greater development of heart muscle. Hypertrophy due to resistance in the vascular system is introduced by a study of plethora, but it is probable that plethora alone is not sufficient to cause hypertrophy. Alcohol tends to produce the condition in several ways, such as by its action on the arterioles and nervous system and also by increasing the quantity of blood. Anything which favors the development of arteriosclerosis also precipitates the changes of age. These causes are chiefly alcoholism, syphilis, Bright's disease, diabetes, gout, saturnism, and psychical influences. Hypertrophy occurs in the various degenerations due to myocarditis, but is always preceded by dilatation. Hypertrophy due to nervous influences may be caused by mechanical irritation of the vagus and another common example is met with in Basedow's disease, though here dilatation is usually the more prominent symptom. Examples of chemical irritation of the vagus occur from excess of alcohol, coffee, tobacco, tea, etc. From whatever cause it may occur, hypertrophy of the heart is differently interpreted by pathologists. It is by the clinician spoken of as a compensatory process, and as such is looked upon with favor. Certain pathologists, however, of the modern school do not look upon it as ever physiological, but always as an indication of disease, and it is said that the great mass of men who have hypertrophy die from insufficiency. A more thorough appreciation of the causes which lead up to hypertrophy of the heart would enable us to recognize its insidious development more plainly and enable relief to be given.

Treatment of Perforating Ulcer by Nerve Stretching.—Dr. Chipault reports five cases of perforating ulcer successfully treated by stretching of the plantar nerves. After many unsatisfactory attempts to deal with this affection by amputation, excision of the ulcer, and scraping, the idea occurred to the author that stretching of the nerves distributed to the region occupied by the perforating ulcer might give some good results. Rejecting cases of non-trophic perforating ulcer which may be regarded as unamenable to

this plan of treatment, he tried nerve stretching with an unexpected degree of success in two cases in which the perforating ulcer was due to peripheral neuritis, and in three others of spinal origin. The five patients, all of whom had suffered for many years and undergone useless amputation, were in the course of a few days after stretching of the plantar nerves relieved of the ulceration and of the concomitant trophic disturbances. As four patients were kept in bed for only twenty-four hours after the operation and the fifth was thus confined for eight days, these good results could not be attributed to the rest which so often effects a transitory improvement in cases of perforating ulcer. These patients have remained quite free from their affection after intervals from the date of operation of eight, seven and a half, seven, six, and three months. The author has practised stretching twice of both the internal and external plantar nerves, once of the internal plantar alone, and twice of the internal collateral nerve of the great toe.—*La Presse Médicale*.

Intermittent Pneumonia.—In the *American Journal of the Medical Sciences* we are told that Dr. Mader has reported the case of a physician, forty-one years old, who was suddenly seized with a chill followed by fever, headache, and bilious vomiting. As influenza prevailed at the time, it was supposed at first that the patient had that disease, but on the second day Mader found physical signs of pneumonia in the left base. The disease lasted six days, with certain remarkable features. The temperature was intermittent, having five attacks lasting respectively forty-eight, twelve, fifteen, fifteen, and seven hours, rising almost to 104° F., alternating with intermissions of about twelve hours' duration each. The course was, therefore, somewhat like malarial quotidian, but not exactly like the latter, as the author says. There was neither chill nor sweating. Enlargement of the spleen in the attacks was doubtful. The infiltration seemed to recede in the first intermission, increase in the second attack, and then recede. After that the condition of the consolidation was masked by pleural exudate, but from the intermittence of the rusty sputum it seemed that the local process had an intermittent course. In addition there was periodic headache. Bacteriological examination of the sputum by Paltauf and Tannenheim showed diplococcus pneumoniae in almost pure culture. Streptococci and influenza bacilli were not present. Examination of the blood for malarial parasites was neglected. The author's explanation of this interesting case has at least the merit of boldness. The patient when a child had malarial fever for two years. After that he lived in Vienna, where malaria is rare, and never had malarial symptoms. Mader thinks that the parasites produce changes in the nerves or blood, which cause later disease to assume an intermittent character. As he says, "the belief that long-continued changes in the blood are produced by infection of various kinds is no longer strange," and it is also "well known that by frequent repetition the nervous system acquires automatic powers."

The Spontaneous Fracture of Uric-Acid Calculi.

—At a recent meeting of the Pathological Society of London, as reported in the *British Medical Journal*, Dr. Plowright read a communication on this subject. The patient was a man aged seventy-two, from whose bladder were removed two hundred and thirty-six fragments and six entire calculi in the process of spontaneous fracture. The base of the bladder was occupied by several sacculi or pockets about half an inch across, which contained the calculi, the fragments, and pus-laden urine.

The sacculi were formed by hernia-like protrusions of the mucous membrane between the reticulating

muscular fibres of the bladder, and were so placed as never to be emptied during life. The entire mass of calculi was mapped out into segments by elevated ridges and upon section each segment was seen to be lifted up, being separated from the nucleus below and from the other segments by cracks or fissures sufficiently wide to admit the point of a penknife. They were held together only by the ridges on the exterior of the calculus. These ridges consist of uric acid with a trace of ammonia, as pointed out to the author by Dr. Ord. The same substance in the form of a grayish-white deposit covers not only the exterior of all the calculi and fragments but extends into the interior of the fissures, covering their sides with a granular or nodular layer. Toward the outer extremities of the fissures, opposite the one or two outer concentric laminæ of the calculus, it is deposited much more abundantly, so as to constitute an obtuse wedge when seen in section, by the increase of which the fissure is opened. The fragments are, as a rule, more or less wedge-shaped, but convex externally where they corresponded to the exterior of the calculus and concave internally when they have been lifted away from the nucleus. In some cases only one or two segments had been lifted out from a calculus. On the surface of the calculi the deposit often forms blister-like elevations which may be perforated in the centre and resemble volcanic craters. On section the upper wall of these blisters is seen to consist not only of the whitish-gray deposit, but fragments of the outer concentric laminæ of the calculus have been upheaved by and remain embedded in it and are easily recognizable by their yellow color and striation. When pressure is applied to a calculus with sufficient force to crush it fracture takes place, not only by a separation between the concentric laminæ, but also at right angles to them along what may be called the planes of radial cleavage. The tendency to radial fracture can often be observed in the sections of calculi in museums, but it is best shown in the structure of artificial calculi, as pointed out by Rainey in his book on "Molecular Coalescence." We may, therefore, regard a calculus as an assemblage of pyramids arranged with their bases externally. In the case under consideration the new deposit of uric acid on the exterior had taken place in such a manner as sometimes to lift up the outer laminæ, sometimes to open the interpyramidal sutures. When once an opening has been made between two pyramids, the fissure spreads inward; the deposit acting as a wedge, so that the calculus becomes split in exactly the same way as a log of wood may be. The transverse section of an exogenous trunk presents many similarities to the section of a calculus. The pith answers to the nucleus, the annular rings to the concentric laminæ, and the medullary rays to planes of radial cleavage. If a wedge be driven a short distance into such a log of wood parallel to its length and pressed forcibly sideways, it would lift a segment out of the trunk. The fissure between the wood fibres passes first inward toward the pith, but when the wedge is pressed sideways the fissure turns off at right angles, taking the direction of the annular rings for a certain distance, but if the sideways pressure of the wedge be continued the fissure will turn upward in the direction of the medullary rays and a piece of wood will be prised out. The process is identical in these calculi, the lateral pressure being caused by a wedge-like deposit. Rainey showed in the work above mentioned that when the artificial calculi formed by the action of potassium carbonate or solutions of gum arabic were placed in denser solutions of the colloid than that in which they were originally formed they tended to disintegrate. This is just what happened in the present case. The lower parts of the calculi

were continually immersed in the pus-laden urine of the pocket, while their upper portions were bathed in comparatively pure urine.

Carcinoma of the Displaced Cæcum.—Dr. Passler describes the following case observed in Curschmann's clinic. A man aged sixty was admitted with marked cachexia and symptoms of intestinal obstruction. As there was no evidence of the obstruction being due to syphilitic or tuberculous stenosis or adhesions producing kinking, or to a palpable tumor, a growth in the intestinal wall was diagnosed. It was localized by Curschmann in the right flexure of the colon, owing to the situation of the distended coils. No definite tumor could be felt, but a resistance was made out in the right loin. Operation was advised and the abdomen opened in the right hypochondriac region. The growth was found here apparently situated in the hepatic flexure. Resection was not attempted, owing to metastases, etc. An artificial anus was made, but the patient died. At the necropsy the growth was found in the cæcum, which was displaced upward. There was a total absence of the ascending colon, the cæcum passing directly into the transverse colon. There are, according to Curschmann's previous researches, two forms of displaced cæcum, namely: (1) that in which the colon is of normal length or even increased in length. Here the cæcum is so twisted that the fundus is directed toward the diaphragm and covers in a part of the ascending colon; or (2) the ascending colon is congenitally short or absent. The latter was the case here. The case shows that the clinical localization of the tumor may be influenced by the dislocation of the cæcum. Malignant growths in a dislocated cæcum have not in the author's knowledge been described. The possibility of a growth as well as of perityphlitic processes in a displaced cæcum should be borne in mind.—*Berliner klinische Wochenschrift*.

Cantharides in Albuminuria.—Dr. Lancereaux advises the use of cantharides in the anasarca following acute nephritis when the epithelial tissues are involved.

The Modern Aspect of Indicanuria, with Special Reference to the Relation between Indican and the Acidity of the Gastric Juice.—After a careful and exhaustive review of the literature, and after much original investigation on the indican reaction of the urine, Dr. Charles E. Simon, of Baltimore, summarizes his results as follows (*American Journal of the Medical Sciences*).

1. The gastric juice possesses antiseptic and germicidal properties.
2. These properties are referable to the presence of free hydrochloric acid.
3. A subnormal amount of free hydrochloric acid will call forth an increased degree of intestinal putrefaction.
4. The conjugate sulphates form an index of the degree of intestinal putrefaction.
5. The increased intestinal putrefaction in cases of subacidity and anacidity of the gastric juice is largely referable to an increased formation of indol.
6. The elimination of indican in the urine may be regarded as an index of the amount of free hydrochloric acid present.
7. A normal acidity of the gastric juice is never associated with increased indicanuria.
8. Cases of ulcer of the stomach apparently form an exception to this rule, an increased indicanuria being usually associated with hyperchlorhydria.
9. In other cases of hyperchlorhydria a subnormal or normal amount of indican is eliminated.

10. Simple constipation is rarely accompanied by an increased elimination of indican.

11. Diarrhœa referable to a catarrhal condition of the colon, often following a previously existing coprostasis, as well as diseases of the colon in general, is not associated with an increased indicanuria.

12. In the differential diagnosis between ileus and coprostasis, a small amount of indican excludes the former condition.

13. In cases of an achlorhydria with much lactic acid, the indican is not necessarily increased.

14. No indican, or but little indican, with delayed Gûnzburg potassium-iodide reaction, indicates the absence of free hydrochloric acid, with much lactic acid.

15. Much indican, with a normal or anticipating Gûnzburg reaction, is suggestive of ulcer.

16. In cases in which the use of the gastric tube is impracticable or contraindicated, or in cases of a mere superficial examination, the indican reaction will furnish a valuable index of the condition of the patient's digestive powers.

17. By means of the indican reaction we are enabled to follow very closely the results of treatment instituted in cases of gastro-intestinal disease.

Given as premises:

1. That a resorption of decomposing pus is not taking place anywhere in the body, as such a process itself is capable of producing an increased elimination of indican.

2. That there does not exist a stenosis of the small intestine.

3. A normal mixed diet containing no excessive amounts of red meats.

The author does not wish to convey the impression, however, that with the adoption of this method the use of the gastric tube for diagnostic purposes should be abandoned. From a careful analysis of the urine, it is true, many points of undoubted value can be obtained regarding the condition of the stomach, small intestine, etc., but nevertheless, the information thus obtained cannot as yet be so complete as that furnished by a direct examination of the stomach contents. As confirmatory evidence, however, and as a method to be employed when for any reason the use of the tube is either contraindicated or impracticable, the same will be found of decided value.

Metritis.—The *Jour. des Sc. Méd. de Lille* quotes from the new work of Dr. Douriez on this subject as follows: "In acute cases, absolute repose in bed, as for a fractured thigh, with vaginal irrigations; if blennorrhagic, dilatation of the uterus and iodoform pencil or swab; if puerperal, scraping or continued intra-uterine injections; if chronic, copious vaginal douches for three days, with mechanical dilatation of the uterus for five or six days, cleansing the uterine cavity and inserting a drainage tube the size of the thumb. This is removed every other day long enough to make an application of iodine inside the uterus. After three of these applications the drain is replaced by a vaginal tampon, which is left for four days. This treatment lasts for twenty days, when the patient may leave her bed. Any special treatment indicated by the neck of the uterus or by the pelvic basin must also be studied."

Syphilis in Infants.—Dr. Boulengier thinks syphilis cannot be transmitted by the spermatozoid. In cases of infants born with syphilis it has been acquired in utero. The disease may have been latent in the mother, but finding a good culture ground in the placenta it infects the offspring while sparing the mother. Though actual syphilis cannot be transmitted by the father, all the symptoms of degeneracy that it

entails may be inherited by the child. He supports his theory by a number of cases. One couple with no venereal antecedents of any kind had a child born with pronounced syphilis. The husband had contracted the disease when his wife was in the fourth month of pregnancy. A month after the birth of the child the mother was attacked with roseolar and papular eruption.—*Presse Médicale Belge*, November, 1895.

The Surgical Treatment of Dysentery.—Dr. E. L. Patterson, of Barnwell, S. C., in the Transactions of the South Carolina Medical Society (1894), calls attention to a mode of treatment for dysentery which in his experience has proven a specific and to which he applies the term "surgical." "I have observed," he says, "that there was a spasmodic contraction of the anus and this condition, I thought, was due to the irritation in the rectum, which excites the sphincters into firm contraction. The contracted condition of the sphincters, I concluded, prevented a complete evacuation of the contents of the rectum and thereby produced the tormina and tenesmus so characteristic of this disease. Having reached these conclusions, I determined to try dilatation of the sphincters and operated as for fissure in ano. The result was so gratifying that I have continued this mode of treatment and now immediately upon seeing a case, I dilate both the internal and external sphincters, but not quite to the extent as for fissure in ano. It is my custom to give a little chloroform, though I have operated on quite a number without doing so. The fever which accompanies dysentery is not the result of any inflammatory condition which exists in the rectum, for in the puerperal state we have a more inflamed condition and yet no fever, unless from sepsis, and we do not anticipate fever in our surgical operations unless from lack of antiseptics; therefore we must conclude that the source of fever in dysentery is the result of septic absorption. The after-treatment consists in irrigating the rectum with antiseptics and astringent solutions, although boiled warm water, one quart, with the addition of two drachms of powdered borax has given me as good results as anything else. After the dilatation of the anus the dysenteric evacuations cease. The internal treatment consists of the usual remedies, calomel, salol, and ipecac, in small doses repeated hourly until the physiological action of the calomel and ipecac is obtained, followed by a saline cathartic, being my preference, and if necessary, morphine, one-quarter grain, atropine, $\frac{1}{16}$ grain hypodermically, to relieve pain. The diet should consist of broth and raw eggs. As our water in the country is all surface water, I order boiled water for drinking purposes. The sanitary surroundings should be looked after and all of the evacuations should be disinfected. The room should be well ventilated and the bedding frequently changed."

Gonorrhœal Endocarditis.—The following conclusions are drawn from a study of the question by Finger, Ghon, and Schlagenhauser (*Arch. f. Derm. u. Syph.*, 1895, p. 323): 1. There exists a form of malignant endocarditis coming on as a complication of acute gonorrhœa and produced by the gonococcus. 2. The demonstration of the presence of the gonococcus in the vegetations of the endocardium by the process of culture fails, for the reason that the high fever which exists in these cases attacks the vitality of the specific micro-organisms. 3. The diagnosis can be made only by the microscopical examination of sections in which cocci present themselves in such a way as to remove all confusion. 4. The metastatic complications of gonorrhœa are produced through the vascular system

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE VALUE OF MERCURIAL INJECTIONS IN THE TREATMENT OF SYPHILIS.

AMERICAN physicians—and by this of course we mean more especially those Americans who live in the United States and not in South America—have been reluctant to adopt as a general method of treatment that of hypodermic injections introduced by Lewin about thirty years ago.

In the discussions of the subject which have taken place in our important societies the consensus of opinion has usually been that hypodermic medication is not well adapted for office patients in this country and that we should reserve it for special cases, those apt to pass quickly from our control or to neglect all treatment at the earliest opportunity; and for certain hospital and dispensary patients. It is probable, however, that injections are coming more and more into favor here, as they are in France and Italy, while in Germany and Austria they would seem almost to have taken the place of older methods. Both soluble and insoluble preparations have their advocates, who claim superiority for their favorite preparation. The insoluble mercurials have lost many adherents in the past few years and in many quarters have been wholly given up. Dr. Renault, writing in the *Journal des Praticiens* of December 14, 1895, gives, as the chief arguments advanced in favor of the injection of soluble mercurials, that the dosage is mathematical and, being thus precise, we can obtain with small quantities curative effects superior to those resulting from larger doses introduced into the organism by other means; the therapeutic action is more rapid and more powerful; the injections are well borne by the organism and ameliorate the nutrition and general state of the patient; and, finally, they protect much more than other methods against recurrences.

The writer then proceeds to pick flaws in some of these claims and to point out a number of inconveniences and dangers which prevent the adoption of the method to the exclusion of others. The following indications for the employment of the injection treatment are formulated:

1. Soluble injections are applicable to cases of syphilis which are refractory to the usual methods of treatment. They then constitute a valuable resource which one gladly profits by.

2. There are patients whose digestive tube shows

an invincible intolerance for internal medication or whose skin inflames upon the slightest friction. These are surely entitled to hypodermic medication.

3. This method should be again employed when the physician is obliged to administer other drugs than mercury, with a view of combating at the same time other morbid states which call for special treatment. We can appreciate the interest one has in such cases to save the stomach as much as possible.

4. Finally, some cases of syphilis require by reason of their gravity an intense mercurial effect. We must rapidly influence the organism so as to draw away the severe and threatening manifestations from the ocular apparatus, from the nerve centres, or from some important organ. Here again the insoluble injections find their usefulness, although it is by no means proven that frictions applied according to the strict rules in patients capable of supporting them are endowed with a lesser degree of efficacy.

It is thus seen that some observers in European countries hold much the same views as the majority of those American physicians who have paid special attention to the subject.

OYSTER SHUCKERS' KERATITIS.

In the *Johns Hopkins Hospital Bulletin* for November, 1895, Dr. R. L. Randolph described a disease which he called "oyster shuckers' keratitis," which occurs wherever the oyster industry exists, but which is particularly prevalent in Baltimore. That city, we are told, is the greatest oyster market in the country and there are at least six thousand shuckers in Maryland, oysters being prepared in that State for shipment elsewhere. The keratitis from which these men suffer is distinctly of traumatic origin. A minute particle of the oyster shell is chipped off by the hammer used in the shucking process and it falls into the eye. The particle is generally too small and too light to penetrate far into the cornea, and, unlike other foreign bodies, it can seldom be detected. This is due, according to Dr. Randolph, to the fact that a rapid infiltration takes place and the foreign particle is soon thrown off. The symptoms produced by the trauma develop very quickly. Photophobia is very marked. The patient says that he has a definite sensation of having been struck in the eye. This sensation is followed by pain some hours later and this pain is usually very intense. The central part of the cornea is rather more frequently injured than the periphery. The ulcer which is formed is very white, whiter than ordinary corneal ulcers. It is sharply circumscribed at its borders. It does not show the same tendency to spread that other corneal ulcers do, unless an infection has occurred.

As to the pathology of the trouble, Dr. Randolph has gone over the problem with great care and with very satisfactory results. He first attempted to discover whether there was any bacterial infection. A careful study made by inoculating tubes from the surface of the ulcer in sixty-five cases gave practically negative results. He concludes that oyster shuckers'

keratitis is not a parasitic disease. His next inquiry was to determine whether it had a chemical origin. A study of the effects of the action of the juice of the oyster upon the eye showed that this had no particularly bad effect. The further investigation, however, of the action of the oyster shell itself upon the cornea showed that the irritating properties were evidently due to the chemical constituents of this shell. The shell of the oyster contains over ninety per cent. of carbonate of lime. There are also sulphates, phosphates, silicates, and other mineral substances; organic matter is present to the extent of one per cent. The carbonate of lime is the principal constituent, and Dr. Randolph found that by taking pure sterilized carbonate of lime and applying it to a sterilized wound of the cornea a keratitis would result. He concludes, therefore, that it is the lime which has the specially bad effect in the causation of this trouble. The specific conclusion reached is that bacteria always play a part in traumatic keratitis, but in the variety of traumatic keratitis which occurs in oyster shuckers the cornea is made especially susceptible to micro-organisms by the irritating chemical ingredients of the oyster shell, notably the carbonate of lime.

As regards treatment, Dr. Randolph finds that the yellow salve is useless and that the galvano-cautery has no very specific effect. A compress bandage and a mild sublimate solution, 1 to 4,000, used every four hours, together with an occasional drop of a solution of atropine, gave the best results.

THE NUDE IN ART AND THE DRAMA.

THE preacher has often inveighed against the nude in art and especially against the nude in the theatre; the moralist shakes his head with a resigned protest; the rest of the world goes its way, perhaps, or says, "It is Art," and therefore must be all right.

Dr. L. M. Phillips, a physician of Penn Yan, takes the matter up statistically and proceeds to make some very distressing statements. He says, in the *Cincinnati Medical Journal*, that he has been asked this question:

"What influence does the nude statuary exposed in our public museums, and the nude or almost nude living pictures exposed in the *fin-de-siècle* theatre, have upon such organisms as the hysterical or those presenting peculiar or abnormal sexual phenomena?"

In answer Dr. Phillips says that as the result of his investigations he is "unable to find more than one per cent. who do not present an increased sexual desire at the sights referred to above. In more than sixty per cent. of the remainder, there is presented the desire to obtain at almost any cost the fetich. This class is not satisfied except the whole is obtained and attained. Here there is nothing psycho-pathologically wrong in desiring and obtaining the fetich, except the sexual accentuation, which is more or less a mild nymphomania in the female, and in the male satyriasis, which surely ebbs and flows when the sexual centres are appealed to. This class, it may be

said, make up our healthy sexual population, for they present nothing abnormal sexually. The other thirty-nine per cent. some time or other during their active sexual life present evidences of abnormal sexuality."

Tabulating these interesting figures we find the following:

Uninfluenced by the living pictures, etc. . . .	1 per cent.
Influenced.	99 "
Influenced by a desire to obtain the fetich. . . .	60 "
More or less affected at same time.	30 "

In illustration of these observations, Dr. Phillips reports some cases in which anæsthesia or hyperæsthesia sexualis was produced by viewing the fetich in its various types.

The conclusion reached is that such exhibitions, while quite harmless to the trained artistic mind, produce injurious sexual disturbances in a large percentage of the immature, uneducated, and neuropathic people who frequent the modern show.

SPECIAL MEDICAL ADVERTISING IN THE DAILY PRESS.

IN paragraph three of Article I. of that portion of the Code of Medical Ethics which treats of the duties of physicians to each other and to the profession at large, it states among other things that "it is derogatory to the dignity of the profession to publish cases and operations in the daily prints." The framers of this rule of action, conscious of human weakness in general and perhaps of the physicians' temptations in particular, went a step farther and added: "Or suffer such publications to be made."

Whether always justly so or not, New York affords an example in matters medical as well as in many other things that interest the people of this great country. We should, therefore, make an effort to so direct our actions that, if they are to be imitated, good rather than harm may result; and for this reason we believe an apology is due the profession at large for the manner in which some medical men who claim to represent special lines of work are being advertised in the daily papers. We do not mean to claim that a physician can or always should prevent his name from appearing in a proper way. Many general questions arise pertaining to public health which demand discussion by physicians. The public is at times entitled to the views of medical men upon matters which thus affect the general welfare. It is, however, another matter when a physician conducts a private institution, and this particular institution is described, and the brilliant operations performed within the privacy of its walls are statistically announced for the public good week after week. We cannot believe that men with brilliant reputations already established are knowingly guilty, having so little to gain and so much to lose in the good will of their colleagues. Perhaps a kindly disposed assistant may furnish the details of an operation to some friend upon the press, or perhaps the patient himself, possessed of an unusual amount of kindness of heart and surprising knowledge of technical details, may write it up as an acknowledg-

ment of his gratitude. The surgeon, of course, being too busy to trouble himself with measures tending to check it, the free advertisement goes on until he finds himself overrun with applications beyond the capacity of his establishment. One result of this unseemly publicity is to lead lesser lights into a spirit of dissatisfaction, prompting them to boom themselves, and, in the absence of a private sanitarium or special hospital to describe for the benefit of a longing public, they must content themselves with a before-and-after photograph of the patient whose remarkable case is described, and the location of the office where the "skilful operator" can be found.

The technical nature of the details indulged in by these gentlemen leaves no doubt that they have been their own advertising agents, and destroys all possibility of a charitable construction being placed upon the venture.

From a business standpoint we believe the newspaper-advertised physician in both these classes described is making a mistake. The one should take time to find out who is injuring him in a possible attempt to benefit, and have it stopped. The other should take his chances in striving to keep the respect of his fellow practitioners.

If one must thus keep before the public, let him do it in an out-and-out manly quack fashion at regular rates.

News of the Week.

Opening of the Columbus Hospital, New York.

—The Columbus Hospital on East Twentieth Street was formally opened March 18th. A large number of visitors was present. The reception lasted from 3 P.M. to 5 P.M., and the guests were received by the Salesian Missionaries of the Sacred Heart. Preceding the inspecting of the institution by the visitors, the hospital was blessed by Archbishop Corrigan, who also made a short address. The medical staff consists of Drs. Stephen Smith, George F. Shrady, John Boucher, Charles Lewis, Bache Emmet, Peter Callan, Frank Ferguson, Cornelius Cokeley, Ramon Guitéras, and Joseph Winters.

Encouraging Words.—"Your issue of March 14th contains more news and valuable reading than any journal I have seen for a long time."—*E. L. Patterson, M.D., Barnwell, S. C.*

The State Clothes Tax.—Since our last issue the courts have decided against the demands of the Lunacy Commission for new clothes for patients transferred to the City Asylum; but the commission, jealous of its autocratic rights, has made an appeal from this judgment, making a compromise with the Commissioners of Charity by which the transferred patients can be furnished with clothes and temporary lodging, ultimately perhaps at the city's expense.

Obituary Notes.—DR. WINTHROP SARGENT, formerly a resident of Philadelphia, died on March 16th at Roxbury, Boston, at the age of seventy-four years. He was born at Gloucester, Mass., and was educated

at Dartmouth College, subsequently studying medicine in the University of Pennsylvania, from which institution he was graduated in 1847. He was surgeon in charge of the government hospital at Kingessing in 1862.—DR. JACOB P. SCHOLL died at his home at Bethlehem, Pa., on March 15th at the age of eighty-one years. He was prominently identified with the industrial and commercial interests of the neighborhood in which he lived.

Orphan Asylum of Hebrew Sheltering Guardian Society.—The consulting medical board of the Orphan Asylum of the Hebrew Sheltering Guardian Society was organized March 15th with Carl Beck, M.D., as president, and William S. Gottheil, M.D., as secretary. The other members of the board are: Henry S. Oppenheimer, M.D., George H. Fox, M.D., Welcome T. Alexander, M.D., Joseph G. Wallach, M.D., H. T. Brooks, M.D., and Albert T. Swan, M.D.

Vital Statistics of the City.—There were 850 deaths during the past week apportioned as follows: Measles, 28; scarlet fever, 5; diphtheria, 28; whooping cough, 8; typhoid fever, 2; malarial fever, 2; meningitis, 4; diarrhoea, 17; heart disease, 60; croup, 9; bronchitis, 35; pneumonia, 165; phthisis, 104; Bright's disease, 48; violence, 31; other causes not given.

The Eastern Medical Society of New York.—At the March meeting of this society Dr. F. C. Valentine read a paper on "Posterior Urethritis," which was discussed by Drs. Louis Fischer and S. Brothers. Dr. Zanoni also made a psychological demonstration of much interest.

The Western Society of Eye, Ear, Nose, and Throat Surgeons will be organized at a meeting to be held at the Midland Hotel, Kansas City, on April 9 and 10, 1896. The programme of the meeting contains a long list of interesting titles. The acting secretary is Dr. Hal Foster, of Kansas City, Mo.

American Students in Paris will in the near future be received at the Medical School to compete on an equal footing with French students. The following resolutions will shortly become law, according to a statement just given out by Dean of the Faculty Brouardel:

"Every French or foreign student who wishes to be inscribed at the Faculté de Médecine will present the same diplomas, and will, in consequence, be on an absolute footing of equality.

"At the conclusion of his studies he will obtain the diploma allowing him to practise medicine in France.

"Those among foreign students who wish to obtain a diploma testifying only to the assiduity with which they have followed the usual course for medical students in France may receive a diploma *pro honores*, which will not allow them to practise medicine in France."

Dr. Guiseppe Cipolla, sanitary inspector in chief of the Italian army, died in Rome on February 14th. He was born in Montemaggiore, Palermo, on July 28, 1833. The cause of his death was nephritis.

Food Values.—Experiments to determine relative food values are being conducted by Professor Atwater and others under the direction of the United States government at Middletown, Conn. Dr. Tower, who has just completed a week's confinement in an air-tight room into which a measured quantity of air was pumped daily, has studied the effects of various articles of diet during his confinement, and his conclusions it is thought will prove of value.

Successful Candidates for the degree at Bellevue made the neighborhood of East Twenty-Sixth Street very lively for a few hours the day the results of their examinations were announced. This is as it should be. Their time for merry-making is fast drawing to a close. In a few years they will look back and wonder why they should have felt so good over it—and wish at the same time they had made things more lively while they were at it.

Cæsarean Sections are not of frequent occurrence in Tennessee, if the statement in the *Nashville American* of March 14th is to be trusted. An operation just performed near Huntingdon by a professor of gynecology in the Vanderbilt University is said to be the first one in that region and, so far as the writer was aware, in any part of the State. An interstitial fibroid in the lower segment of the uterus was the occasion for surgical intervention in a woman of thirty years who had already borne several children. The child died half an hour after delivery, but at the date of writing, three days after the operation, the patient herself, upon whom laparo-hysterectomy had also been performed, was doing well.

Deaths under Anæsthetics in England.—Five deaths under anæsthetics within the comparatively brief period of a week have been reported as occurring in various parts of England. In three cases chloroform was the anæsthetic employed, in one ether, and in one the anæsthetic is not mentioned by the *Medical Times and Hospital Gazette* which comments upon the cases. That such accidents are frequent is to be inferred from the opening sentence: "The list of deaths under anæsthetics continues to expand at an alarming rate." The jury in each instance appears well satisfied with the results. The verdict usually reads: "Death from failure of the heart's action, due to chloroform administered for the purpose of an operation, and that the chloroform was duly and properly administered," or, as in the inquest held upon the thirteen-year-old daughter of a clergyman who died while having a tooth extracted, a verdict is handed in "Death from misadventure." In this connection the following statement taken from the *Medical Press* is significant: "Sixty-one deaths have occurred during the administration of anæsthetics in the United Kingdom in the past year. Fifty-two of these have been due to chloroform."

The Health of the German Empress is reported to be in a very unsatisfactory state and her condition causes much anxiety. She is to go to Kreuznach as soon as the season opens and later to the island of Rügen in the Baltic.

Dr. P. Hedenius, professor of general pathology, pathological anatomy, and state hygiene at the University of Upsala, and president of the Upsala Medical Society, has recently died.

Yellow Fever prevails extensively in Rio Janeiro. A steamer recently arrived from there lost one of her crew from the disease shortly before reaching this port. For the two weeks prior to the steamer's departure from Rio Janeiro there were reported four hundred and fifty-one cases of yellow fever, with three hundred and ninety-five deaths.

Dr. S. Pozzi, the well-known gynecological surgeon of Paris, has recently been elected a member of the Académie de Médecine. It is said that the French government is about to establish a chair of gynecology at the Faculté de Médecine, and that Dr. Pozzi, who is already a *professeur agrégé*, will be its first incumbent.

Expulsion from the Medical Society of the County of New York.—At the last meeting of the society Dr. W. F. Grier was, on the recommendation of the committee on ethics, expelled for unprofessional conduct. Dr. Grier will, it is said, make an appeal to the courts for reinstatement.

The Cartwright Lectures of the College of Physicians and Surgeons for 1896 will be given by George S. Huntington, A.M., M.D., professor of anatomy in the medical department of Columbia University, New York. I. Lecture, Wednesday, April 8th.—"Morphology of the Ileo-Colic Junction and Large Intestine in Vertebrates." II. Lecture, Wednesday, April 15th.—"Evolution of Human Cæcum and Vermiform Appendix, and Probable Lines of Derivation of the Corresponding Structures in the Other Vertebrates." III. Lecture, Wednesday, April 22d.—"Morphology of the Bronchial System and its Relation to the Pulmonary Vascular Supply in Mammalia." The lectures will be given in the hall of the New York Academy of Medicine, 17 West Forty-Third Street, on the above dates at 8:15 P.M.

The California Northern District Medical Society held its semi-annual meeting at Red Bluff on March 10th. A number of interesting papers on hernia, chloroform anæsthesia, hygiene, mental therapeutics, and other subjects were read and discussed during the morning and afternoon sessions, while the evening was devoted to the discussion of a banquet at the Tremont Hotel.

X-Ray Spectacles.—It is reported that Mr. Thomas A. Edison has invented fluorescent spectacles which will enable the surgeon to see directly through any part of the body. The fluorescent medium is paper covered with the tungstate of calcium, and takes the place of ordinary lenses in the spectacles. By means of a portable machine containing an air-pump and Crookes' tube the rays are projected through a limb from its distal aspect and transfer the image directly to the eye of the observer. He calls his instrument the Fluoroscope, and claims that it can be adapted to hospital uses.

Health of London.—London now claims to be the healthiest of the large cities, the death rate being only 16.3 per 1,000 persons. The death rates in other large cities are: Berlin, 18.2; Paris, 20.5; Vienna, 22.5, and New York, 19.6.

Manslaughter and Typhoid Fever.—The Duluth Gas and Water Company has been indicted for manslaughter in having caused the death of Harry W. Smith by typhoid fever, alleged to have been contracted from water delivered through the mains. Their franchise specifies that they shall furnish pure water.

Seats for Employees.—The New Hampshire legislature has enacted a law compelling every person, firm, or corporation employing females in any manufacturing, mechanical, or mercantile establishment in the State to provide suitable seats for the use of females so employed.

Navy Department.—Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for the week ending March 14, 1896. March 10th—Medical Inspector J. B. Parker to duty in charge of naval hospital, Widow's Island, Me., in addition to present duties. March 11th—Surgeon Thomas Owens placed on the retired list March 10th. March 13th—Surgeon W. R. Du Bose detached from the Naval Academy and ordered to the *Terror*.

Turbulent Students.—Whenever popular excitement runs high in any of the countries of Southern Europe the socialists and the students appear to vie with each other as to which can most effectually disturb the peace. At present the universities in both Italy and Spain are closed, those in the former country on account of the Italian defeat by the Abyssinians, those in the latter because of the popular rage against the United States.

Ether Narcosis and Danger from Fire.—At the Female Hospital in St. Louis recently, during the administration of ether, the latter took fire, causing some disagreeable burns. The accident followed as the result of forgetting that ether is very inflammable.

The St. Petersburg Medical Library.—The library of the Academy of Medicine in St. Petersburg takes in no less than one hundred and forty medical journals and reports in the Russian language and more than four hundred foreign periodicals.

Degeneration in Italy.—A Milanese writer says that "forty-five per cent. of Italian youths cannot complete their military service for physical decrepitude and the maladies it invites."

Oxford is Conservative.—The congregation of Oxford University has rejected by a vote of 215 to 140 a resolution to allow women to take the degree of bachelor of arts.

An Improved Antitoxin.—The Board of Health of this city announces that it is now manufacturing an antitoxin which is much stronger and consequently much more efficacious than any hitherto prepared. In a circular just issued it says that the

curative value is not due to the amount of serum but to the amount of antitoxin which the serum contains. The disagreeable symptoms are often produced by the serum itself. Consequently the more concentrated it is the smaller can be the dose and the less likelihood of eruptions, etc., following its use. To institutions the serum will be furnished free of cost and physicians can obtain it at cost of production.

Dr. W. M. L. Coplin has been elected professor of pathology and bacteriology in the Jefferson Medical College of Philadelphia. He is at present professor of pathology in Vanderbilt University.

Rice Cultivators in Italy.—In a recent medical report of Professor Celli it is stated that in the rice-fields around Ravenna, Italy, the workers, mostly females, are bowed nearly double, emaciated, with ashen-gray complexions, all to gain twelve cents a day, and their children are anæmic, tympanitic, and under-sized.

Menelek and the Red Cross.—King Menelek of Abyssinia has asked that his country be admitted to the Red Cross convention, and at his request the Russian Red Cross Society has sent to Abyssinia a number of surgeons and nurses with medical supplies.

A Trial of Cholera Inoculations.—During a recent cholera epidemic on the railway line from Assam to Burmah, one hundred and ninety-six workmen were inoculated after the method of Dr. Haffkine. Of these only four died, while of one hundred and fifty-nine who were not inoculated thirty died.

An Anti-Cigarette Law.—The Iowa legislature has passed a bill forbidding the sale or manufacture of cigarettes or cigarette material in Iowa. The penalty for the first offence is a fine of from \$25 to \$50, and for the second offence a fine of from \$100 to \$500 or imprisonment for six months.

Medical Journalism in Philadelphia seems to be very nearly of the past. The *Medical News* has left, the *Times and Register* is published there but edited in Boston, and the *Medical and Surgical Reporter*, which left there once and then returned, is administering weekly rebukes to its readers in that city for their lack of energy and their failure to keep abreast of the times. Surely, this cannot be so!

Accident to an Ambulance Surgeon.—While Dr. John H. Scholl, the ambulance surgeon of the Homœopathic Hospital, Brooklyn, was answering a call one night recently, the strap by which he was supporting himself broke, and he fell backward into the street. He was picked up unconscious by the driver and taken back to the hospital.

An Anti-Tobacco League is finding much favor among Philadelphia school boys. Of one thousand and thirteen boys in one school five hundred and fifty signed a pledge to abstain from the use of tobacco until they reach the age of twenty-one years.

Degrees Refused to Women.—The senate of Cambridge University, by a vote of 186 to 171, has rejected the proposition to appoint a committee to con-

sider the question of conferring degrees upon women. A similar decision had been reached by the authorities of Oxford University a few weeks before.

Against the Spitting Nuisance.—The health board of St. Louis has recommended to the city council the adoption of an ordinance making it a misdemeanor for any person to expectorate on the floors of street cars or other public conveyances, or in hotel corridors, theatres, public halls, and places of worship; also that the porters or persons in charge of the cars and public places be required to furnish cuspidors in sufficient number and that they be required to clean the vessels daily, using some disinfecting fluid to be approved by the Board of Health; also that suitable provisions be made for the inspection of the vessels and the public places where they are provided.

Accidental Poisoning.—Dr. M. C. White, New Haven's medical examiner, carried a bottle of aconite, which he had taken from a suicide's effects, in the same pocket with a bottle of cough syrup, and drank from the wrong bottle. Fortunately he received prompt assistance and his life was saved.

Bequests to Charitable Institutions.—The will of George Bliss, of the banking firm of Morton, Bliss & Co., of which Gov. Levi P. Morton is a member, has been admitted to probate. The following bequests are contained therein: Woman's Hospital in the State of New York, \$20,000; Hospital of the New York Society for the Relief of the Ruptured and Crippled, \$20,000; Manhattan Eye and Ear Hospital, \$10,000; and the Old Women's Home at Northampton, Mass., \$10,000.

New York Eye and Ear Infirmary.—Dr. James F. McKernon was appointed attending aural surgeon of the New York Eye and Ear Infirmary at the February meeting of the board of directors.

The Present Spring Weather.—The following is the *Sun's* racy tribute to our breezy spring, justly provoked by the allusion to "Sweet whispers in the air" made in a recent issue of the *Boston Transcript*: "Oh, you bards of Boston, with mufflers on your sensitive faces, tippetts around your canorous necks, and a hundred thousand east winds whistling in your dazed and flaring ears! Spring whispers, does it? And of all springs, and vernal sons of bunco, spring in Boston. Spring doesn't whisper; it wheezes. It is full of rheumatism and ruin. Coroners march before it; even the reluctant poets of other climes than Boston hymn it with necks in noose of tonsillitis, and the music of the metre is palpably hampered by the coarse sobbing of goloshes. Be just and jeer not. Spring doesn't whisper; it roars and howls. It filches hats even from the stateliest elocutionary thoughttops. It fillips the most reverent ears. It tips with crimson the most beautiful noses. It brings snow when it ought to bring baseball. It is full of snow that is too late, and of mud that is too thick."

Roentgen Pictures in Newspapers.—The powerful effect of imagination over that produced by actual fact is painfully illustrated in the efforts of the various

newspapers in their attempts to illustrate the anatomical details of the bony parts of the foot and hand as actually shown in the skiagraphs. With the exception of the copy of the hand made from the *MEDICAL RECORD*, the anatomical details are impossible and absurd. The Roentgen rays cannot lie, and it is very unsafe to make them do so. Any one who attempts false methods must always have a good understanding of his subject and have a good memory besides.

The "X" Rays and Bacilli.—The latest report is to the effect that bacilli enjoy the "X" rays and appear to thrive under their influence. Several bacteriologists are now very busy in reporting these results to the newspapers.

No Show for Brains by "X" Rays.—At the recent dinner of the Princeton Club, Professor Magie, in exhibiting skiagraphs of a goldfish, said: "These are the fish's swimming-bladders. That is about the way the interior of the skull would look if we should try to photograph it with the Roentgen rays."

The New Warden for Bellevue Hospital is a young plumber and friend of a prominent politician. There is a promise of his efficiency so soon as he makes a professional study of the capabilities of the institution.

Charge of Criminal Assault Dismissed.—The \$10,000 damage suit brought by Miss Cora B. Houseman, of the town of Stafford, against Dr. Ward B. Whitcomb, a physician of Batavia, N. Y., for alleged criminal assault, was dismissed on account of lack of evidence. We congratulate the defendant on his escape from a professional scandal.

Central Nervous Lesions in Diphtheria.—At the recent meeting of the Philadelphia Pathological Society Dr. J. Dutton Steele read a paper entitled "The Lesions of the Central Nervous System in Diphtheria," and presented illustrative sections and diagrams showing destructive changes in the dendrites and gemmulæ of the ganglion cells of the cortex cerebri of animals dead from inoculation with the toxin of diphtheria. The changes detailed corresponded closely with those previously described by Berkley as following poisoning with ricin and with alcohol. Dr. A. E. Taylor reported a case of pernicious anæmia, in which apparent recovery twice ensued after treatment with arsenic and bone-marrow, but which finally terminated fatally. Both hæmoglobin percentage and red-corpuscle numbers fell at times to an extraordinarily low level, but the former never quite so low as the latter. The erythrocytes presented moderate poikilocytosis, slight microcytosis and macrocytosis, and distinct nucleation, and the viscera after death contained an excess of iron. There was a total absence of hemorrhages during life. The stomach was atrophic. Dr. Judson Daland presented an interesting specimen exhibiting a healed dissecting aneurism of the ascending arch of the aorta and at a short distance beyond a second formation of similar kind, which, however, had ruptured into the pericardium and induced the fatal result. Dr. Alfred Stengle exhibited kidneys of

which the suprarenal bodies seemed to form an integral part, and also a group of tuberculous and neoplastic adrenals unassociated during life with symptoms of Addison's disease.

Reception to Dr. A. Donaldson Smith.—Dr. A. Donaldson Smith, of Philadelphia, who has just returned from an African exploration, delivered an address before the Geographical Society detailing his travels and some of his experiences, after which a reception was tendered to him by the Penn Club.

Lunacy Commissions Not What They Should Be.—Dr. Henry P. Stearns, medical superintendent of the Hartford Retreat for the insane, in an able article on the supposed value of lunacy commissioners, says that in view of the present conditions, and until a brighter day dawns upon our system of civil service and a higher appreciation of the possibilities inherent in commissions is realized, we must look for advances in psychiatry mainly along other paths, some of which have already been outlined and entered upon by the physicians who have had large experience in the very limited conditions which have existed during the past half-century, rather than from any service likely to be rendered in the near future by boards of lunacy commissioners.

A Woman Physician in Colorado, who had bequeathed her body for dissection to a medical college, died recently, and her husband complied with her wishes in delivering the body to the college.

Measles in Connecticut.—The report of the Connecticut State Board of Health for February shows some striking variations of the epidemic of measles prevailing in many parts of the State. The town of Roxbury, with only 936 inhabitants, returns 84 cases; Ridgefield, with 2,235 inhabitants, 96 cases; Woodbury, with 1,815 inhabitants, 79 cases; and Darien, with 2,276 inhabitants, 74 cases. On the other hand, except Norwalk, the urban towns return almost no cases at all, and as showing further the localization of the epidemic, 59 out of the 168 towns in the State return not a single case of any contagious disease.—*Evening Post.*

Small-Pox in Cuba.—A despatch from Santiago de Cuba says that the people of that city are alarmed by the reports of ravages of small-pox in Manzanillo. The alarm is due to the ease and frequency of communication between the two cities. The bulk of the population is blacks and most of them are unvaccinated. With the rapid spread of the disease in Manzanillo and the absolute lack of precaution, the disease will continue to reach out and add to the general demoralization of the island.

An Income Tax on Lawyers.—The Louisville city council has before it a bill which provides for an income license tax on lawyers. The ordinance places a tax of \$100 on those lawyers who have an annual income of \$10,000 or over from their practice; from this sum the scale slides downward, \$10 being the amount of the lowest license, a sum which every lawyer, no matter how humble, must pay.

Philadelphia County Medical Society.—At the last meeting of the Philadelphia County Medical Society, Dr. C. A. Veasey reported the case of a young woman in whom violent toxic symptoms with delirium and paraplegia developed after the instillation into each conjunctival sac for cycloplegic purposes of one drop of a solution of duboisine, two grains to the ounce of distilled water. Dr. G. E. de Schweinitz read a paper dealing with the subject of the repair of lesions and wounds at the corneo-scleral junction. He reported a number of cases in which sutures had been employed under these conditions with entire success. In a second paper Dr. de Schweinitz discussed the question of the extraction of unripe cataracts, and reported twelve cases in persons from twenty-five to seventy-five years of age, in which he had successfully performed this operation.

No Professional Secrets in Michigan.—A judge has decided at Battle Creek, Michigan, that a physician must testify in regard to the ailments of his patients.

The Prevailing Disease among British Soldiers in India at the present day is typhoid fever. The mortality among them from this disease is said to be greater than the combined mortality from cholera and dysentery in former times.

Abdominal Section in an Infant.—Dr. Charles B. Kelsey (*New York Medical Journal*) reports a successful laparotomy for intussusception in a child three months old.

It is **Amusing** to notice that some original items which were published weeks ago in the *MEDICAL RECORD*, after going the usual rounds through our contemporaries' columns as anonymously appropriated matter, are ultimately quoted and credited to other journals by our New York neighbors, thus taking the longest way round to get the surest way home.

State Societies of the Northwest Pacific Coast.—The State society of Montana meets April 23d, the Washington in Tacoma in May, the Oregon society in Portland in June, and the Idaho society in Boise City in September.

Dr. Edwin A. Bowerman passed a recent civil-service examination at Albany, in which he attained the highest average, 95.3. He has been notified of his selection to fill the first vacancy as junior assistant physician in the New York State hospitals for the insane. Dr. Bowerman graduated with first honors from the College of Physicians and Surgeons of Baltimore in 1895.—*Medical News.*

The College of Physicians and Surgeons of Chicago has purchased an adjoining building for hospital purposes, thus affording ample clinical facilities for its students.

The Ohio Medical Law.—Dr. Charles A. L. Reed, of Cincinnati, has been selected by Governor Bushnell as one of the members of the new Ohio Board of Medical Registration and Examination. He is a good man in a place that needs him very much.

Asphyxia from Fæcal Vomiting during Etherization.—At the recent meeting of the Society of the Alumni of Bellevue Hospital (*New York Medical Journal*) several cases of death were reported as the result of inhalation of fæcal vomit. It was suggested that the best preventive for such an accident, especially in cases of strangulated hernia, was local anæsthesia.

Refused to Take the Oath.—A graduate of the Central Medical College of St. Joseph created quite a scene on commencement night, by refusing to take the Æsculapian oath upon being presented with his diploma. The audience, not understanding that the oath is not compulsory and supposing that the diploma would be withheld in consequence of his refusal, viewed the student in the light of a martyr, and expressions of sympathy were heard from every quarter.—*Medical Herald* (St. Joseph).

Quoting the Advertisement as an Article.—Some of our exchanges are already quoting one of the advertisements of the *MEDICAL RECORD* as if it had been an original article contributed to our columns.

Successful Operation on a Wen of the Scalp.—According to a report in a Western newspaper a bold and enterprising surgeon has succeeded without general anæsthesia in removing an encysted tumor of the scalp. We presume that the newly-discovered local pain destroyer, cocaine, was employed. When any operator shoulders such responsibilities without consultation he takes his reputation in his hands. With a thorough knowledge of anatomy, with ample preparations against possibly formidable hemorrhage, and with careful antiseptic precautions, patients may sometimes recover. The surgeon deserves congratulations accordingly. It is to be hoped that no accident occurred to the sac, that none of the larger vessels of the scalp was wounded, and that the important hair-bulbs in the vicinity escaped injury. At last accounts the patient was doing reasonably well, with no marked increase of temperature and in that happy frame of mind which is a hopeful reaction from a danger passed. These unusual cases are always of interest, and it is to be hoped that an authoritative statement, with such technical details as are beyond newspaper comprehension, may be published in some medical journal or be brought before some scientific association. Statistics of actual recovery are not always trustworthy unless accompanied with a detail of qualifying circumstances. The diagnosis was made without the use of the Roentgen rays.

Increase of Study in Germany and Decrease in Practice.—The German government proposes to increase the term of medical study by another year, making six in all. The last year is to be devoted wholly to clinical study. While thus increasing requirements for licensed practitioners, no effort is made to suppress quackery nor to protect regular medicine. Petitions for such protection have been voted down in the Reichstag. If the additional year is imposed it is not unlikely that many regular medical men will practise without government sanction, thus fighting the quacks on their

own grounds. According to our German correspondent the quacks have so much the best of it that they "ride in chaises," while the poor but respectable practitioner walks. "Here in Berlin," he continues, "the contrast between quackery and honest medicine is so apparent that the quacks make from twenty to thirty thousand marks a year, while more than half of all the Berlin physicians scarcely have an average yearly income of three thousand marks."

The Medical Club System in England is being discussed after a lively fashion by suffering medical men. The latest abuse appears to be the founding of a club dispensary by certain well-to-do people of a district and the hiring of a doctor at a small salary for the attending physician. This is even worse than our own dispensary system.

A Brooklyn Physician who was recently involved in an accusation of improper relationship with a patient whose husband was suing her for divorce, has succeeded in his efforts to have the case reopened. The testimony which implicated the attending physician, and which has seriously affected his practice it is claimed, was wholly false and without shadow of foundation. If this is shown on second trial to be the case, some amends should surely be made for the damage done an innocent man.

The American Climatological Association.—The thirteenth annual meeting of the American Climatological Association will be held at Lakewood, N. J., May 12th and 13th.

The New York Celtic Medical Society.—The regular monthly meeting of this society was held March 26th. The paper of the evening was on the "Treatment of Puerperal Septicæmia," by Dr. John Aspell.

Metropolitan Medical Society.—The regular meeting of the Metropolitan Medical Society was held March 24th. "The Treatment of Postural Deformities of the Trunk" was the title of the paper of the evening, by Dr. Jacob Teschner. He reported the results in seventeen cases treated up to the present time, of which fifteen were discharged cured and two very much improved. Of the fifteen cured cases all but one were rotary-lateral curvatures of the spine of different degrees of severity. The average time of treatment was about two and one-half months. He subjects his patients to two forms of exercise, viz., developmental and corrective. A series of twenty-six exercises for muscular development are executed with dumb-bells weighing from one-half to five pounds each. The corrective exercises are the following, with variations according to individual requirements, viz.: Swinging bells (weighing from five to forty pounds each) overhead from the floor, with the upper extremity rigidly extended. This is done first with one hand a certain number of times, and then the same number of times with the other hand. Then swinging a pair of bells with both upper extremities rigidly extended. A pair of bells (also weighing from five to forty pounds each)

are pushed alternately and automatically from the shoulder to above the patient's head, to the individual limit. Various exercises are also given with steel bars and bar bells weighing from twenty-six to over one hundred pounds. The rationale of these corrective exercises is that when a patient swings, pushes, or sustains a heavy weight above the head, the action of the back muscles to sustain the weight and equilibrium is such as to cause a curved spine to approximate a straight line. When a heavy bar is pushed with both hands the head is bent backward, the spine is straightened and hyperextended, and the faulty position is thereby corrected. The forcible and voluntary temporary reductions of deformity, frequently repeated, can, according to Dr. Teschner's results, be depended upon to cure any case of curvature or other postural deformity which is amenable to any form of active treatment. He takes the standpoint that (1) lack of strength and lack of muscular development, (2) habitual faulty position with superimposed weight, and (3) lack of co-ordinating power or lack of muscular control are the more potent etiological factors in producing deformities. He corrects deformities by reversing these conditions: (1) By developing the muscles and their strength; (2) by acquiring an habitually corrected position with superimposed weight; and (3) by educating all the muscles to proper co-ordination and complete control. All the patients improve in general health. Measurements and strength tests were made according to the Sargent system and recorded upon the Sargent charts. The chest capacities, chest depths, girths, breadths, and strength tests are generally increased, the abdominal depths are decreased, and the feet, the foundation of correct posture, are improved, inasmuch as all flat feet become shorter from the increase of the depth of the inner arch, and normal feet grow. The weight increases as a result of this treatment, and the general circulation is improved in that the pulse is less frequent as a rule and of better volume. Gymnasium and class work for deformities are strongly objected to. So are all supporting or immobilizing appliances, because they interfere with perfect muscular freedom. The development exercises and the corrective work were demonstrated by several of Dr. Teschner's patients. The paper was discussed by Drs. V. P. Gibney, A. M. Phelps, Lilienthal, Royal Whitman, A. G. Gerster, and Fred. Lange.

The American Academy of Medicine.—Preliminary "press notice" of the twenty-first annual session at Atlanta, Ga.: The twenty-first annual session of the American Academy of Medicine will be held in the "dancing hall" of the Hotel Aragon, Atlanta, Ga., on Saturday, May 2d, and Monday, May 4th. The academy will meet in executive session with closed doors on Saturday, May 2d, at 10 A.M. The open session for the reading of papers will begin at about 11 A.M.; there will be a recess for lunch from 1 to 2:30 P.M. The "reunion session" and annual dinner will be held on Saturday evening. An executive session will be held on Monday morning, after which the special discussion on "Methods of Medical Education" will be the order of the day. The Association of

American Medical Colleges and the Confederation of the State Boards of Medical Examiners and Licensers have accepted the invitation of the council and will participate in this discussion.

Selling Bodies for Dissection.—Captain White, the veteran keeper of the Bellevue Morgue, has been charged with selling bodies for dissection.

Medical Course Made Four Years.—Governor Morton has signed the new medical bill, which raises the medical-student course from three to four years, and allows students who entered colleges to graduate under the rules in force when they matriculated. This law applies to all the medical colleges in the State.

The Disputed Case of Leprosy.—Prof. George H. Fox has examined Long Tong, the Chinaman, and has pronounced him to be a leper. The patient has been transferred to North Brother's Island accordingly. In his report to the Health Department concerning the alleged contagiousness of leprosy, he says: "I can say positively that during all this time there never has been a single case of infection from one of these patients. The popular impression about leprosy and its contagious features is very erroneous. Leprosy is no more dangerous than consumption. Persons in a street car are very much more likely to contract tuberculosis from the expectoration of a consumptive than to get leprosy from the presence of a leper. Leprosy is, of course, contagious, and probably it can be contracted in accidental ways, as other diseases of the blood are; but the terror of a leper is something that is not founded on fact. Ten years ago a man in a very advanced stage of leprosy was treated here at one of the hospitals, and he recovered, proving that leprosy can be cured. There are other cases just as conclusive, but that man was carefully treated in the hospital, and he received all the comforts of life, whereas, if he had been locked up in a lazaretto and his food handed through a hole to him, probably he would have died. The great difficulty in curing leprosy is that as soon as a person learns he has it he is made to believe that all hope is gone. He is treated as a doomed man and made to believe that he is an object to be shunned by everybody. Naturally enough, it is difficult for a person to recover under such circumstances."

No Spitting in Street Cars.—Hereafter the following sign is to be posted in all the passenger cars of this city:

"HEALTH DEPARTMENT, NEW YORK CITY.

"Spitting on the floors of public conveyances is a nuisance, is frequently a means of communicating disease, and is hereby forbidden.

"By order of the Board of Health.

"CHARLES G. WILSON, *President*.

"EMMONS CLARK, *Secretary*."

President Wilson suggested that if the signs do not stop the practice, an ordinance be passed authorizing the company to call a policeman and have the offender put off whenever he violates the rule.

Clinical Department.

COMPOUND FRACTURE OF THYROID CARTILAGE.

By E. L. BELL, M.D.,

NORTH WOODSTOCK, N. H.,
FORMERLY SURGEON TO THE BOSTON EMERGENCY HOSPITAL.

ALTHOUGH accidents somewhat similar to the one here recorded may not be uncommon, this case seemed to me interesting, not only on account of the complicated nature of the injury, but also on account of the uninterrupted recovery under manifestly unfavorable circumstances.

J. K.—, age twenty-nine years, cattleman, while loading a vessel was gored in the throat by a steer. He was brought to the Boston Emergency Hospital in an ambulance.

Examination disclosed an exceedingly large, dirty, lacerated wound, extending from the median line of the neck to the edge of the sheath of the large vessels of the neck on the right side. All the larger muscles covering the larynx and trachea were reduced to pulp, with the exception of a few remaining shreds. The two alæ of the thyroid cartilage were completely separated in the middle line. The right ala had a longitudinal fracture involving two-thirds of its surface. The cricothyroid membrane was ruptured and the cricoid cartilage was badly bruised. The trachea was opened throughout its whole extent almost down to the sternum. The thyroid body was apparently entirely destroyed.

Hemorrhage had at first been severe, but it was easily controlled by a temporary dressing. There was a large lacerated wound under the right ear, which was immediately closed with silkworm gut.

The patient was placed in the tracheotomy position. The anæsthetic used was cocaine in four-per-cent. solution. Under strict asepsis, with the assistance of Dr. W. B. Segur, I cleansed the entire region with a weak bichloride solution, removed the loose fragments of cartilage, trimmed the edges, fitted and fixed them in place with fine sterilized silk. The different shreds of muscles were next cleaned, patched, and fastened in proper places, as were also the tracheal rings. The fascia and skin were next sutured with silkworm gut and covered with simple antiseptic dressing.

Beyond passing reflex spasms of the glottis and some slight dyspnoea, the patient seemed to suffer no great inconvenience; but he was watched carefully for any signs of approaching œdema or septic pneumonia. The temperature the day after the accident was 100° F., and remained at this point or below during the man's stay in the ward. The wound was dressed on the third day. It then exuded a little dark blood on pressure. On the fifth day a slight discharge appeared which was found to come from a small sinus resulting from deep muscle-suture irritation. On the eighth day the external sutures were removed. Under daily dressings the discharge had seemed to lessen. On the twelfth day two silk muscle sutures sloughed out and were removed. On the sixteenth day the sinus was curetted under cocaine anæsthesia. The next day there was but little discharge, and in a week the wound had entirely cicatrized.

Step by step, beginning the day after the injury was received, the gradual change from almost complete aphonia to approximately perfect vocal action could be plainly marked. In fact, I am inclined to believe that if the patient's supply of stimulants during his convalescence could have been curtailed, the slight amount of huskiness present on his discharge would have been much less noticeable.

The plan of using a trachea tube and allowing the

surface to close in with more or less rapidity has been suggested, but it has seemed to me that the method followed in the instance above outlined, provided the case can be watched, is much quicker and easier both for patient and surgeon.

A WHISTLING LARYNX.

By CARL E. MUNGAR, M.D.,

VISITING SURGEON, WATERBURY HOSPITAL, WATERBURY, CONN.; ASSISTANT SURGEON, MANHATTAN EYE AND EAR HOSPITAL, THROAT DEPARTMENT, NEW YORK.

MISS FLORENCE W.—, aged nineteen, with a larynx perfectly normal in appearance and function, can whistle at any time without the use of lips, tongue, pharynx, soft or hard palate, or cheeks. If the mouth is opened, the tongue pulled out and held firmly between the thumb and index finger, as is customary on inspecting the larynx, and a laryngeal mirror is held in position upon the soft palate, pressing it back against the posterior pharyngeal wall, the patient during exhalation can whistle very clearly and loudly enough to be heard in any part of a large room. The position of the vocal cords is as follows: There is close approximation of the vocal cords for their anterior three-fourths, while posteriorly there is left a triangular space, which is more or less encroached upon as high or low notes are produced; at the same time the ventricular bands are constantly changing their position, according as the note is high or low. This young lady says that her range is about one and one-half octaves. She further says that a cousin, a young boy, possesses this power of laryngeal whistling, but to a very limited degree, and that in her own case she has been able to whistle in this peculiar manner since childhood. The ordinary definition of "to whistle" is "to utter a kind of musical sound by forcing the breath through a small orifice formed by contracting the lips" ("Century Dictionary"); it must then be added that "to whistle" is as above but with this addition: "or make a musical sound by forcing the breath through a small orifice left by the partial approximation of the vocal cords, the only other anatomical aids being the ventricular bands."

The objection that this is not a whistle cannot hold, as a proficient singing-master has assured me that the sound is purely a whistle and not a singing or speaking note. This is, then, a unique case of the production of the whistle in the larynx unaided by the lips, tongue, cheeks, or palate.

WATERBURY, CONN.

TANNIN IN THE TREATMENT OF SUPPURATING SINUSES.

By M. A. VEEDER, M.D.,

LYONS, N. Y.

IN looking over my notes of cases I find the following not heretofore reported which may be of interest. The patient undertook to vaccinate herself, using pus from a vaccination ulcer from which the scab had literally rotted off. The result was the formation of an abscess which followed the sheaths of the muscles of the upper arm to the shoulder and thence those of the pectoral muscles, extending beneath the breast and opening near the margin of the lower ribs. Sinuses were established opening on the interior and exterior surfaces of the arm, in the axilla, and on the lower part of the front of the chest. At this stage the case came under observation. Large quantities of thick creamy pus were being discharged through all the various openings, and a pocket containing perhaps half a pint of pus was evacuated by incision just be-

low the breast. The various sinuses and pockets formed a curiously entangled chain so underlying and surrounding important structures as to be difficult of access, especially in the axilla and at the side of the chest. It was found, however, that water could be made to traverse the entire tract with perfect freedom. So copious was the secretion that ordinary syringing was difficult and tiresome. A reservoir containing several gallons was therefore arranged, so that very copious douches could readily be given, and then work began. Plain water seemed to have but very little effect except temporarily, as it cleaned out the pus mechanically, the cavities refilling rapidly and the sinuses secreting freely throughout their entire course. The following agents were tried thoroughly one after another and alternately from one to another, and in all strengths that it seemed safe to use. Carbolic acid, bichloride of mercury, boric acid, permanganate of potash, peroxide of hydrogen, salicylic acid, salicylate of soda, and perhaps some others that I have forgotten. The constant douching was comfortable to the patient and appeared to have the effect of preventing any formation of new sinuses or cavities. This continued for several weeks with some improvement at times, the more superficial sinuses especially closing in part but not effectually. The case became very discouraging and tedious, and operation was suggested but not consented to. Finally the whole thing was cured, practically at a stroke, the agent employed being nothing more nor less than a strong solution of tannin. At first a moderately strong solution was tried in one of the sinuses in the arm; it acted so satisfactorily that its strength was increased until it was nearly a saturated solution and the entire tract of the cavity was filled with it. The immediate effect was to coagulate the pus into a cheesy mass, which, when squeezed, came out of the various openings in the form of long worms. All this material was simply washed out with plain water and there was no longer any purulent secretion whatever, a clear fluid only appearing, the sinuses and cavities healing very kindly and with great rapidity. The interior of the abscess cavity and sinuses, in short, was simply tanned. It is a line of treatment that was hit upon almost by accident. I do not know whether it has been used heretofore. In the peculiar case described it certainly was effectual.

FINAL HISTORY OF A CASE OF (SO-CALLED) MEMBRANOUS ENTERITIS.

By H. S. KILBOURNE, M.D.,

SURGEON U. S. ARMY,
FORT CLARK, TEX.

In February and June, 1888, I reported in the *MEDICAL RECORD* a case of membranous enteritis. As this affection is somewhat rare and, in adults, mostly peculiar to women and of debatable pathology, the subsequent history and termination of my case may be entitled to record.

The patient was in the following year (1889), on account of his continued disability, retired from active service in the army, when he went to reside in the city of Portland, Ore. He remained there during that year and continued under my observation and advice, requiring and receiving but little medical treatment. The mucous casts were occasionally discharged, but there was no recurrence of the severe paroxysms described, although the slighter gastric disturbances persisted. His general health was much improved. In 1890-91 he changed his residence to Colorado Springs in that State, passing from observation. There, about a year subsequently, after a chill due to exposure in driving about the country, he died, rather

suddenly as was reported, from an intercurrent acute pulmonary disease. There was, so far as I could learn, no autopsy. Assuming what is probable, that the reproduction and discharge of casts persisted to the last, the duration of the disorder was about ten years (1882-91). Reviewing this case in the light of Butler's recent able contribution to the literature of the disease,¹ I have been impressed with its prominent neurotic manifestations and the absence of the characteristic symptoms of inflammation. The scant pathological records of cases point to the mucous follicles of the colon as the source of the casts and the seat of morbid action, and yet in typical cases gross anatomical lesions have been found wanting in them. The unstable nervous system, profound and persistent anæmia, and a complexus of gastric disorders were prominent and puzzling features of a case suggestively feminine in quality.

A CASE OF BRONCHO-PNEUMONIA WITH SECONDARY ACUTE MENINGITIS DEVELOPING ON THE THIRD DAY IN AN INFANT TWO MONTHS OLD—RECOVERY.

By CONRAD P. KORNREICH, M.D.,

NEW YORK.

D. M—, male, aged two months, family history good; came under my care January 9, 1896. On examination there were areas of dulness all over the right lung, a short hacking cough, rapid and shallow breathing, rapid and feeble pulse, some cyanosis, and a temperature of 103½° F. The usual treatment was prescribed, with persistent counterirritation over the chest in the form of mustard plasters. Stimulants in the form of strychnine and cognac were persistently administered. The child apparently responded to this form of treatment until the evening of the third day, when I was hurriedly summoned and informed by the mother that the child had just had a severe convulsion and vomited severely.

On inspecting the little one the pupils were seen to be considerably dilated; there was tenderness along the back of the neck; there was constant twitching of the muscles of the back of the head and neck, of the face, and of the arms. That night the child was very restless and apparently seemed to be in pain, for it tossed its little head about and constantly moaned, keeping this up for fully forty-eight hours.

The following morning photophobia and painful hearing had developed. I ordered ice bags to be continuously applied to the head, applied two leeches, one to each temple, and administered internally twentieth-grain calomel tablets every half-hour, bromides and chloral for the relief of the pain and restlessness. This treatment was adhered to for five days, after which the acute symptoms gradually subsided, with rapid and complete recovery resulting. This case is reported because of recovery following its occurrence in so young an infant.

95 ATTORNEY STREET.

Ipecacuanha in Bee Stings.—A paste of pulverized ipecac is said to be a valuable local application in bee stings.

Masters in Medicine are not lacking in France. *La Médecine Moderne* presents the portrait of one upon the title page of each issue, and this, too, in a journal which appears twice each week the whole year through. *Les maîtres de la médecine* are distinguished-appearing men—but oh, so numerous!

¹ New York Medical Journal, No. 891.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 19, 1896.

DANIEL LEWIS, M.D., VICE-PRESIDENT, IN THE CHAIR.

Surgical Treatment of Harelip and Cleft Palate in Children.—DR. D. H. GOODWILLIE read the paper, which was illustrated by numerous diagrams, models, casts, and instruments. Harelip, he said, is the result of imperfect intrauterine development. The upper lip is developed from a central and two lateral points. When these points fail of union a fissure results. The fissure may be on one side or on both; it is rarely in the centre. It may be accompanied by fissure of the hard and soft palate. In correcting the deformity the bone lesion must be operated upon as early after the birth of the child as its condition and the circumstances will permit, and before ossification takes place to prevent moving the bones into normal position. He had operated as early as the twelfth hour after birth. This first important step in correcting the deformity is accomplished by mechanically forcing the maxillary and nasal bones into normal position and closing the harelip and soft palate. Before entering into the details of the operation, the author described the orbicularis oris and the muscles inserted into it and running out in various directions, particularly those in the upper lip. There was less change in these antagonistic muscles in infants than in adults showing harelip.

The bony framework having been restored, the further operation of closing the lip became not only simplified, but the result was better. It was his custom to follow the one step immediately by the other. Every divided fibre of the orbicularis oris must be joined to its fellow in order to restore its normal action and the force of the levator muscles inserted into it. This could be best accomplished by union in the centre of the lip, whether in single or double cleft, and he made his incisions accordingly by the removal of V-shaped pieces. He used special plates for holding the fibres of the orbicularis on both sides evenly, and inserted a pin through the soft parts down into the bone outward from the nose on each side, in order to prevent action of the antagonistic muscles inserted into the orbicularis. The mucous membrane and skin of the lip wound were united by catgut. The retaining-plates and pins held the parts until union had taken place. The wound was sealed with antiseptic collodion or rubber tissue. If the bone and soft tissue were not supported during union, some of the fibres of the orbicularis might give way and cause deformity.

In bad cases there was pouting out of the under lip. His method was to take out a section of the pouting mucous and submucous tissue down to the orbicularis and close the wound with catgut. In order to remove a symmetrical section, he used a lipgauge of his own devising.

After pointing out different varieties of cleft hard palate, he said all bone should be preserved, sacrificing only enough to freshen the edges when closing the parts. The operation should be done before the second month. Where the lip alone was involved, it should be done before the child began to speak, or at two years of age. In fissure of soft and hard palate the judgment of the surgeon would decide whether to close the former first or do both at one sitting. In his experience little cutting was required if one began soon after birth to stretch the muscle toward the septum from both sides. The child should be in good condition and the tissues should have thickness in order to se-

cure success. Nasal deformity might also exist and should receive attention. The septum might be absent; there might be hypertrophy of turbinated bones, even to the occlusion of the nares. In the further description of his mode of operating in different classes of cases, Dr. Goodwillie showed an instrument which served the double purpose of a tongue depressor and of a tube for administering chloroform. The spray of the anæsthetic playing from the upper surface of the depressor came directly in contact with the parts to be anæsthetized.

DR. ROBERT ABBE opened the discussion. No other operation so taxed the ingenuity of the surgeon as those upon the mouths and lips of infants. The beginner often had bad results by reason of his rashness. While he could see some advantage in certain of the instruments, he thought there was a greater display than was demanded in most cases. The method advised, of making a double harelip of a single one, cutting some of the lip away on the sound side in order to bring the two together to make a central scar, seemed to the speaker not at all necessary. Regarding fixing the lips by the plates, he asked if they did not leave a tender scar. He had found that any form of pin or suture transfixing the lip would produce a tender scar if left in longer than three or four days. This was fully as long as he left two in, one placed at each labio-nasal fold and fastened taut by adhesive plaster at the zygoma, the purpose being to maintain the broad muscular edges during primary union. In fissure of the hard palate, in some infants much could be done toward modelling the jaw. The fingers would often succeed without instruments. He had once thought that palate operations ought not to be done; that the defect should be filled with a plate fitted by a dentist. But such an apparatus was troublesome and expensive, and he had come to favor making repair by operation. Venous hemorrhage could be controlled by pressure. He made no effort to avoid dividing the palatine artery, as it would be likely to be cut anyway while separating the soft parts. The earlier one operated the better. He had obtained an excellent result in one case two days after birth. The soft parts tended to model the hard parts, hence the lip operation ought to be done early.

DR. B. F. CURTIS gave as other reasons for operating as early as possible the fact that the child was more easily nourished, it took the nipple better, and had a better chance of life because of greater attention given by the mother, who previous to the operation might have regarded the child's deformity with horror. There was also less danger of bronchitis on account of the gaping mouth. There were two dangers attending the operation on the palate—the length of the operation and hemorrhage. Therefore he followed the suggestion of Wolf, of first elevating or separating the muco-periosteum, not freshening the borders, packing in gauze and waiting five or six days, then completing the operation. The first part was attended by greatest loss of blood, and these young patients could afford to lose but little. The second part was the longer.

Dr. Curtis did not think it necessary to make a double harelip in operating, as practised by Dr. Goodwillie, and would attribute to removal of the extra amount of issue in the upper lip the eversion following in the lower lip. Regarding the retention plates, he thought they invited lodgment of milk and consequent sepsis. The tendency to-day was to do away with such instruments. Few men to-day used pins or wire, but sutured simply with silkworm gut or horse-hair. He thought the apparatus for giving chloroform would be very convenient.

The President, DR. LEWIS, asked whether the lower lip would not in time resume its normal shape without taking out a piece of mucous and submucous tissue.

DR. GOODWILLIE said the pins used in the old method of operating did produce a scar, but those inserted for fixation produced no scar which was noticeable. The operation on the lower lip was not resorted to except where there was much pouting.

SECTION ON GENERAL MEDICINE.

Stated Meeting, March 17, 1896.

REYNOLD W. WILCOX, M.D., CHAIRMAN.

Acute Bronchitis.—DR. WILLIAM H. THOMSON read a paper on this subject. The findings of pathological anatomy might be valuable in other respects, but they afforded little assistance in elucidating the etiology of acute bronchitis. Thus, a typical attack might be caused by getting the feet wet, by toxins in the blood, by epidemic influenza, yet in all of these the palpable changes were the same, consisting of initial hyperæmia, shedding of epithelia, engorgement, etc. The clinical incidents were suggestive as to the etiology. Mucous membranes did not take on inflammation simply because they were mucous membranes, for we observed inflammation of this lining of the bronchi and larynx frequently, while in the neighboring tract devoted to deglutition, and consequently much exposed, catarrhal inflammation seldom occurred. The inhalation of irritating particles in the inspired air did not cause bronchitis once where chill of the cutaneous surface caused it ten times. The progress of our knowledge of the etiology of local inflammations, showing them to depend so often upon specific bacterial infection, might incline us to extend it to inflammations of the bronchial mucous membrane. But there was one consideration strongly against the probability that acute bronchitis was often due to bacterial agency. It was that all observers from the time of Lister to the present day had found the inspired air free from micro-organisms by the time it reached the trachea. Although ordinarily the air contained many hundreds or thousands of germs, they were arrested by the vibrissæ or by the epithelium in the nose and were there destroyed. The bronchitis of influenza might, at first thought, appear to be due to direct contact of bacteria with the mucous membrane of the tubes, but there were so many symptoms produced by this disease that it was more probable that a toxin in the blood caused them and the bronchial inflammation. On the other hand, the mouth always contained millions of bacteria, and multitudes of them passed down the gullet with every act of swallowing, yet they did not cause inflammation of the mucous membrane with which they came in contact.

Bronchitis developed first in the bronchial tubes themselves only in local infections, such as tuberculosis, or in toxic conditions of the blood, as in gout. In all other cases, which constituted by far the greater number, the bronchial inflammation was by extension downward from the upper respiratory passages. In some instances the process seemed to attack the different divisions of the respiratory tract simultaneously, so that it might not be apparent in the nasal cavity first; but even in these cases one could see an intimate association of sensibility between the different parts of the respiratory tract which pointed strongly to a specific nervous connection between them, both sensory and motor, and which had a great deal to do with the genesis of catarrhal processes.

Bronchitis began so uniformly with sneezing, sore throat, cough, that both laity and the profession concurred in the statement that its origin was in catching a cold. But what was a cold? The anatomical definition of catarrhal inflammation required to be supplemented by the clinical phenomena. The sequence of

the clinical phenomena would indicate clearly a cutaneous area of origin. A chill of some portion of the surface, usually when wet, was so uniform that one not prejudiced in favor of the bacteriological origin of all diseases must regard it as causative. The exposure was usually of a limited portion of the body, seldom of the entire surface, for in the latter case there was usually a reaction with increased excretions and retention of health. The exposure of a few square inches of the back of the neck at an open car window would suffice to set up an acute attack of bronchitis; sitting in a room with wet feet would do the same, and the connection was as plain as that between green fruit and diarrhoea. But external chill produced different results according to the area exposed and the predisposition of the individual. There was commonly an intimate relation between the cutaneous area and the organs lying beneath, so that an impression upon the former would affect the circulation in the latter, notwithstanding absence of vascular connection between the two. In this way must be explained the arrest of vomiting by leeches placed over the epigastrium; the influence of cold on the præcordium on the action of the heart, etc.

Turning then to the accompaniments of such a catarrhal inflammation or cold, produced by exposure of a cutaneous area, we found swelling and pouring out of secretion. The effects of these varied according to the mucous membrane involved, being much more serious mechanically when in the bronchi than when in the pharynx. Liquid secretions were coughed up readily, as in hæmoptysis, while viscid secretions gave rise to much obstruction, pain, and coughing. When the inflammation reached the finer tubes, giving rise to so-called capillary bronchitis, the additional pathological processes which it caused and which often proved fatal depended chiefly upon mechanical obstruction. It was not different essentially from what was seen in extensive pneumonia dependent upon obstruction of a large bronchus, only in bronchitis the obstruction was in a multitude of tubules.

Against such occlusion nature had provided one watchful guardian, cough. The treatment of bronchitis resolved itself practically into the management of a cough. But cough was a motor outcome of excitation of a bulbar centre susceptible to a greater variety of afferent impressions than any other single nerve centre in the body. Thus, it might be excited by a disturbance within the cranium, as in basilar meningitis; by excitation of the temporal branch of the trigeminus, where hard wax accumulated in the ear; by teething, by uterine polyp, by pleuritis, etc. With all cases of bronchitis there was associated more or less of the purely irritant and useless cough. This could be and should be controlled, while the expectorant cough should be encouraged. The two could be differentiated by the fact that the irritant cough always consisted of separate sounds not linked together, like the blows of a hammer, while the expectorant cough invariably consisted of closely linked sounds, each successive cough being joined to the one which preceded it and the one which followed, like the links of a chain, and terminating with the secretion passing into the throat. He always listened to just how much there was of the purely irritant cough in bronchitis and sought to suppress it, while he encouraged the expectorant cough. The latter was attained by rendering the secretions fluid. One of the best agents was linseed oil in emulsion. The use of this was becoming so extensive that two firms had taken to manufacturing it under proprietary names, one of which had very generously offered him some stock. The irritant cough called for sedation, and this could be effected without weakening expectoration. Opium was the proper anodyne in all cases of inflammation, but it should be

given in the smallest possible dose in bronchitis. But the cough of irritability was as effectually and more safely controlled by chloral. When there were symptoms of tumefaction of the bronchial mucous membrane without secretion, he made counterirritation over the chest by pepper, a teaspoonful in a pint of boiling water, applied on cloths.

At the same time the dyspnoea was quickly relieved by starting the secretion from the dry mucous membrane by giving teaspoonful doses of a solution of tartar emetic, one grain in a teacupful of water. Nauseating expectorants were not indicated unless in some cases of irritant bronchitis. In capillary bronchitis emetics were used to dislodge secretions. Here we must direct our efforts to maintaining the heart. Brief and quick applications of red-pepper infusion often aroused the flagging organ. The act of swallowing also caused cardiac stimulation. He saw no reason why we should not try to combat pulmonary collapse by gentle artificial respiration, and he had saved life by Sylvester's method.

A Bacteriological Cause Possible.—DR. ANDREW H. SMITH thought the truth in relation to the etiology of acute bronchitis might lie between the two extremes—it might require the combined influence of exposure and of germs. This would seem the more probable explanation where all the members of a family took a cold. The action of the ciliæ lining the bronchi was very necessary to the prevention of germs creeping along the surface, and he thought it likely that action was one of the first to be interfered with in bronchitis. That it was quite possible to inhale foreign particles was often illustrated by coal miners, those inhaling soot, etc., and who continued to cough up the black particles weeks after the last exposure. Under these conditions he had had opportunity to examine the lungs and had found the principal change and discoloration at the V division of the bronchial tubes, which sustained the chief impact of the column of air on its way into the dividing branches. Here was the point of irritation leading to cough. So long as the current proceeded with considerable velocity, it was capable of exercising this irritant action.

The reflex from the skin to the underlying organs was admirably shown by the shudder of the chest on throwing cold water on its surface, which did not occur when one dashed water on any other part of the body. The equalization of the temperature was largely maintained by the relation between skin and internal organs, the blood going to the interior during cold, to the skin during warmth. The very quick results obtained in bronchitis by giving a nauseating expectorant or by the inhalation of chloroform or steam went to confirm his belief in spasmodic contraction of the circular fibres of the bronchial tubes in addition to the tumefaction. He had found capsicum in vaseline, put up in tin-foil tubes, excellent for counterirritation. He wished again to lay stress on the importance of supporting the right heart in obstructive bronchitis, etc. Arterial dilators relieved the venous side of the circulatory apparatus.

Found no Germs in Simple Bronchitis.—DR. J. WINTERS BRANNAN said that at the Willard Parker Hospital they had found no germs in the bronchial tubes in simple bronchitis complicating fatal diphtheria. Germs, however, were always present in broncho-pneumonia cases. He was disposed to agree with Dr. Thomson regarding the etiology, that it was not bacterial.

He had met with a case of fibrinous bronchitis last summer, the woman having coughed up a complete cast of some of the bronchi. This was a very rare affection, and most patients were said to die from it, but this one recovered easily. She said she had had a similar attack ten years before, when Dr. Loomis had made the diagnosis. There was a dis-

pute among authors whether the cast was fibrin or mucus.

Regarding treatment he said that when connected with the Boston Dispensary he found linseed oil with syrup was the favorite prescription among patients receiving it. He now used flaxseed tea chiefly, and applied flaxseed poultice, one-fourth part mustard, to the chest when there was constriction. He employed tepid bath, change of position of the child, lifted the foot of the bed to encourage drainage toward the larger bronchi and pharynx, used codeine instead of opium, and gave muriate of ammonium and iodide of sodium.

The Alkaline Treatment.—DR. L. DUNCAN BULKLEY told how he was led to employ the alkaline treatment for the prevention or cure of colds, using sodium bicarbonate in fifteen to twenty grain doses. He had received many letters commending it since his article recently appeared in the *MEDICAL RECORD*.

Prophylaxis by Hardening.—DR. ACHILLES ROSE said he no longer had colds and was accustomed to jump into the river every day of the year, including winter. He did not recommend this to everybody, but thought that persons liable to take cold should harden themselves. He was once with a regiment of soldiers and among them colds were unknown, except on one occasion, when nearly all were affected, which went to show a miasmatic origin.

DR. BEVERLEY ROBINSON had found oxysulphuret of antimony less depressing and a better expectorant than a mixture of tartar emetic. He used it in broncho-pneumonia. He agreed with Dr. Smith that we should always have in view fatigue of the right heart as the main danger. One could not judge by the pulse alone nor by listening to the heart regarding the strength of the right side, but could obtain valuable information by observing the effects of stimulants on the circulation. Cardiac tonics and arterial dilators often gave more relief than anodynes under circumstances where many would administer the latter. Regarding alkalies, he thought that in many instances they were valuable in overcoming an underlying diathesis, but he would not have the profession receive this treatment as a panacea.

DR. THOMSON said, in some closing remarks, that oils had a special influence on mucous membranes, some on one, some on another, linseed oil acting more than others on the bronchial mucous membrane.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 16, 1896.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

Obstetrics in General Literature.—DR. THEOPHILUS PARVIN, of Philadelphia, read a very interesting paper, characterized by literary excellence, reciting what he had found in general literature relating to obstetrics. In some introductory remarks he gave several reasons why doctors would find it advantageous to take rambles in general literature and imitate the style of non-medical writers. At the conclusion of the lecture a vote of thanks was extended unanimously to Dr. Parvin.

Syringing in Lachrymal Disease.—DR. WILLIAM H. BATES read a paper on syringing in acute and chronic lachrymal disease accompanied by complete or partial obstruction to the flow of tears through the punctum and duct leading to the nose. He employed for the purpose a glass syringe with a small rubber bulb on one end, the other end terminating with an opening not larger than a pin's head and having a little shoulder just back of the opening intended to fill the punctum and prevent return of the fluid. A glass syringe had several advantages over a metallic one. It was not affected by astringents, etc., and one could

see that the fluid was entering the duct. As a rule, water alone had given better results than astringents, antiseptic solutions, oils, etc. The injection should be continued until the fluid came away clear, sometimes requiring the use of a pint. In a number of cases cure or even improvement failed under injections made only two or three times a week, whereas daily repetitions were crowned with success. Chronic cases usually required months. Sometimes dilatation with a probe had first to be made, or incision through the strictured portion, but recurrence of the obstruction would be apt to take place unless the use of the probe were supplemented by syringing. Yet there were some cases in which the probe was sufficient.

The author's conclusions were: 1. Syringing is a valuable method in the treatment of lachrymal disease and should be tried in all cases. 2. Acute cases are often permanently cured by syringing. 3. Chronic cases are usually benefited and may be cured. 4. Cases which require operation and the use of probes may also need syringing to bring about a cure.

The Opprobrium of Oculists.—DR. H. S. OPPENHEIMER thought the paper touched upon a subject with which every specialist in diseases of the eyes must have had trouble, for it was the opprobrium of their specialty that many cases of lachrymal obstruction went away uncured. There was a great difference in the kinds of cases. Some patients would get well; some would get well rapidly; others were very rebellious. But he had never been able to cure one within two days, as stated by the author, and very few got well within two weeks. Cases in children could usually be cured, for they were seen earlier than those in adults. There was an inflamed mucous membrane with mucous, or possibly purulent, obstruction, and after syringing and cleansing acute cases got well. Disinfection was hardly possible, for all the germs and foreign particles coming in contact with the eyes were washed away by the tears. The cases and the treatment must differ—a fact which was self-evident to one who understood the anatomy of the parts, the function of the lids in relation to the punctum and the flow of the tears, and the pathological changes in the different cases. In nine out of ten of the chronic cases the trouble was at the nasal end of the duct; catarrh, etc., occluding the duct and calling for the use of the probe. In fact there was so much difference between the various cases that we could not speak of any one treatment. He regarded the syringe simply as cleansing. He employed one made of metal, such as dentists used for syringing cavities of teeth.

No One Mode of Treatment.—DR. NEIL J. HEPBURN thought all were agreed that syringing of any diseased cavity or canal so as to keep it clean was a long step in the process of cure, but, as Dr. Oppenheimer had just stated, after we had gotten through with all the syringing and opening of the sac, we had a large percentage of cases which did not recover, and he did not know whether the specialist got along much better with them than did the general practitioner. Cutting and probing versus syringing had been before the profession for discussion many years. He believed that most of the members used all the methods, one after another, either intelligently or at hazard, and had about the usual percentage of recoveries. At least, the patients disappeared from observation. The main difficulty was in getting rid of the strictured part. As in genito-urinary surgery, some of the strictures got better and remained better, while some required periodic treatment. Very little violence in relieving one stricture might give rise to another.

DR. FRIDENBERG thought syringing had been largely abandoned. The paper could be considered an attempt to revive it. He hardly thought it would prove successful. The reader had only shown more patience

in carrying out the treatment than most could. It was very difficult to induce patients to come to an office every day for months in order to have it applied. It was simply a valuable adjunct in certain cases. Probably in ninety per cent. the lachrymation had been caused or aggravated by ectopion or some error in refraction. The correction of any error in refraction was absolutely necessary.

DR. GALLANT thought the experience of the author was in line with that of general surgeons, tending to the abandonment of disinfectants for sterile water. Where one used only a little warm water it produced a congestive effect, whereas long-continued irrigation produced contraction of the tissues and opened the canal.

DR. BATES said he had attempted to show the value of syringing in connection with probing in stricture of the nasal duct, and after much experience he could state positively that a cure could be effected, not to be followed by recurrence. The object of syringing was not alone to wash out blood clot after operation, but also to prevent congestion which otherwise would be produced by passing the probe. In preventing congestion he prevented formation of stricture.

Therapeutic Hints.

Syphilis Antitoxin.—The immunity of syphilitic subjects against new infection is due to the antitoxin in their blood. The serum of a subject of secondary syphilis seems the most active. The quantity to inject varies from one-half to five cubic centimetres. It is recommended to military surgeons who can keep their patients long under observation.—COTTERELL, *Méd. Mod.*, No. 82, 1895.

Diarrhoea, as well as cutaneous eruptions, may result from the use of iodide of potassium. Though free iodine, iodates, or other impurities may be the cause in cheap brands of the drug, the same results may follow the use of the purest article.—MONTGOMERY, *Medical News*.

Thyroid Extract fails in psoriasis, scleroderma, and acromegaly, and probably acts only upon the subcutaneous tissues.—UNNA.

Eczema.—Electrostatic treatment is applicable to all forms of eczema, the moist form being more rapidly improved than the dry. Treatment is more rapidly effective in children than in adults. In all cases treated the different patches did not return if electrostatic treatment had been continued long enough.—BORDIER, *Arch. d'Elect. Méd.*, February 15, 1896.

Hot Steam has been employed by Liberson in chronic eczema with good results. It aids in the absorption of superficial and deep infiltrations, diminishes or arrests purulent secretions, removes crusts, checks oozing, and provokes a regeneration of healthy tissues. The duration of the *séance* is from a quarter to a half hour. In obstinate cases it has given good results.—*La Méd. Mod.*, February 15, 1896.

Theobromine should be classed with the functional epithelial diuretics which are inoffensive for the kidneys. The length of time of activity is shorter than for digitalis. It is indicated in dropsies of cardiac origin and also in those of Bright's. It is prescribed in a daily dose of from three to five grains for a period of four days only. Wafers of fifty centigrams each are prescribed, of which eight are to be taken the first day, six the second and third days, and four the last day of the course. In small doses it may be con-

tinued as a tonic for several weeks, especially when combined with phosphate of sodium.

℞ Theobromine,
Neutral phosphate of sodium.....ââ 10-20 gm.
For forty wafers. One at beginning of each meal.

—HUCHARD, *Gaz. des Hôp.*, February 22, 1896.

Hysterical Hæmoptysis in men is not at all influenced by ergot, ice, astringents, etc. Treat the neurosis. Good results follow hypnotism. In one patient thus treated the attacks, from being of daily occurrence, became first weekly and then semi-monthly.—LAURENT, *L'Indépendance Méd.*, No. 6, 1896.

Acute Gastro-Enteritis of Children.—Bismuth is especially efficacious when combined with colombo:

℞ Colombo rad 1 gm.
Make an infusion with water..... 75 "
Filter and add:
Bismuthi subnit..... 3 "
Syr. aurant. cort. amar..... 15 "
M. S. Teaspoonful every two hours.

—TRABAUDT, *La Presse Méd.*, No. 67, 1895.

Tincture of Cantharides has been recommended in albuminuria by Du Cazal (*Gaz. Hebdomadaire de Méd. et de Chir.*, No. 43, 1895). An average of twelve drops was administered during the twenty-four hours. Cure was obtained with surprising rapidity in four out of five cases, and the fifth was greatly improved. Three instances were of unknown cause or due to cold, and the other two were of scarlatinal origin.

Hiccough persisting for three days in a non-hysterical girl was cured by spontaneous tongue traction. The affection appeared to depend upon disease of the stomach. It was noted that while the tongue was being examined the hiccough ceased. The girl was then advised to protrude her tongue in a regular rhythmical manner. The cure was explained as due to reflex action upon the bulbar respiratory centre.—LÉPINE, *Le Bul. Méd.*, No. 13, 1896.

Emulsion of Castor Oil.—Pour fifteen to twenty grams of the oil into a glass of milk and heat while stirring. In a few minutes a perfect emulsion is obtained. This can be sweetened with orange-flower syrup. A smaller dose given in this way acts as well as a larger dose of the pure oil.—KLEIN, *Journal d'Accouchements*, January 26, 1896.

Odontodol is a preparation known in Italy for its superiority as an antiodontalgic. It has the following composition:

℞ Hydrochlorate of cocaine..... 1 gm.
Essence of lauro-cerasus..... 1 "
Tincture of arnica..... 10 "
Liquid acetate of ammonia..... 20 "

Place in the hollow tooth a tampon of cotton wet with the solution. A crystal of pure carbolic acid placed in the carious cavity usually suffices, however, to relieve the pain of toothache.—*Journal d'Accouchements*, January 26, 1896.

Lupus Erythematosus, when superficial and after removal of scales with soap, may be treated with sulphate of zinc and sulphuret of potassium, each thirty grains; rose water, three and one-half ounces; alcohol, three drachms. Apply lightly by means of a sponge for from five to twenty minutes, allowing sediment to adhere to the surface.—DUHRING.

Inversion.—In asphyxia suspend the infant head downward, grasp the feet in the right hand, and support the shoulders on the palm of the left. If no quick result follows, perform artificial respiration by flexing the thighs on the abdomen.—MANLEY.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ARMY SERVICE VERSUS PARLIAMENTARY QUESTIONS—NOTIFICATION—ISOLATION—THE ELECTION TO THE MEDICAL COUNCIL—PHARMACOLOGY—ANNUAL MEETING OF THE MEDICO-CHIRURGICAL SOCIETY—DR. DUDLEY'S OPERATION—THE SCHOOL-BOARD QUESTION—ACTION AGAINST THE BRITISH MEDICAL JOURNAL.

LONDON, March 6, 1896.

THE government was questioned in the House as to the ominous fact that there was no competition at the last examination for the army medical service. In fact the War Office obtained only nine eligible candidates for seventeen vacancies. This is what has come of snubbing the medical service, and politicians would be well advised to redress the grievances and meet the demands of the department. The army medical service might easily be made so attractive as to secure the pick of young surgeons, but with the prejudices of Lord Wolseley and others it is difficult for gentlemen to be found to fill up vacancies—and the difficulty increases and will continue to do so until the officials learn manners.

Some complaints are also made about the method of marking adopted at recent examinations. This may very likely be again altered, as it does not affect the petty prejudices of the so-called "combatants;" but whether reverting to the old mode of marking will do much good is a doubtful question.

Irish members further pressed the government respecting the alleged falling off of Irish candidates for the medical service of the army, and broadly insinuated that it was because there did not happen to be a representative of the Irish colleges on the examining board. The government reply was that the subject was under the consideration of the secretary of state and it was hoped to make a statement on the matter when the army estimates were introduced.

The extent to which the notification of diseases has been adopted by our local authorities, according to an official statement in the House of Commons, is greater than has been generally supposed. The act of 1889 is now in force over districts containing above twenty-seven millions of inhabitants. The question of making that act compulsory has been raised, but, with so much progress voluntarily, the advocates of the scheme may well rest satisfied.

Measles does not require notification, and just now some medical officers are seriously exercised as to what is to be done to restrain its ravages. Isolation among the poor is impracticable, and hospitals do not exist which would accommodate the cases.

The proverbial disunion of Irish human nature seems to extend to the medical element. With a degree of ingratitude disgraceful even to political cliques the Irish Poor Law doctors have deserted their one advocate, Dr. Jacob, who has given a quarter of a century's labor to their cause. With voting-papers sent to them ready-stamped they have not taken the trouble to fill up, sign, and post them—i.e., about a quarter of the voters have neglected to poll, and that in spite of energetic appeals by the several candidates. The consequence is that the Medical Council will have another representative of corporate interests. But the council is already burdened with too many advocates of vested interests. It was to secure independent members that direct representation was granted, and this election once more shows the weakness of that scheme. In this case, too, a rivalry was started between the provinces and the capital—a rivalry

similar to that so often fostered for other purposes by the British Medical Association. What good can be expected from such absurd divisions while principles are unheeded and union neglected? No wonder that politicians treat our wishes with contempt. They know we are too divided for our support to be worth bidding for.

A good deal of discontent has been manifested at the rather frequent revision of the curriculum. The dissatisfaction has culminated in an outburst of wrath against the College of Physicians for voting to remove the word pharmacology from the subjects of examination. The anger is not widespread, but is rather confined to a few who have been posing as pharmacologists and have succeeded to some extent in imposing a restricted meaning on that word of wide import. It almost looks as if some lecturers had been fascinated by the word and only wanted to substitute it for the expressive phrase, "materia medica and therapeutics." Some of these gentlemen, however, declare that pharmacology means physiological action; others suggest that it includes medicinal action—in short there is much confusion among those who delight in using the word. Some of them despise materia medica and declare it consists in "spotting specimens"—a most inadequate description. Others dilate on the position of pharmacy—others, again, on the art of prescribing. Now, all these things were once recognized as included in the course and the lecturer on materia medica and general therapeutics had a free hand, and could vary his instructions with the wants of his class and the more or less prominence given to parts of the subject at different periods. "Professor of Pharmacology" may have an attraction to some minds, but from a student's point of view all the recent talk is of little moment. The word may appear or not in his curriculum, but the substance of the former designation will remain and he may be assured he will not escape examination in materia medica and therapeutics at one or more points, and the examination will assuredly include pharmacology, whatever be the meaning attached to the word. The syllabus should guide both the student and teacher, while it should also restrain examiners, especially those who profess to be pharmacologists.

The annual meeting of the Royal Medico-Chirurgical Society was held on Monday, when Mr. Hutchinson, the retiring president, delivered an address and invested his successor, Dr. Howship Dickinson, with the insignia of office. In his address Mr. Hutchinson, according to custom, alluded to the fellows who had died during the year. He said the new regulations had worked well and the three special discussions had increased the usefulness of the society and induced a larger attendance of the fellows. Of special discussions of our premier society I have sent you such full reports that your readers will be able to appreciate the work which so commends itself to the retiring president.

At the last meeting of the Gynecological Society Dr. George Keith advocated operating for anteversion by the method of Dr. Dudley, of Chicago, and related four cases. When he first heard of the plan he did not think it would do any good, but he changed his mind after seeing Dr. Dudley's results. Mr. Skene Keith confessed that when his brother drew his attention to the operation he did not think it would answer, but having seen it succeed he had performed it about twenty times.

Dr. Bantock and Dr. Godson testified to the value of the plan of dilatation which has been so successful, but Dr. Keith thought that a single operation which would effect a cure at once was preferable to repeated dilatations, especially in the case of virgins.

The adjourned meeting of medical men respecting the action of the School Board was held yesterday.

It was resolved that pending an alteration of the system, certificates should not be supplied to children attending the board schools.

An action for libel against the editor of the *British Medical Journal* has resulted in a verdict for £150. The action arose from remarks in the ethical department of the journal, which, I fancy, most members of the association would consider justifiable. One must not doubt the wisdom of a jury, but perhaps we may question that of the plaintiff.

BLOOD-LETTING IN PNEUMONIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To Dr. Mercer's able article with the above title in your issue of February 29th, kindly allow me to add my little experience with free bleeding in the congestive stage of this terrible disease, together with a few remarks.

Having practised for several years in the heart of the anthracite coal regions, whose population consists to a large extent of Poles and Hungarians, I have had ample opportunity to test the merits and demerits of venesection in acute pulmonary congestion.

These people, as is well known, make periodical visits to the physician for the purpose of being bled—fifty cents and from one to one and one-half pints of blood are about the limit. Bleeding is almost a religion with them, so strong is their faith in it.

The miner, by reason of his occupation and the great variations of temperature—the mine and surface temperatures—under which he labors, is at all times a fairly good candidate for an attack of pneumonia, a disease which he fears almost instinctively and for which he seeks advice immediately. I have been repeatedly summoned to attend these poor unfortunates, and found them suffering in the first stage of pneumonia; sometimes I have been called as early as an hour after the premonitory chill. Very often they would not ask what was the matter—they seemed to know this without being told—but would bare the arm and tell me to bleed.

Having been educated at a school where blood-letting for this disease was heartily condemned, but in the same breath advocated in the early stages of eclampsia and apoplexy, I was somewhat timid and loath to cast aside the teachings of the time—the teachings which appeared to me the sheet anchors of successful and scientific treatment. There was no help for it, however; I had to bleed. Then came one of those sudden awakenings, the almost startling realization that my teachings were somewhat dogmatic and incorrect, that bleeding was a big success objectively and subjectively.

The miner who, before being bled, was laboring under difficult, painful, and quickened breathing; frequent, tight, and spasmodic cough; full, bounding, and accelerated pulse; flushed and anxious countenance and a rapidly rising temperature, would confess, after being bled, to feeling much better—and he looked it to a degree.

The pulse and respiration ratio harmonized with the patient's confessed improvement, the heart became less irritable and worked more smoothly and with more ease, arterial tension was much lessened, nervous excitement was much reduced, the pain was almost or entirely gone, breathing was easier, cough improved, the face not so flushed and anxious. This improvement was invariable when I bled in the congestive stage.

On several occasions I have bled twice in the same patient, with marked benefit each time.

Arterial sedation has never accomplished this for me and I scarcely think for any one else.

I have, several times, bled in the second stage with more or less benefit, but not with so much success as in the congestive stage.

The plea "sthenic subject" cannot be advanced here. The miner with his clogged-up lungs, chronic bronchitis, and emphysema, is far removed from this category.

Bleeding relieves to a marked extent all the symptoms of congestion of the lungs, not because the patient is sthenic or asthenic, but because it relieves the congestion. Dr. Mercer has proved this by quoting several well-known examples. The blood in this disease is highly coagulable, and the slightest obstruction will, of course, favor coagulation; by bleeding the obstruction is lessened or removed and the fluidity of the blood is promoted (a very necessary indication), and this may be further encouraged by the free use of the ammonium salts.

So convinced and enthusiastic am I of the relief afforded by free bleeding in the early stage of pneumonia and its tendency to make the disease run a milder course, that, should I or mine be stricken with the disease, I would resort to it promptly and boldly.

Pneumonia is the same disease, no matter who has it. The nature of the soil and the previous health of the individual decide the severity of the attack.

In a strong, healthy, robust man with good heart and lungs, and lots of pure, fresh air to breathe, it will almost always present its milder side, and for very palpable reasons his heart and lungs are equal to the emergency, his nervous system is too well fortified; they are proof against being, at least immediately, overwhelmed by the poison; they may be temporarily embarrassed, but that is all; their natural resistance is too great and the disease gets the worst of the argument.

It is not so with the poor, debilitated sweat-shop candidate of city life; his heart and lungs quickly give out under the sudden and terrible strain to which they are put; his nervous system is but poorly fortified to withstand the deadly invasion, and just as often he succumbs.

The miner occupies, in my opinion, a place midway between these two extremes, inclined to some extent toward the latter category. His heart, often hypertrophied by reason of his arduous labors and the extra force necessary to propel the blood through the sclerosed patches in the lungs, is, consequently, unfitted to have an extra burden thrust upon it. His lungs, filled with foreign matter, perhaps with patches impervious to air, should offer an excellent stamping-ground to the diplococcus and other pneumobacilli. But do they?

With such a condition of the pulmonary tissue, together with the altered and pathological state of the whole respiratory system, I have often wondered how these poor men ever escaped without pneumonia, pleurisy, or phthisis pulmonalis. That by far the largest majority do escape these diseases is a well-known fact and difficult to account for.

Perhaps the irritative particles cause the giant cells of the animal economy to become focussed at the point of irritation, to be present in great numbers, and on the *qui vive* for all invading microbes; or perhaps these carbon particles exercise a germicidal influence upon the invaders. Pulmonary tuberculous phthisis is, considering all things, not frequent among these people.

In conjunction with my late much-lamented friend, Dr. D. Gumpert, of Wilkes Barre, Pa., I have made frequent examinations of the sputum in what would be considered favorable cases, but have never succeeded in finding the tubercle bacilli.

I do not and cannot claim any originality in observation or remarks; they are no doubt time-worn, oft-

repeated, and gray. I therefore offer these observations somewhat timidly and with much hesitation, being prompted only by the high regard in which I hold timely venesection in acute pulmonary congestion and by the great relief which it affords to the suffering patient.

I hope this much-deserving subject will receive consideration and discussion by those more capable and having greater opportunities than myself.

M. GOLTMAN, C.M., M.D.

MEMPHIS, TENN.

WOMEN PHYSICIANS IN THE STATE HOSPITALS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The failure of the New York Civil Service Commission to find suitable candidates for the position of women physicians in the State hospitals heretofore, and the complete failure to find candidates at all at the last examination advertised in January, deserve discussion.

The evolution of the doctor has not been an easy development in the last decade. The MEDICAL RECORD truly says that he must "show knowledge and skill or else acknowledge that the problem is too great for him." Among women, trained nurses have been developed from the latter class—while the former has been left to cope with the immense amount of mental and physical work now required in the medical schools.

It is not from fear of the civil-service examination at Albany, nor from inability to pass it, that applications failed to be made. Students entering medical schools usually have either the degree of A.B. or the certificate of a high school. The Regents' report shows that at the last examination the graduates of the Woman's Medical College of the New York Infirmary stood at the head of the list, those of the College of Physicians and Surgeons holding the second place. The women applicants from other States showed equal scholarship, and most of the women's medical colleges have extended the time allotted to the course of study to four years.

The lack of applicants for the place of assistant women physician in the New York State hospitals, is chiefly owing to the three years of medical practice required before the civil-service list can be entered. Other considerations are the low salary without yearly increase and the lack of opportunity for general practice. If I am correct, an assistant physician has the right to compete for a superintendent's place after five years' service. Few physicians of either sex desire to make a specialty of mental diseases, and only those who do would care for the posts in question. The two hard examinations—one competitive—after three years' practice, ought to be a bar, unless for a specialty. No one engaged in active professional work can afford to give much time to preparing for examinations.

The annual salary of \$1,000 may seem large to the ordinary, careless reader, and would, no doubt, be really sufficient to secure applicants, if application could be made immediately after the State University examination giving the right to practise, or even after six months' post-graduate study in addition. The training given by our eastern colleges is such that a graduate would be capable of acting as assistant under a competent superintendent. But a young doctor who has been in practice for three years is fairly started in the profession, is beginning to earn something, and cannot be expected to give up what has just been gained for a subordinate post in an insane asylum.

The demand made by the State law is a separate question. There is no room for doubt that, wherever women are confined for any cause whatever, competent and educated women should be vested with authority.

The omission of the word "insane" in the advertisements has been misleading. A man who advertised for "a teacher" would probably get no answers, but if he advertised for a teacher of French or of mathematics he would have plenty of answers. The expression "State Hospital for the Insane" would attract the few young doctors wishing to make a special study of insanity.

There ought to be more public advertising of vacancies and examinations, and such advertising ought to be more definite and explicit.

E. J. CHAPIN MINARD, A.M., M.D.

BROOKLYN, N. Y.

ENLARGE THE LUNACY COMMISSION AND MAKE IT MORE REPRESENTATIVE AND MORE EFFICIENT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The MEDICAL RECORD's excellent criticisms of the bill now before the legislature, providing for a further increase of the powers and prerogatives of the State Lunacy Commission, will, I trust, enlighten the profession and also open the languid eyes of the easy-going public as to the true nature, the political animus, and the dangerous possibilities of that commission as we observe its workings to-day.

Such a commission, so constituted, so selected, and so endowed with arbitrary powers, was never before heard of, either in American or in British history.

Our State Lunacy Commission was originally designed, like its British model, to be simply an advisory board. It was imagined that here, as in England and Scotland, its members would be men selected for their integrity, their peculiar fitness and experience in all humane methods, and their high standing in the community, who should represent the best element in society and stand as a protective barrier against abuses of every kind in the State care of the insane. Such was the hope at the start, and though the selection of the individuals constituting the commission was much criticised, still the public was willing to wait and give the incongruous trio a chance to test their fibre and prove their fitness for the humane task which they seemed so eager to undertake. We have now waited for five years—and they have proved years of disappointment. Year by year these commissioners have pushed themselves into place and power, assuming one prerogative after another, laying out details of work which they could never hope to accomplish, raising their salaries, extending their jurisdiction, grabbing after appropriations, crowding the legitimate asylum trustees to the wall and assuming their functions, replacing some superintendants with others more pliant, and at length controlling the entire asylum appropriations of the State, amounting to millions of dollars and compelling the expenditure of this vast sum to pass through their own hands, subject only to their own caprice. Thus the authority of the local boards of trustees is nullified and the judgment and experience of years set at naught.

Meanwhile the public remains indifferent, trusting that all is right, and the newspapers are made to ring with praises of the commissioners' beneficent work, with stories of economies practised, the people's money saved, and the angelic benevolence which governs the commission in its humane and self-sacrificing labors.

What the public needs is a little more knowledge of the facts. They need to know more of the inner workings of this commission of three, and to realize that it may easily grow into a political machine with possibilities of a dangerous sort.

Your excellent proposition to increase the number

of commissioners and allow each asylum district to be represented on the State board is plainly the first step to be taken in the direction of a safe reform. Three men, however carefully selected for their fitness and their activity, can never perform the service which the State demands in this vitally important field. Three archangels even could not do it and do it well. There is safety and efficiency only in a full representation of every district and corner of the State. Men of high character can easily be found who will serve without salary, simply their travelling expenses being paid; and by a systematic division of the labor the visitation and inspection of asylums can be thoroughly and also cheaply accomplished, and every safeguard maintained.

The time is ripe for a reorganization and reform, and the profession and the public will heartily sustain you in your outspoken protest against the present system and in your efforts for a wholesome change.

MEDICUS.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 21, 1896:

	Cases.	Deaths.
Tuberculosis.....	155	138
Typhus fever.....	2	0
Typhoid fever.....	10	2
Scarlet fever.....	136	5
Cerebro-spinal meningitis.....	2	4
Measles.....	424	28
Diphtheria.....	196	28

Slobbering.—Dr. Sanchez de Silvera (*Lo Sperimentale*) asserts that healthy infants never dribble. The latter condition is due either to disorders of the digestive apparatus or to obstruction of nasal respiration, but is altogether unconnected with dentition.

Arrest of Hemorrhage in Estlander's Operation for Removal of Portions of Ribs.—Mr. C. Hamilton Whiteford (*Lancet*, March 7th) gives the following sensible directions: "After exposure of the thoracic wall to be removed the intercostal arteries are compressed by ligatures on each side of the pieces of ribs to be removed. An aneurism needle is passed unthreaded from the middle of one intercostal space, entering the pleural cavity, to the space above, and brought out close to the upper border of the rib above. The needle is then threaded and withdrawn. This ligature when tied contains below the rib a bunch of intercostal muscle, which acts as a plug in the intercostal groove, thereby obliterating the vessels. The entire thickness of the chest wall between the two rows of ligatures is then removed close up to the ligatures, the bleeding being confined to the divided ribs, where time is no object; periosteal flaps covering in the cut ends of rib tend to prevent subsequent necrosis, probably due to infection of the bone by the pus from within, which I have seen occur in several cases. The ligatures should be of material which is easily absorbed to prevent the possible necessity of future removal."

Dirt-Eating Children.—Dr. John Thomson gives notes of eleven cases which illustrate in a tolerably characteristic way the clinical history which is generally obtained in cases of this morbid condition. In some cases only one or two abnormal things were eaten; in many almost anything within reach was swallowed; and it seems that the variety of unnatural

substances craved is much more limited in cachectic cases than in those beginning in young babies. Children suffering from pica for some time have a peculiar look about the face. Their complexion is dull and unhealthy, and they are often hollow eyed with a hungry and unhappy look.

In these cases in which the children were allowed to indulge their craving to any great extent there were always some diarrhoea and occasionally obstruction from impaction of hard bodies in the rectum. In none of these cases was the patient ever seriously ill as the result of the habit, but instances have been recorded which have ended fatally. It was interesting to notice that in cases where the habit was formed in early infancy, and where the patient was some time under observation, the craving ceased about the age of three years. This seems probably connected with the growth of the child's intelligence and the widening of its interests.

The nature and etiology of pica constitute a very difficult question; but it seems natural to class such cases as a minor psychosis, along with such "bad habits" as sucking of the thumb and fingers or of the tongue, masturbation in little children, and the rocking to and fro (without implication of the genital organs) in which some young children find pleasure.

Treatment is only to a very small extent a matter of medicine. It must aim at the modification of any conditions which favor the continuance of the habit. The indications are mainly four: 1. Keep the child away from the substances for which he has a morbid craving. All habits are strengthened by practice, and their hold slackens under disuse. 2. Improve the condition of the digestion. It seems more than likely that local uneasiness often plays some part in the etiology. 3. Improve the general health. It is to the weakly that such cravings come, and the strong readily throw them off. 4. If possible, change the child's surroundings and take his mind up with new things, and let him be kept busy and happy.—*Pediatrics*.

A Death Certificate.—The following unique document was presented to the authorities not long ago, upon the death of a United States pensioner: "I do further state that the one cause and real cause of death was from the effects of his old trouble, Chronic Rheumatism, hastened by an attack of Lagrippe which he in his weakened state had not the strength or vital life to resist. He was gradually growing weaker, slowly dying, from the old chronic trouble, and the sudden attack of Lagrippe produced congestion and death came more quickly than otherwise would have been the cause; although it was a known fact that he was gradually dying and death would have surely resulted within a short time. Thus Chronic Rheumatism was the real cause of death, hastened by a severe attack of Lagrippe which caused congestion of the lungs, and for want of vital life and power to act the Arterial system ceased motion. The breath of life could not pass into the lungs; the lungs congested, filled with venous blood, and life was gone. By the loss of vital life and inherent weakness of the powers of nerve tissue, I mean for want of strength and life. The arterial system ceased motion and the breath of life could not pass into the lungs, that in connection with the spinal cord it could not connect the sensation of life longer to the vital nerve tissue, called animal life of man. Therefore it is plain that Lagrippe alone would not have proved fatal in this case had not — been already in a weakened debilitated condition throughout his whole system from the effect of the chronic trouble of long standing, and his gradually approaching death was hastened by a severe cold and an attack of Lagrippe, which otherwise would not have had a fatal termination."

Cuba as a Breeder of Pestilence.—That present sanitary conditions in Cuba render the island a menace to the United States is asserted by Dr. George T. Maxwell in *The Sanitarian*, February, 1896. He says that Spain's interest in Cuba, aside from the sentimental idea of retaining her colonial possessions intact, is simply and entirely sordid. It is with Spain a question of revenue of dollars and cents simply. The welfare and happiness of her subjects are secondary to that, and in consequence the health conditions of Cuba give her little or no concern; but to the inhabitants of this country the importance of this latter question cannot be overestimated. Cuba, because of her proximity and commercial relations, is regarded as the point of danger to the Union, as it relates to that bugbear of modern times—yellow fever. Millions of dollars have been spent in efforts to prevent its intrusion into the States. While his knowledge of that disease—its history and nature—forbids assent to the commonly accepted notion that it is contagious, he is in complete accord with those who hold that its persistent prevalence in Cuba is attributable to the utter disregard of the simplest principles of hygiene. That it is due to local unsanitary conditions in Havana and Rio Janeiro has been declared with great emphasis by men whose official position, if nothing else, will give the weight of authority to their dicta.

Well and Happy when She had Enough.—We once knew a woman, an inmate of a county infirmary, who attained the ripe age of one hundred and six years, who had always been an inveterate user of tobacco, which owing to her poverty was a luxury not easily obtained. To economize in its use, she first chewed the plug and dried the quids, from which she made a tea and drank of it freely, then the residue was carefully redried for consumption in her T. D. pipe. The old lady proudly affirmed that she had never been ill.—*Cleveland Medical Gazette*.

A Remedy for Black Eye.—There is nothing to compare with the tincture or strong infusion of capsicum annuum mixed with an equal bulk of mucilage or gum arabic with the addition of a few drops of glycerin. This should be painted over the bruised surface with a camel's-hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If this is done as soon as the injury is inflicted, it will invariably prevent blackening of the bruised tissue. The same remedy has no equal in rheumatic sore or stiff neck.—*Medical Progress*.

What is Natural Labor?—Dr. Robert R. Rentoul (*British Medical Journal*) finds fault with the loose construction put upon the term "natural labor" in laws regulating the practice of midwifery nurses. He proposes the following definition: "Labor, at the ninth calendar month in a woman free from organic and functional disease of the heart, lungs, kidneys, brain, and other internal organs, and from all fever diseases; when there is no impediment in the maternal passage of either soft or hard nature to the passage of the child; when there is only one child in the womb; when the vertex of the child alone presents in either the first or second occipito-anterior position; when labor is completed within twelve hours from the commencement of labor; when a living child is born; when neither instrumental nor manual operations have been required; when the afterbirth comes away without the use of manual operation within twenty minutes after the birth of the child; when there is no laceration of any portion of the parturient structures; and when the mother does not die within thirty-one days after confinement; and when there is no puerperal fever."

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Original Lectures.

MIDDLETON-GOLDSMITH LECTURES¹—ON THE RELATIONSHIP BETWEEN INFLAM- MATION AND SUNDRY FORMS OF FI- BROSIS.

Continued from page 400.

By J. GEORGE ADAMI, M.A., M.D. CAMB.,
PROFESSOR OF PATHOLOGY, M'GILL UNIVERSITY, MONTREAL.

Lecture II., Part I.

IN my last lecture, having laid down my definition of inflammation—namely, that it is the series of changes constituting the local attempt at repair of injury or referred injury to a part—I proceeded to discuss the forms of fibrous hyperplasia which in the terms of this definition might well be held to be of inflammatory origin, and showed or attempted to show that such forms might be divided into the two main classes of productive and replacement fibrosis. Following upon this, I discussed the group of localized neoplastic fibrous hyperplasias, and pointed out that two groups might be recognized: the neoplasms of inflammatory origin and those of as yet undetermined causation—the true fibromata.

A consideration of neoplastic growth leads almost insensibly to the inquiry whether it is requisite that injury should precede new connective-tissue formation. The answer must, I think, be an unhesitating No.

In the nobler tissues of the body we know full well that increased work leads to hypertrophy or, more correctly, to hyperplasia; that is to say, a physiological stimulus leads to multiplication of the cell elements. What are the exact steps whereby this is brought about must perhaps always remain a matter of supposition, the most that we can say being that the call for increased work is followed by increased blood flow to the part with presumably increased nutrition, and that the increased work necessitates greater activity and increased metabolism in the individual cells. In connection with the basal connective tissue of the body it is difficult to grasp the idea of active work; to attempt to formulate such an idea may perhaps justly lay me open to the charge of dealing in transcendental pathology, and yet, as I shall proceed to show, a consideration of several forms of fibrous-tissue hyperplasia in connection with the different organs and diverse in character, forms in which it is difficult to decide any clear inflammatory origin, leads to the conclusion that there is a certain bond of union between them, that in them the existence of an increased strain upon the tissue is to be recognized, and that if we could group them together as being of the nature of "functional" hyperplasias or hyperplasias of increased function, we should advance materially in our grasp and comprehension of the same.

I had at one time thought that increased nutrition would be sufficient to explain these cases, and indeed I have been inclined to press this point until quite recently. It is certainly true (as is best shown by the cases of dystrophic sclerosis already mentioned) that a nu-

trition insufficient for the nobler elements of an organ suffices often for the active growth of connective tissue. This fact that a nutrition ample and suitable for one tissue does not suffice for another has long attracted attention, while the converse, or rather the corollary, was proved more than a century ago by John Hunter in his classical experiment of grafting the scantily-nourished cock's spur upon the cock's comb, and in this richly vascular and well-nourished area obtaining a remarkable, if temporary, hypertrophy of the grafted organ. Under certain conditions, then, active increase of nutrition of a part may lead to hyperplasia of its cells. Where the specific cells of a tissue undergo atrophy it may well be that there results a definite increase in the amount of nutritive fluid at the disposal of the baser interstitial cells, and that this has to be taken into consideration as well as any more direct stimulus to proliferation afforded by the products of tissue degeneration.

If this be so we are met with the likelihood that in conditions tending to altered nutrition of a part—leading to the tissues becoming bathed with lymph, either in excess of the needs of the specific and nobler cells of that tissue or of a quality not suited for the uses of those cells—there may be induced an overgrowth of connective tissue, a fibrosis, to be ascribed primarily to nutritional disturbances; or, in other words, it becomes likely that there may be nutritional fibroses as distinguished from inflammatory. Plausible as this seems, a fuller study of those cases which at first appear to be examples of simple nutritional fibrous overgrowth leads to the conviction that there is some further factor also at work. Or otherwise, increased nutrition, even if long-continued, does not inevitably lead to increased connective-tissue overgrowth, and therefore when we find this factor most in evidence in the production of any form of fibrosis we are bound to assume that there must be some additional directive factor. What I mean will best be shown by a study of the cases I am about to bring before you.

Take in the first place chronic obstruction to the flow of lymph. Where such obtains—whether by pressure of tumors upon the main lymph channels of a part, by blocking of the same, or by diseased states of the lymph glands—it is a matter of frequent observation that in the absence of satisfactory collateral tracts the part becomes swollen and gradually the fluid swelling gives place to a generalized, if not very extreme, connective-tissue overgrowth. In such cases the circulation of the blood through the affected area is maintained, there are no positive signs of inflammation evident either macroscopically or microscopically. We cannot recognize in the condition an attempt at repair. The primary injury has been at a distance from the region of fibrosis. Nevertheless, it may be argued that the stagnating lymph acts in these cases as an irritant to the connective-tissue cells and that the condition must be regarded as a productive inflammatory fibrosis.

While this view deserves full consideration, its acceptance must lead us almost inevitably to a point at which we become bound to regard as of inflammatory origin every condition of fibroid overgrowth, whatever be the stimulus. Some limit, I think, must be given

¹ Delivered before the New York Pathological Society.

to our conception of what is included in the process. It will be seen that thus far every example given by me until the present case has been strictly within the limits of the definition laid down, namely, it has been reparative in its tendency and has been due to evident injury to the part which becomes the seat of the fibroid change. We must, I take it, decline to consider a lesion as an inflammatory fibrosis in the development of which these two conditions cannot be clearly recognized.

Failing inflammatory origin, can we regard the example given above as being brought about by perverted nutrition pure and simple? I am inclined to think that we cannot. We should expect perverted nutrition to tell first upon other and higher tissues, but in many of these cases we find singularly little evidence of primary degeneration of nobler tissues (the muscles and skin of an affected extremity, for example). Where the circulation of healthy blood persists through such a region there must occur constant interchange between blood and lymph, and the blood must carry away the products of tissue change to a considerable extent. In deed we know that it is capable of vicariously removing much of the lymphatic fluid. With our present knowledge, all that it is absolutely safe to say is that we are here dealing with a quantitative disturbance in the lymph of the region, coupled with a mechanical disturbance, namely, increased extravascular and interstitial pressure; or, to put it otherwise, the cells of the connective tissue are subjected to an altered tension. The qualitative disturbance is of doubtful extent.

With these cases of obstructed lymph flow in a part certain examples of elephantiasis Arabum would appear to be classed—provisionally. So little has been accomplished in establishing the real nature of this disease, or more truly of this group of diseases, that the most I dare venture to say is that disturbed outflow of lymph from the affected region seems to be in operation in some cases (elephantiasis lymphangiectatica), while others present indications of venous disturbance (elephantiasis telangiectodes); others again (the neuromatous and lipomatous forms) can only safely be described as hypertrophic conditions approaching peculiarly close to generalized neoplastic formation.

Without discussing further the intimate nature of the fibrous hyperplasia in these cases at the present time, let me pass on to consider another class of cases. Increased bathing of the tissue with lymph and increased lymph tension may also result from active and from passive hyperæmia. From either of these causes there may be passage outward of lymph from the blood-vessels in amount exceeding the efferent capacity of the lymphatics. Here again mere increased amount of lymph does not seem to lead necessarily to fibrosis. Some other factor or factors must be invoked. Thus in the liver, while extreme congestion leads especially to dilatation of the vessels with pressure atrophy of the specific cells, and though presumably there is here increased exudation, we get little evidence of fibrosis; long-continued moderate congestion induces, on the other hand, a very evident fibrosis, most marked, it is true, in the walls of and immediately around the intralobular branches of the hepatic vein, but seen also in the interstitial substance of the neighborhood. The peculiar arrangement of the new fibrous tissue shows that it cannot be regarded simply as an example of replacement fibrosis. The history in these cases points to the long-continued action of two factors—increased effusion of a not greatly altered lymph and long-continued (and probably varying) pressure affecting especially the central parts of the lobule.

The relative rarity and the slight extent of the fibrous hyperplasia accompanying well-marked passive

congestion is in itself an indication that the quality of the effused lymph plays a part in the development of the hyperplasia. Neither increased amount of lymph of poor quality in a part nor increased interstitial tension alone, it would seem, is capable of inducing overgrowth.

From this brief and hasty consideration of fibroid changes associated with the lymphatic and venous systems which are not to be regarded as of inflammatory origin, I will now pass on to discuss in somewhat greater detail what appear to me to be allied conditions affecting the heart and arterial system.

In ordinary practice apart from malformations, neoplasms, and the direct effects of trauma, the pathological changes of the heart valves are divided into the two broad classes of acute and chronic endocarditis, and although the non-committal name of arterio-sclerosis is in frequent use and although its employment appears to indicate a doubt as to the exact etiology of the condition, it must, I think, be admitted that such arterio-sclerotic changes are regarded as inflammatory in character, while sporadically the attempt is made to explain them by suggesting or presupposing the existence of some irritant substance in the blood which by direct action upon the vessel walls leads to injury and to reaction in the shape of connective-tissue overgrowth. I see, for example, that in a recent number of the *British Medical Journal* the apostle of uric acid, Dr. Haig, suggests that a cause for sclerosis of the heart valves is to be found in the irritant action of his beloved uric-acid crystals.¹

The existence of inflammation as a cause of sclerosis is more frequently to be determined in connection with the heart valves than with the arterial intima. Thus, it is well recognized that acute valvular disease may be followed by chronic thickening of one or more segments, that similar thickening may follow rupture of a segment, and that a valvule which has from any cause become injured, whether from simple roughening of its surface or more usually from the development upon it of vegetations, may by friction induce inflammatory disturbances in the parts with which it comes into contact.

In general these forms present an irregular or varicose type of fibrosis, but it is often difficult, if not impossible, to distinguish from them sundry cases of chronic generalized thickening in which through degeneration localized disturbances have occurred in the thickened valves with, it may be, ulceration, deposit of fibrin, and subsequent organization. There are, that is to say, doubtful cases in which it is practically impossible to declare whether we are dealing with processes following upon localized valve lesions or with the sequelæ of a generalized lesion.

Apart from these undoubtedly the most common form of valve lesion met with in the post-mortem theatre is a generalized thickening. Perhaps generalized is not a wholly correct designation, for in the slightest forms it manifests itself more especially along the edges of the mitral segments, and in the aortic valvules it is below the line of apposition, and again at the insertion of each segment, that the fibrosis is most marked. So common is the condition that in general we disregard it and, accepting it as almost physiological, make no note thereof. But in the examination of a series of hearts we may pass almost imperceptibly from one case to another until we reach conditions of extreme mitral stenosis, with such extensive generalized thickening of the whole valve and consequent shortening of the new connective tissue laid down that the mitral veil becomes converted into a circular plate, or more generally into a short blunt

¹ Alexander Haig: "Arthritis and Endocarditis Due to Drugs which Diminish the Solvent Power of the Blood for Uric Acid," *British Medical Journal*, December 28, 1895.

funnel with button-hole passage. And we come across case after case of this category which shows no sign of localized valvular disturbance either old or recent. The condition affects the whole of the valve and affects also the chordæ tendineæ, which are thickened and shortened.

While in acute endocarditis and in the nodose or verrucose sclerosis following upon such we find clear evidence of vascularization of the valves, and sections show fairly frequent vessels, this is not the case in the generalized thickening here referred to. The essential characteristic as revealed in sections is the rarity of the vessels; the fibrous tissue is laid down in layers parallel to the surface, and the most recent, the most cellular layers are those nearest to the endothelium—while the deepest layers, those most remote from the surface, show a peculiar tendency to degenerative changes. This tendency to hyaline swelling, fatty degeneration, and other evidences of necrobiosis—in short, to atheroma—is in itself a demonstration of lack of due vascularization and of malnutrition. Indeed, although I know that Luschka and others have described vessels throughout the extent of the mitral valve segments, my own injections of healthy hearts of several species have led me to the more generally accepted conclusion that the outer two-thirds of the mitral are almost, of the aortic valves are quite non-vascular, and to the further conclusion that healthy valvules gain their nutrition in the main from the blood circulating within the heart. It is, I hold, by passage or circulation of the plasma through the stomata of the lining endothelial cells into the lymph spaces between the layers of connective tissue forming the supporting frame of each normal valvule that the main nutrition of the non-vascular areas of the valves is effected. While a layer of the vascular myocardium is contained in the proximal third or so of the segments, the outer two-thirds is scarce anything but a fold of the endocardium.

That the endocardium of the heart in general gains its nourishment from the blood within the chambers

ing endarteritis. The only and the obvious explanation why these peripheral fibres remain is that they have gained their nourishment through the endocardium.

Wherever we find well-marked vascularization of the outer two-thirds of the mitral valve, for example, we may feel assured that there has been inflammation present. The vascularization is strictly comparable to that obtaining in the cornea and other non-vascular areas, and indicates a development secondary to acute disturbance of the organ. In the generalized thickening to which I have referred one is struck by the peculiar rarity or almost complete absence of vessels and by the fact that the hypertrophic fibroid tissue is laid down after the plan of the normal connective layers of the region. And while obviously the new growth is continuing and the newest tissue is situated immediately beneath the endothelium, we do not there recognize any characteristic presence of small round cells. The appearances in this region are those of an orderly hypertrophy.

Two hypotheses may be adduced to explain this state of affairs: Either that the sclerosis is of inflammatory origin, the result of an irritant mild in character, causing little reaction but acting continuously over a long period, or that it is non-inflammatory and comparable to the fibroses already referred to in connection with the lymphatic system.

It is, I must frankly confess, impossible to adduce sufficient proof to entirely refute the former hypothesis—there may be chronic intoxications, auto-intoxications, or otherwise, due to substances which manifest a special tendency to act upon the endocardium; but such substances have not yet been isolated. Increased pressure upon the valves may directly damage them and the fibrosis may be the indication of a reaction to chronic injury, but the thickening would appear to be progressive and to continue until a condition is reached out of all proportion to the injury. We find, therefore, no absolute and sufficient reason for regarding the condition as of inflammatory origin. Nevertheless, the mere fact that we at present are ignorant of any immediate cause for the production of this lesion is not sufficient ground for flatly denying the existence of such cause, and even the fact that the microscopic appearances are not those of ordinary inflammation is not proof positive that the process which has led to the lesion has not been essentially of an inflammatory nature.

I cannot, that is to say, hold it proved or disproved that generalized sclerosis of the cardiac valves is in all cases of inflammatory nature. And the matter being thus an open one, it may be well to hold it possible that the second alternative may be correct and to seek for evidence in support of it.

Now, it is interesting to note that just those conditions in which there is a liability for the production of generalized thickening of the heart valves are clinically conditions in which there is found heightened arterial tension, conditions which also bring about arterio-sclerosis. It is just in these conditions that we might expect to have, with increased pressure, increased nutrition of the endocardium and of the intima—increased passage of plasma from the intracardiac blood through the endothelium, or perhaps, more correctly, between the endothelial cells. And I cannot but consider that this increased nutrition coupled with increased strain may afford a satisfactory explanation for this condition of so-called chronic endocarditis. Such a proof as one would desire of the correctness of this opinion is difficult if not impossible to devise, for the condition is the production not of a few hours but, not to exaggerate, of many weeks. Experiments upon the subject are almost if not quite outside the range of experimental pathology. Yet certain considerations appear to support

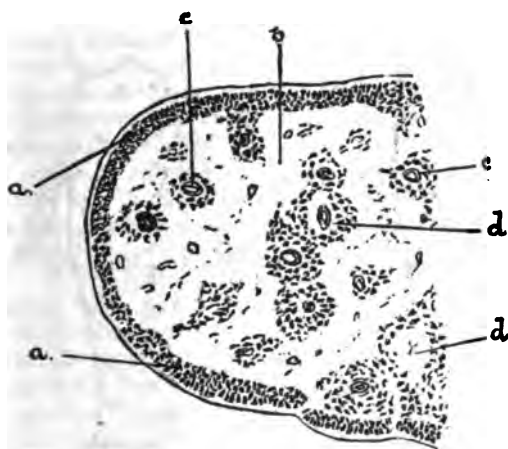


FIG. 1.—Transverse section of a papillary muscle exhibiting dystrophic sclerosis to show zone of intact muscle fibres immediately beneath the endocardium. *a*, Layer of intact muscle fibres beneath endocardium; *b*, sclerotic areas—replacement of atrophied muscle tissue by fibrous tissue. In this are venules and occasional atrophied muscle fibres; *c*, arterioles cut transversely, exhibiting thickened and sclerotic coats, and surrounded by intact muscle fibres; *d*, periarterial sclerosis.

and that the nourishing plasma may even extend for some little distance beyond, is very prettily shown in some cases of advanced sclerosis of the papillary muscles, which present complete fibroid metamorphosis of the central area of the pillars with a zone of healthy fibres all around the periphery immediately beneath the endocardium. These healthy fibres present no accompanying arteries; all the arterioles coursing up the papillary muscle may exhibit advanced proliferat-

the view. Roy and I,¹ for example, found that by constricting the first part of the aorta in the dog and in the rabbit and thereby raising the blood pressure within the heart, we were able in the course of a few minutes to bring about the production of numerous small pearly vesicles along the edges of apposition of the mitral and aortic valves, and we could only account for this development by assuming that with the increased blood pressure the plasma of the blood had been driven into the substance of the valve, and that the pearly vesicles of lymph (or plasma) appeared where they did because at these regions the difference between the pressure on one side of the valve segments and on the other was most in evidence. We obtained, so we held, clear proof that with increased blood pressure increased fluid penetrates the valve substance. It is important to note that similar pearly elevations are generally regarded as the first indication of valve disease.

But, as I have already pointed out, it is unsafe to regard increased nutrition alone as a cause of connective-tissue hypertrophy, and if we cast round to find what other factor there may be I am inclined to consider that it may briefly be entitled increased strain or tension acting upon the individual connective-tissue cells.

The idea may at first appear transcendental; we are not accustomed to think of the connective-tissue framework of the organism as being strained or, to carry this view to its logical conclusion, performing work. We only regard the nobler tissues as workers—the muscle fibres, the nerve cells and the specific cells of the glands. Nevertheless, we acknowledge freely that increased work thrown upon one of the connective tissues—namely, bone—does lead to its hypertrophy. It is a matter of common observation that not only are the bones of those accustomed to active exercise larger and heavier than the bones of the sedentary, but also that where any muscles are strongly developed there bony ridges and bony overgrowths are most developed at their origins and insertions.

The factors leading to this overgrowth may be summed up under the comprehensive title of increased work. And in connection with connective tissue where there is any force in action tending to draw apart and pull upon the constituents of the tissue—whether the force acts from without or (as in cases of increased effusion of lymph) from within the tissue—where, in short, there is a strain upon the components of the tissue—there, if we regard the work of the connective tissues, as is most plausible, as being to bind together and support other tissues, undoubtedly that work is increased and, granting that at the same time the nutrition remains good, we have a condition favorable to increased growth. *A fortiori* we might expect such hypertrophy where simultaneously the amount of nutrition is increased.

I suggest this very tentatively, for I have a horror of far-fetched pathology and an accompanying belief that the fuller our knowledge of a subject the simpler and more straightforward do we find the laws governing the associated phenomena, and it is only because the idea is straightforward and is in harmony with our knowledge of occurrences in connection with other tissues that I venture to formulate it. My aim in these lectures is throughout not to dictate but to suggest and call attention to the many diverse conditions which may bear a part in the production of increased fibrous tissue. At most I will here urge that it is possible that increased functional activity of the connective tissues results under favorable conditions in increased growth of the same.

[To be continued.]

¹ Roy and Adams: "On Failure of the Heart from Overstrain," *British Medical Journal*, December 15, 1888.

Original Articles.

TREATMENT OF FRACTURE OF THE PATELLA WITH CONTINUOUS EXTENSION AND WITHOUT CONFINEMENT TO BED.

By JOSEPH D. BRYANT, M.D.,

NEW YORK.

It is not my intention to call to notice anything essentially new, nor to make any portentous claims of the great benefit to be derived from giving heed to what may now be said regarding the subject of this paper. However, it is the intention of the writer to renew suggestions already made by him some time since bearing on the question of personal comfort and the proper physical status of patients who are suffering from fracture of the patella, and who for any reason are regarded as improper subjects for operative procedures or for continuous confinement in bed.

About three years ago this method of treatment of fracture of the patella was presented to the attention of the profession by the writer, along with a statement of the results in nine cases thus treated. Since that time several additional cases have been added to the record. It appears to me that I can do no better now than to describe again the method of application of the apparatus. In doing so, the verbiage of the previous description will be employed very largely, indeed—amended, of course, here and there by suggestions and modifications that are the legitimate product of a greater experience. The application of the mechanism can be properly divided into four steps:

First Step (Fig. 1).—This step consists in the application to the leg of a plaster-of-Paris splint extending from the bases of the toes up to and partly surrounding the lower fragment of the patella (3, Fig. 1). The plaster casing is applied closely to the leg

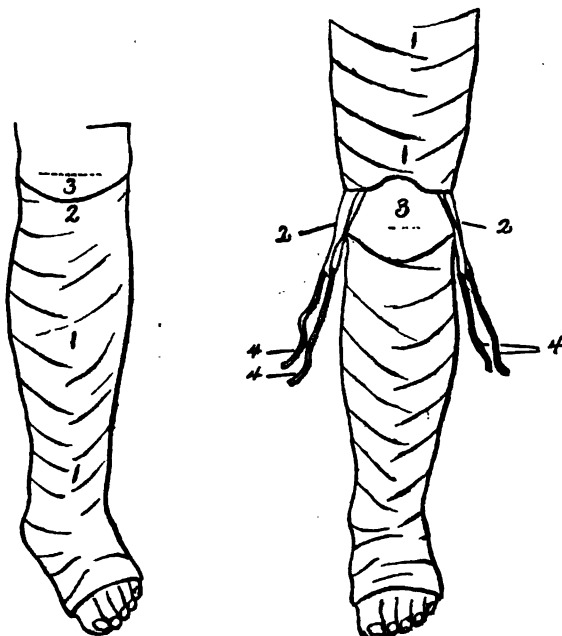


FIG. 1.—1, Plaster-of-Paris splint applied to leg; 2, upper part of splint resting against lower fragment 3; 3, lower fragment and line of fracture.

FIG. 2.—1, Extension applied to thigh; 2, 2, front view of extension straps; 3, fractured patella; 4, 4, rubber extension.

at a time sufficiently in advance of the succeeding steps to permit of its becoming thoroughly hardened. The upper and anterior border is carefully shaped so as to hold the lower fragment of the patella in proper position.

The functions of this splint are threefold: (1) It affords ample protection to the foot of the patient from the effects of the pressure of the rubber extension

¹ Read before the Practitioners' Society, February 7, 1896.

which passes across the sole from side to side. Practically the extension acts on the tissues of the thigh from the sole of the foot. (2) It confines the lower fragment in position at the outset and it is maintained there by the upward pressure of the splint, due to the force of the elastic extension as it passes across the sole of the foot (Figs. 1 and 4). In any event, the pressure of the splint at this point can be easily regulated, either by cutting away or padding it at the border contiguous to the lower fragment. (3) It gives proper support to the lower extremity of the extending-brace of the apparatus (Fig. 4).

Second Step (Fig. 2).—The measures of the second step are quite as strongly expressed by the illustration depicting it as words can define them. It consists in the application to the thigh of an adhesive plaster extension fashioned after the manner of the well-known Bucks extension, which in this instance reaches from the perineum to the upper border of the upper fragment (Fig. 2, 1, 1). The adhesive-plaster element of the Bucks extension is at that time held in place by the application of an ordinary roller, as usual. The plaster terminates in the form of loops at either side of the limb a little below the knee. The rubber extending-cords are passed through the loops (Fig. 2, 4, 4) or attached to hooks connected with them (Fig. 3, 4, 4). Moderate extension is then made on the loops by the elastic cords, to draw downward as far as proper the superficial soft parts of the thigh and the upper fragment of the patella. While extension is thus being made, the thigh is encased in a plaster-of-Paris splint reaching from the upper limit of the adhesive plaster down to the upper fragment (Fig. 3, 1, 1), where it is so fashioned and padded as to hold this fragment as nearly in contact with its fellow as possible.

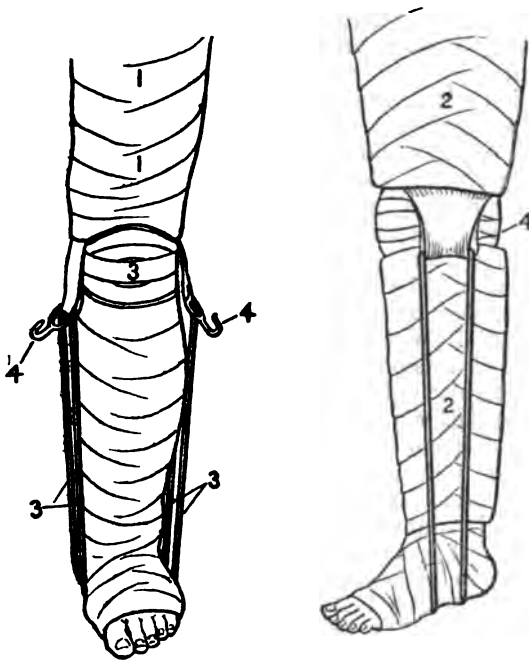


FIG. 3.—Front View of Extension. FIG. 4.—Side View of Complete Apparatus.

The objects of this plaster-of-Paris addendum are: First, to aid in holding the adhesive dressing of the thigh in as firm position as necessary; second, to afford a support for the upper end of the posterior extending-brace already mentioned; third, to coaptate the tissues of the thigh, thereby exercising a controlling influence over muscular contraction; fourth, the making of direct extension on the quadriceps extensor, by reason of the close application of the splint to the upper fragment of the fracture and the tissues contiguous to it.

Third Step.—This step consists in placing the posterior support or brace in proper position and fixing

it there by means of plaster-of-Paris rollers carried around it and around the upper and lower segments of the splint where they lie in contact with each other (Fig. 4). These bandages should harden quickly, and thus incorporate the posterior support at the upper and lower ends firmly with the plaster-of-Paris structure at these situations (Fig. 4, 2, 2). A strip of wood about two inches in width, an inch and a half in thickness, and of sufficient length to be firmly incorporated in the plaster-of-Paris segments of the apparatus, will answer the purposes of the posterior support (Fig. 4, 4). Two small iron rods of proper length, placed parallel with and close to each other, will meet the demands of a support.

Fourth Step.—This step consists in drawing together the fragments of the patella as firmly as possible, either with adhesive strips obliquely applied, as is commonly done for this purpose, or the attainment of the object by means of a knee cap suitably constructed and applied to meet the same ends. If strips of adhesive plaster be employed, they are fashioned in place by attaching them to the uncovered parts of the posterior support (Fig. 4, 4). If the knee cap be used instead, it is applied without reference to this support. In applying the plaster strips at the line of junction of the fragments, care should be taken or the strips will be drawn between the fragments and thus interpose an obvious obstacle to proper repair. The hamstring tendons should be properly padded, so that neither the adhesive strips, the knee cap, nor the leather collars of the text-books can cause pressure or chafing of them. And, too, either of the above agents can be more readily and serviceably applied if the extending force be drawn aside to permit of greater room and more careful application. After the apparatus is comfortably in position, the patient is permitted to walk about with the aid of crutches, the limb meanwhile being supported in an advanced position by the agency of a sling carried beneath the sole of the foot and around the neck of the patient.

The apparatus should be made as light as is consistent with proper strength and service. In fact, it is not always necessary to embed the posterior support in the plaster of Paris by the addition of more of this material; but, instead, the posterior support may be bound in position by a firm roller bandage applied at either extremity of that structure. The adhesive plaster strips aid also in holding the posterior support in position.

I will not detain you by narrating the various changes that can be made in the utilization of individual elements of the apparatus, as these will be apparent as the circumstances suggesting them shall appear. Thus far thirteen cases of fracture of the patella have been treated under my observation by this method. The results from the treatment are equal in all respects to those obtained by other mechanical non-operative measures. The plan is presented not as a substitute for operative measures, but as an adjunct to them, as the patient can, with this appliance, be about without special danger or discomfort after wiring, etc., and closure of the wounds of the soft parts. The idea is to accomplish without long confinement in bed a cure that is equal to one ordinarily attained only by the sacrifices incident to such a confinement.

Gout.—Dr. Bishop (*Medical News*) says migraine is one of the commonest nervous manifestations of gout in its recurrent form. Neuralgia of the sciatic, intercostal, and fifth nerves, and rarely of other nerves, is often gouty in origin. Gouty subjects are liable to neuralgic pains in almost any part of the body. A true neuritis, particularly of the sciatic nerve, is not uncommon in such subjects.

A SYNOPSIS OF THE MODERN TREATMENT OF CHRONIC CARDIAC DISEASES.¹

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WHEN any of the valves of the heart are injured by disease their natural mechanism is impaired; the force of the cardiac contractions is not thoroughly utilized and, as the result, enlargement or hypertrophy of the muscular structure of the heart takes place. There is much more in the diagnosis of heart disease than what is found as the result of physical examination. It must be remembered that some persons have inherent weak hearts, while in others the heart is large and powerful and contains a great amount of muscular resistance, which enables them to undergo the greatest fatigue without any apparent failure. This explains why it is that a valvular lesion in one person will be progressive from the start and run a rapidly fatal course, while in another case it will remain stationary for an indefinite period, being completely compensated by muscular hypertrophy. There are two forms of cardiac failure—one from overexertion of the muscle itself, the other from inherent inability. Of the former there is failure from chronic valvular or arterial disease; of the latter there are many cases where there is no hypertrophy or dilatation and the failure of the heart is due to simple deficient innervation. In many cases the heart instead of failing at once commences with weakness indicated by irritability, causing palpitation—for example, in hysterical persons, with dyspepsia there is often palpitation without any murmur or valvular disease, and this is undoubtedly due to deficient power of the heart caused by paralysis of its inhibitory mechanism. The strength of the heart is shown not by its rapid action, but, on the contrary, by its ability to restrain itself from beating too fast in conditions of nervous excitement or great emotion. In a perfectly healthy person the heart does its work without any consciousness of its existence except after violent effort. Very severe muscular exertion causes the heart to beat violently, and its action is distinctly felt. This excited action, however, is more readily induced in some persons than in others. It is not always an indication of disease and is often caused by disorders of digestion. Palpitation is found where the muscular power of the heart is deficient and cannot respond to the demands made upon it; here it is associated with dilatation and is readily induced by slight exertion. It is also found in lithæmia or gout and in chronic Bright's disease. It is a frequent symptom of Graves' disease or exophthalmic goitre, with enlargement of the thyroid gland and great nervousness, causing a rapid action of the heart and throbbing of the arteries all over the body. When hypertrophy is developed as a compensatory measure, palpitation is comparatively rare; on the other hand, when hypertrophy does not produce complete compensation then palpitation is readily induced with irregularity or intermittency of the heart's action. Palpitation results from the action on the heart of such substances as alcohol, tobacco, coffee, tea, etc.

Cardiac Hypertrophy and Dilatation may be produced by increased work of the heart or by increased pressure inside the heart or by weakness of the myocardium. The whole heart, or only portions of it, may be involved. Hypertrophy is caused by a thickening of the walls of the heart, by an increase in their muscular tissue. By dilatation is meant a condition of the heart with enlargement of its cavities, and marked diminution of its muscular power. The differential diagnosis is never difficult. In hypertrophy the first

sound is loud and booming in character, greatly intensified and accompanied by a heaving impulse against the chest walls. It may or may not be accompanied by a murmur. The intercostal spaces are widened, the apex is displaced downward, and its impulse against the chest wall is localized and distinctly visible. In dilatation the character of the first sound is totally different. It is short and valvular and somewhat resembles the second sound. The impulse is diffused, covers a large space, and the apex of maximum intensity may not be found, or it may be seen but cannot be felt. The pulse in hypertrophy is regular and full. If arterial sclerosis is present, then the pulse is greatly modified. The pulse of dilatation is weak, irregular, and generally rapid. The prognosis in hypertrophy is generally good, while in dilatation it is quite the reverse, and as the dilatation increases the prognosis becomes more and more grave. Cardiac hypertrophy is found in lithæmia or gout and is here associated with arterial sclerosis and accompanied by the pulse of arterial degeneration. Enlargement of the heart is a common complication of chronic renal disease, especially in the non-exudative or cirrhotic form. It may also occur in chronic diffuse nephritis with exudation. These forms of chronic renal disease give rise to a number of very definite symptoms which are characteristic of them. There is the hard incompressible pulse of arterial sclerosis, which causes great derangement in the blood supply to the various organs of the body. This diseased condition of the arteries is a common cause of apoplexy and the interference with the circulation gives rise to definite cerebral symptoms. First, impairment of memory due to anæmia and malnutrition of the brain. Second, a persistent tendency to wake too early in the morning. Third, vertigo, especially in the morning after getting out of bed. Fourth, headache with persistent painful cramps in the calves of the legs in the morning before or after rising. Fifth, a vague sense of fear, as of some impending danger. In addition to these the intellect is greatly impaired, patients become dull and apathetic. The urine is of very low specific gravity and albumin and casts are usually found. It is generally very light in color and abundant in quantity. Important information is often derived from observations made on the arterial system in addition to that of the heart. The frequency of the pulse should be noted, but the nature of the pulse is of more importance than the time or rate. A strong incompressible radial pulse indicates enlargement of the heart with high tension. A weak, compressible, and perhaps irregular pulse indicates fatty degeneration, dilatation, or anæmia. In high arterial tension the artery is hard and cord-like, and can be rolled underneath the finger and easily traced up the forearm; as this pulse is often small, owing to the contraction of the arteries, it might be mistaken for a weak pulse if it were not always incompressible. Many conditions give rise to high arterial tension, among which may be mentioned renal cirrhosis, degeneration of the arteries, or arterial sclerosis, gout, lead poisoning, chronic poisoning by ergot, etc. In arterial degeneration the vessels become elongated and pulsate visibly, and calcareous plates are often found in the radial artery. Atheroma, when present, exaggerates the pulse by giving it a feeling of strength which is deceptive. Consequently persons are found having atheromatous arteries in which the pulse has a fictitious strength. Atheroma is a very significant condition indicating senile degeneration of the arteries, a process which quickly leads to atrophy.

Arrhythmia, or intermission, occurs when one or more beats of the heart are skipped. Irregularity consists of alternate beats, unequal in volume or force, or there may be a systematic coupling together of the

¹ Read at the meeting of the Medical Society of the County of New York, March 23, 1896.

beats in pairs, or the heart's action may become alternately rapid and slow. Irregularity of the pulse is found in fatty degeneration of the myocardium, chronic meningitis, and in the excessive use of tobacco. It should be clearly understood that an irregular pulse is of far more serious significance than an intermittent one. Some persons have intermittency of the pulse for many years and it does not seem to imperil life. If intermission occurs after prolonged or violent exercise it then becomes more serious.

Tremor Cordis is a peculiar form of irregularity of the heart's action. It is not caused by mental emotion or physical exertion. It sometimes occurs in young persons, but is more common in the old. The heart is suddenly seized with a rapid tremulous sensation lasting for a few seconds only. The pulse instantly collapses to a mere threadlike feeling and transmits a distinct trembling, oscillatory sensation to the examining finger. The attack usually begins by several very rapid, tremulous, incomplete, systolic contractions and may continue for several seconds; more often the duration is less. The sensation of the patient during the attack is that of imminent death; syncope has never been observed during a paroxysm. Tremor cordis is a prominent symptom of cardiac dilatation, and may occur as the result of flatulence caused by indigestion. It is claimed that sudden inhibition of the vagus will also cause it. Pain or palpitation has never been observed as symptoms of this condition.

Tachycardia, or heart hurry, is a grave symptom if occurring in advanced age. In infant life it is physiological, the pulse rate of the new-born child being about 130 per minute. In pathological tachycardia the pulse rate may reach 120 per minute or more. The pulse is usually feeble and sometimes almost imperceptible; the respirations are generally increased. Paroxysmal tachycardia is a condition characterized by extreme rapidity of the heart's beat; the pulse may reach 200 or more per minute. The respirations are increased up to forty per minute or even higher. It has been claimed that the increase in the heart's action is caused by shortening of the diastole so that during the systole very little blood is expelled from the heart, and that the usual amount per minute is not increased. During the attack the patient is not disturbed and is quite unconscious of the extreme rapidity of the heart's action. This is in strong contrast to palpitation, which is often confounded with tachycardia. Heart hurry is produced by a number of causes, among which are abnormal irritability of the nervous system, heart strain, cardiac dilatation, mitral stenosis, and all forms of senile cardiac degeneration. The excessive use of alcohol is a common cause of tachycardia. This does not refer to the temporary or moderate use of alcoholic spirits, which increases the frequency of the pulse for the time being, but to that produced by the chronic abuse of alcohol, which causes a fatty degeneration of the myocardium, thus weakening the cardiac function and also producing a neuritis of the pneumogastric which paralyzes its inhibitory action on the heart. This condition is always accompanied by weak heart sounds, and a feeble pulse. Tobacco in small and repeated doses produces intermission, slowness, and sometimes irregularity of the pulse, but when the dose is large enough to paralyze the pneumogastric and the heart is freed from its inhibitory action, an attack of paroxysmal tachycardia is imminent. The abuse of tea and coffee may also lead to an attack. Digitalis, when given in medicinal doses, slows the action of the heart, but when given in too often repeated or large doses it causes paralysis of the vagus. The pulse is at first slow, then skips a beat or intermits, and finally, when the inhibitory effect of the pneumogastric is lost, the pulse becomes regular

and extremely rapid, and tachycardia is established. This also occurs as the result of chronic poisoning by belladonna or atropine. Toxic doses of these drugs paralyze the pneumogastric and this is followed by an extremely rapid and feeble pulse with weak heart sounds. Tachycardia is also caused by many lesions of the brain, tumors, or aneurisms pressing on the vagus nerve. Reflex tachycardia is generally of short duration and accompanied by a number of definite neurotic symptoms; flushing of the face, dilatation of the pupils, hot flashes, and other changes, indicating reflex action through the sympathetic. The pulse is full and the cardiac impulse strong, quite the opposite to that found in tachycardia due to vagus inhibition. The irritable heart of soldiers during the civil war, described by Da Costa, belong to this class. In all his cases the pulse was increased to 100 or even as high as 140 per minute. Pepper saw a case in which the pulse varied from 220 to 240 per minute, the paroxysm lasting for fifteen hours.

Brachycardia is the term used to indicate a slow action of the heart. A slow pulse is sometimes found in early life and attended with perfect health. Slowness of the pulse occurs in the puerperal state; in recovery from the acute fevers, like pneumonia, acute articular rheumatism, and diphtheria; in diseases of the digestive tract, like cancer of the stomach and chronic dyspepsia. It can be produced by the action of various toxic agents and may occur in anæmia, chlorosis, and diabetes, also in paresis, mania, and melancholia. It is most frequently found in dilatation of the heart. One of the most constant causes of slowness of the pulse is produced by an injury to the cervical portion of the spinal cord, and especially if the lesion is situated near the origin of the spinal accessory nerve. A slight concussion of this portion of the cord will produce temporary slowness of the pulse, while a lesion involving injury or compression will produce permanent brachycardia. The injury to the spinal cord may be traumatic, as by blows and falls, or by disease of the cervical membranes, viz., pachymeningitis by compressing the cord will permanently slow the pulse. Balfour claims that the Indian fakirs slow the heart and diminish the force of its beat by compressing the muscular branches of the spinal accessory. The pulse in brachycardia may be reduced to forty or even to twenty per minute. Jacobi cites a case in which the pulse rate was reduced to seven per minute. Hemisystole has been claimed as a cause of slowness of the pulse. In hemisystole only every second or third beat of the heart is strong enough to reach the artery, giving the false impression that the heart beat is slow. Brachycardia occurring during or past middle life is always a pathological condition, and is sometimes associated with a neurosis of the heart itself.

Delirium Cordis.—For many years the pulsations of the heart may not exceed twenty or thirty per minute and yet the action of the heart is perfectly regular, but when brachycardia is caused by inflammation of the myocardium the heart's action may become irregular, with intermissions and complete cessation of the pulse, lasting for a second or more, and thus leading to an attack of delirium cordis. Consciousness is lost with the loss of the heart's action. The face turns deathly pale, convulsions may be general; more often they are confined to the muscles of the face and neck, with foaming at the mouth. With return of the heart's action consciousness is regained; the face reddens and then becomes cyanosed. These attacks are precisely like the convulsions sometimes seen in epilepsy, with great slowness of the pulse.

Orthopnoea, or inability to breathe in the horizontal posture, is a symptom belonging to the later stages of heart disease. It is often caused by interference

with the diaphragm and is produced by flatulence and overdistention of the stomach and bowels. I believe that the disturbed circulation in the medulla owing to the irregular action of the heart is the principal cause of this condition. Patients usually wake up suddenly with violent palpitation.

Angina Pectoris, or breast pang, is a severe neuralgic pain, often accompanied by muscular spasm of the heart. Any muscle when cramped gives rise to a severe pain, owing to the pressure on the nerves caused by the muscular contraction. In angina pectoris the patient feels as if he were going to die. The pain radiates to the left arm and sometimes upward to the neck. This pain is of an unusually severe form, but it is not the severity of the pain alone which makes it so intolerable, but the sensation of impending death which follows it. The aspect of the patient is characteristic of the agony which he endures. The face is pale and bloodless, and covered with perspiration; the breathing is shallow; the pulse is small, wiry, and generally irregular; sometimes it may be regular. The pain radiates to the left shoulder and down the left arm to the hand and fingers. It may radiate down both arms simultaneously. I have seen a case in which the pain radiated to the right side only. During the attack the patient scarcely breathes, owing to the fear of impending death. Some attacks are more severe than others. The pain varies; sometimes it is dull and agonizing; at other times it flashes quickly up to the left arm and down to the fingers, accompanied by the greatest agony. Palpitation is a prominent symptom during the attack. Coronary sclerosis and fatty degeneration of the myocardium are prominent causes of angina pectoris. Deficient blood supply to the heart caused by embolism or thrombosis is another important factor. Anything that will diminish the normal amount of blood to the heart will induce angina. Atheroma, therefore, is a common cause. It is also a constant concomitant of advanced cardiac dilatation, strange to say, but pain is sometimes absent in true angina, the so-called *angina sine dolore*. These cases occur with dilated hearts, and are often mistaken for asthma. The prognosis is not always unfavorable in angina; some cases recover under treatment.

Cardiac Pain.—Pain in the heart more often complicates aortic than mitral disease. It is paroxysmal in character and often described as a cutting or tearing sensation. It is greatly intensified by muscular fatigue and aggravated by palpitation. True cardiac pain is generally localized and confined to the region of the heart. Sometimes, however, it may and does radiate up to the left shoulder and axilla. It is almost always accompanied by numbness and tingling.

Dropsy.—This is a prominent symptom of advanced heart disease. The lower extremity is usually first affected. In some cases the swelling may reach the knee and remain there or even recede. In other cases the œdema increases, involving the scrotum, peritoneum, pericardium, the pleuræ, and even the ventricles of the brain. The skin is dense, shiny, and red, and in some instances may take on inflammatory action. This may be associated with orthopnoea, dyspnoea, and lividity. It is not often easy to distinguish between dropsy of renal and of cardiac origin, for albumin and casts are often found in the urine of both. In renal dropsy the œdema first appears underneath the eyelids. This is more prominent in the morning, and may subside during the day. The skin is pale and waxy in appearance, in marked contrast to the venous stasis, cyanosis, and lividity of cardiac disease. The external genitals are invariably irritated in renal disease, but not so in cardiac dropsy. Bronchorrhœa and hæmoptysis are frequent symptoms of chronic valvular disease of the heart. Epistaxis is most frequently found in mitral disease.

Insomnia is a most persistent and very distressing symptom, and if dyspnoea is present the loss of sleep is added to the suffering of the patient. The sleep is not continuous and often very restless and frequently disturbed by frightful dreams.

Cerebral Symptoms are caused by disturbance of the equilibrium of the circulation and an insufficient amount of arterial blood, giving rise to unpleasant dreams, hallucinations, sudden starts, etc. Physical disturbances are manifested by a complete change in the character of the individual; finally, there are hepatic and renal changes, giving rise to ascites and dropsy and greatly modifying the original disease, producing gastric symptoms with vomiting.

There are two remedies always required in every case of heart disease, *i.e.*, oxygen and iron. The amount of iron in the blood determines the amount of oxygen carried to the various tissues of the body. All the active tissues and organs require a definite amount of oxygen for the discharge of their various functions; but the muscular system is solely dependent on oxygenation for its development and activity. The muscles are the moving-instruments of bodily mechanism and therefore carry on the circulation. The nervous system may regulate the circulation, but without the former the latter could not act at all. The circulation, arterial, venous, and lymphatic, is dependent on the amount of muscular power developed by the heart, arteries, capillaries, and veins; and when it fails and congestion takes place it is due to the failure of the muscular apparatus of the heart. Oxygen is the motive power of the muscles, and muscular power depends on the activity of our breathing muscular power, therefore is in direct proportion to the efficiency of the respiration. Respiration and its influence on muscular action is in direct proportion to the amount of oxygen taken into the lungs. It is now known that valvular lesions are not by any means the chief cause of heart failure, but that heart disease is more often the result of muscular weakness of the myocardium and the arteries. The circulation becomes embarrassed and the heart is, owing to deficient oxygenation, unable to overcome the obstruction. The heart enlarges, but owing to the weakness of the myocardium it soon begins to dilate. It should be remembered that in all cases of heart disease the great danger is from muscular weakness, and oxygen is the only remedy. Therefore iron is always indicated and should be given from ten to twelve times a year, for a period of three weeks at a time; at the same time the patient should be placed in open air daily.

Digitalis is the leading cardiac stimulant. It causes a tonic contraction of the walls of the ventricles. This action is not uniform; some of the fibres are affected while others are not. This contraction is due to the prolongation of the systole and shortening of the diastole. The cumulative effects of digitalis are sometimes produced where it has been given for a time in too large doses. These consist of persistent nausea and vomiting, with intermittency of the pulse. The dose should never be large enough to produce these symptoms. Digitalis is a great remedy for dilatation, and the heart remains small and contracted while under its influence. Unfortunately, however, it has another action that is a serious drawback to its administration. It contracts the muscular coats of the smaller arteries at the same time that it acts on the heart. This results in an obstruction which neutralizes all the good effect of digitalis on the heart. Now to overcome this obstruction in the arterioles vascular dilators are employed, and nitroglycerin is very effective for this purpose. It should not be given in larger doses than one one-hundredth of a grain at the beginning. The action of nitroglycerin in relaxing the arteries is very similar to that of amyl nitrite,

but the effect of the former is more permanent. It is therefore especially indicated in high arterial tension, which means diminution of the calibre of all the arteries throughout the body, with a great tendency to dropsy, owing to the venous current not receiving proper impulse. Nitroglycerin is of great value in the treatment of chronic interstitial nephritis with a hard incompressible pulse and general arterial sclerosis, in conjunction with corrosive sublimate, the muriated tincture of iron, and the sweet spirit of nitre, as in the following:

R. Hydrargyri corrosivi chloridi gr. i.
Tincturæ ferri chloridi. 3 ij.
Spiritus ætheris nitrosi 3 ij.
Aque 4 iss.
Elixiris simplicis. ad 3 iv.
M. S. One teaspoonful in water after each meal.

Tablets of nitroglycerin containing one one-hundredth grain each should be taken in conjunction with the above. If this dose is well borne it may be increased up to one-fiftieth or even one-twentieth of a grain. Nitroglycerin is very useful in angina pectoris. It should be given four or five times through the day, the last dose at bedtime. Amyl nitrite is a vascular dilator and an anodyne as well. Inhalation in a large majority of cases will instantly relieve the pain and spasm of angina pectoris. There is no danger in using it freely if the arteries are healthy. I have known sixty drops to be inhaled from a handkerchief before the pain and spasm were relieved. Sodium nitrite in doses of one to two grains is a very useful vascular dilator and stimulant. It may not be well known, but potassium iodide is equally effective and regarded by some as superior even to nitroglycerin as a vascular stimulant. It is slow in its action at first, but when its effect is once secured it can be easily maintained in doses of five grains three times a day. The iodide is best given largely diluted with milk and taken on a full stomach. Strophanthus in some respects is superior to digitalis. It seems to act more definitely and quickly. It produces a strong, steady, uniform systole, and does not seem to contract the arteries or raise the blood pressure as soon as digitalis. Except in special cases the dose should not exceed ten minims of the tincture. Strychnine is a powerful cardiac stimulant. The dose should be small at the beginning, not greater than one-sixtieth grain. This can be increased up to one-twentieth grain, or even as high as one-twelfth grain, or until toxic symptoms appear. Strychnine is one of the best stimulants for a weak, feeble heart, and may be advantageously combined with belladonna or atropine. Sparteine sulphate in doses of two grains and barium chloride in doses of one-sixth to one-half grain are useful; also caffeine citrate in doses of one to four grains. A combination of all of the cardiac stimulants taken together act very much better than any one of them alone. The nitrate of silver if taken for some time in one-fourth grain doses will often relieve the pain of angina pectoris. Small doses of arsenic are sometimes useful in conditions of senile degeneration of the heart and arteries. Colchicum is of benefit in every case of irregularity of the pulse due to a dilated, gouty heart. Intestinal antiseptics are of great value in the treatment of chronic heart disease. Salol and bismuth are very useful for this purpose in six-grain doses three times per day. Active purgation is always indicated, as it lowers the blood pressure and prevents flatulence. A very good preparation for this purpose is the compound jalap powder.

Insomnia is a very distressing symptom of advanced heart disease and hypnotics are required to produce sleep. Morphine is the best remedy for this purpose, and may be given in doses of one-fourth grain with twenty grains of sodium bromide. There is no doubt

whatever as to the superiority of morphine over all other remedies for the relief of cardiac insomnia. It stimulates and regulates the heart and quiets the patient in a way that no other remedy does. Codeine can be substituted for morphine at times, and it always acts very well in doses of from one-fourth to one grain. Trional is a very useful hypnotic in doses of from ten to fifteen grains. Chloral is undoubtedly the most perfect hypnotic, but owing to its powerful sedative action on the heart it should be always combined with morphine. It can be safely given in doses of ten grains with one-fourth grain of morphine sulphate. Sulfonal can be given in thirty-grain doses in hot soup. Somnal often acts very well in twenty-minim doses given in a little sweetened water or syrup of licorice. Paraldehyde is a useful but very disagreeable preparation. It can be given in doses of forty drops every three hours until sleep is produced. It is best given in syrup of ginger.

WE ARE DRIFTING—WHITHER?

By FRANK VAN FLEET, M.D..

NEW YORK,

ASSISTANT SURGEON MANHATTAN EYE AND EAR HOSPITAL; INSTRUCTOR IN DISEASES OF THE EYE, NEW YORK POST-GRADUATE MEDICAL SCHOOL, ETC.

I HAVE before me as I write a printed circular letter which was forwarded to me by a lady patient, a school teacher. It is addressed to "Dear Madam," and is intended for distribution to school teachers. It speaks of the evils attendant on uncorrected eye strain, not alone in producing defective vision, but also in its effect on the general health, producing nervous derangements, etc., and ends as follows: "The large number of New York's best physicians who send us their patients when they suspect eye strain vouches for our reliability. We would be happy to be of service to your pupils or yourself. The inclosed card entitles you to a special teacher's discount."

This is a sample of the many pitfalls which meet our infant feet, and, unfortunately, continue with us, surrounding us on all sides through life. In this particular instance the worst feature of it is that we of the medical profession are responsible for it.

It has long been known that many serious consequences result from neglect of the eyes of young children, and educators generally are familiar with the fact that often a dull and backward child will become the brightest in his class when glasses are properly fitted to his eyes. I took occasion to speak on this matter before the New York County Medical Association in a paper entitled, "The Necessity of Perfect Vision in the Education of the Young," in October, 1893,¹ on which occasion I dwelt carefully on these troubles, which are reflexes due to accommodative strain. I but followed in the steps of illustrious predecessors, and it may safely be said that nearly everybody, lay and professional, is familiar with the facts.

A very large percentage of the world's population has defective eyes; just how large it is impossible to state, as we find the percentage increasing as the years roll by.

A very interesting study is a comparison of percentages obtained from the examination of eyes to-day and those of twenty years ago. The only sources of information for such a study at our command, furnishing large numbers of cases, are the annual reports of the different eye clinics. The percentages here do not, however, present the exact proportion of refractive cases, because we find that, large as this class is, it is smaller proportionately than the number one meets with in private practice. For example, we find the

¹ See Gaillard's Medical Journal, December, 1893.

statement made in one text-book that in private practice the proportion is twice as great as it is in the clinics.¹ I imagine, too, that this differs very much in the practices of different men; it certainly varies in institutions. I give below a table of comparisons, the data for which were obtained from the annual reports of the Manhattan Eye and Ear Hospital, the New York Eye and Ear Infirmary, the Ophthalmic and Aural Institute, all of this city, and the report of the Wills Eye Hospital of Philadelphia, which were the only reports I had at my disposal. I have no doubt, if the number of institutions were larger, the proportions would be the same.

	Cohn's tables (European). Sixty-seven institutions, 1875-300,000 cases.	Three New York City Institutions, 1894-34,866 cases.	New York Ophthalmic and Aural Institute, October 1, 1893, to October 1, 1894-7,500 cases.	New York Eye and Ear Infirmary, October 1, 1893, to October 1, 1894-16,125 cases.	Manhattan Eye and Ear Hospital, October 1, 1893, to October 1, 1894-11,201 cases.	My Summer Clinic, Manhattan Eye and Ear Hospital, June 1, 1895, to September 16, 1895-898 cases.	Wills Eye Hospital, Philadelphia, Pa., 1894-12,614 cases.
1. Conjunctiva	50.0	29.2	33.3	31.0	24.2	21.6	13.3
2. Cornea	21.0	15.6	17.5	15.1	14.4	15.7	10.4
3. Sclera	0.4	0.2	0.2	0.2	0.3	..	0.4
4. Iris	5.0	2.4	2.1	2.2	3.0	2.1	2.1
5. Choroid, Glaucoma, and Ciliary Body.	2.0	1.6	2.9	6.8	1.1	0.7	2.9
6. Retina and Optic Nerve	5.0	1.8	2.1	1.4	2.1	1.9	4.8
7. Lens	6.0	3.5	4.1	2.5	4.0	3.5	4.3
8. Vitreous	0.7	0.3	0.6	..	0.3	0.1	0.3
9. Globe	2.0	1.0	0.9	1.1	1.1	1.3	1.1
10. Refraction and Accommodation	12.0	25.0	20.3	20.6	34.1	39.0	46.7
11. Muscles and Nerves	3.2	4.7	5.7	43.5	5.1	5.7	4.3
12. Lachrymal Apparatus	2.0	1.6	1.9	1.5	1.4	1.1	1.9
13. Orbit	0.2	0.3	0.08	..	0.2	0.4	0.1
14. Lids	9.0	7.2	6.0	8.7	7.0	5.3	6.6
15. Various	1.5	5.6	0.8	10.2	1.7	1.0	..

a, Iris and ciliary body. b, Choroid and vitreous. c, Globe and orbit. d, Muscles alone.

The chief interest in the foregoing table centres in the first two columns of figures, which are a comparison between the relative frequency of affections of the eye twenty years ago and to-day. It will be noticed that the differences are slight except in one particular, and that is in refraction and accommodation, No. 10 in the list. It will be noticed also that where the percentages are less in the second column, the differences, small as they are singly, together go to make up a large proportion of the increase in No. 10. For example: in No. 1, a decrease of 0.8 per cent.; No. 2, 5.4 per cent.; No. 14, 1.8 per cent., making a total of eight per cent.; while in No. 10 there is an increase of thirteen per cent. Indeed, we find decreases in the second column all along the line; out of fifteen items there are decreases in eleven. It is easier to explain the decreases than some of the increases, still they can be explained. The increases occur in items 10, 11, 13, and 15.

In No. 15, under the heading "Various," are included unclassified and unrecorded diagnoses, improper cases, etc. Of 5.6 per cent. of various diagnoses, 4.2 per cent. were unrecorded. In one institution the total of lost or unrecorded diagnoses was 9.7 per cent. In No. 13, "Affections of the Orbit," there is an increase of 0.3 per cent. In No. 11, "Muscles and Nerves," an increase of 1.5 per cent. is accounted for by the increased attention paid to errors of this class; while in No. 10, "Refraction and Accommodation," an increase of thirteen per cent. marks the march of

progress and civilization. Altogether we find the decreases amount to 19.1 per cent., while the increases amount to 18.7 per cent., a difference of 0.4 per cent., probably due to some error in obtaining the percentages. It is trifling and does not affect the deduction to be drawn from the whole.

I believe many instructive lessons can be drawn from these figures; it is possible that the increase in refraction cases may account for some of the decrease in lenticular troubles—as in cataract, for example.

Then, too, we have frequently seen cases of astigmatism diagnosed as retinitis and neuritis; indeed, many conditions formerly classified as diseases are, with our improved methods of examination, now recognized as refractive.

The most striking feature of this report and the one to which I desire to call especial attention, is this one of refraction and accommodation, which is increasing as the years go by and which, as I said above, is a criterion of our intellectual growth. Eyes do not change from one generation to the other. It was said years ago that fully ninety per cent. of the human race were hypermetropic, and in looking over the list of affections of the eye in the Manhattan Eye and Ear Hospital Report for 1894, we find among the cases of refraction ten per cent. of myopia. No; the cause for the increase of refraction cases is not deterioration of the eye, but increase in the necessity for correct vision. Farmers and people whose work is out of doors, calling for very little exercise of accommodation, do not as a rule require glasses; but the inhabitants of cities, where the occupations require prolonged and accurate work at short range, these are the people who require artificial aid through the medium of glasses. The tendency of population is toward the cities, and here the demand for positions in which one can earn a living so exceeds the supply that defective vision places one entirely out of the race.

This necessity for perfect vision, or for means whereby it can be obtained, has brought about a revolution in the methods of examining eyes and of preparing lenses. It has also brought forward a class of people who, ill prepared to do that which they advertise to be able to do, work harm to the community the evils of which can hardly be estimated. Here is a position in which the medical profession should take a decided stand. Not only do they owe it to themselves and to the future of the profession, but to the public which, as the showman said, delights in being humbugged.

Recent years have seen the medical profession take enormous strides toward perfecting its members in raising the standard of proficiency. It is impossible in this and many other States for a candidate to enter upon the study of medicine until he has shown his general knowledge, which is rightly considered necessary to a proper understanding of the healing art. The candidate must undergo an examination by the State before he can enter a medical college. Here he must devote three or more years to study and pass a final examination before he is entitled to the degree of doctor of medicine. The degree his college confers on him does not give him the right to practise his profession, but he must needs pass another examination by the State, which, if he pass it successfully, qualifies him to become a practitioner of medicine.

This preparatory course, which was not forced on the profession but which is the work of their own hands, gives to the public a protection for which it cannot be too thankful. But while the aspirant for medical honors is turned out a thoroughly qualified physician, he enters a field where he finds himself forced to compete with men in certain branches who have not been trained, who, often with a few weeks or at most months of familiarity and with the most superficial knowledge, flaunt themselves before the public

¹ "Diseases of the Eye," by D. B. St. John Roosa.

with impunity as practitioners of an art which the physician has acquired with the greatest difficulty.

The physician endeavors to obtain a lucrative practice, but finds himself restricted to the privilege of placing a sign at his office door and to those favors he may receive from his friends. The unlicensed and unqualified, on the other hand, resorts to the newspapers for advertisement if he so desires, or floods the country with handbills and circulars, one of which, as I said in the beginning of my paper, I have before me as I write.

It seems a simple thing for one man to test the eyesight of another, and, finding the glass which gives him the best vision, to prescribe it and say, Go and be happy. If one has reached a presbyopic age this may be all that is necessary; but headache, neuralgia, nervousness, chorea, and a host of other manifestations, may or may not be due to defective eyes, and because we find in the possessor of optical defects these coincident troubles it does not follow by any means that one is the cause and the other the effect.

The ophthalmologist knows too well how many unfortunates there are who have lost time travelling from one optician to another for the relief of headache, neuralgia, nervousness, etc., until finally they come to the doctor in despair, only to find that during the time they have spent wandering about their disease has made such strides that death is inevitable. This sad picture has been presented to me not a few times, and conversation with my fellow-practitioners shows it to be all too common.

The headache, the neuralgia, the occasional double vision, the at times distorted vision, may mean incipient kidney trouble, malaria, rheumatism or gout, commencing spinal disease, and many other conditions, the recognition of which may be easy or difficult to physicians, but impossible to the untrained mind and the uneducated glance.

Our medical laws designed to prevent the practising of medicine by the unqualified are very inadequate and inconsistent. They not only allow manufacturers of trusses and artificial eyes to fit their manufactures to persons in need of them, but also allow them to judge who is in need. It is possible, I believe, to apply a truss under these circumstances to a strangulated or incarcerated hernia, and thereby produce death, or insert an artificial eye in an orbit where its presence might produce sympathetic trouble in the eye of the opposite side, the result of which might be blindness or even death. The laws do not allow opticians to fit glasses for neuralgia and other conditions which are, no matter what the cause, medical.

These laws should be so modified that the application of a truss, an artificial eye, or a pair of glasses, would never be made except on the advice and prescription of a competent physician; and by competent I mean legally qualified.

The body of men known as chiropodists have succeeded in having a bill passed whereby they have a legal standing which allows them to restrict their numbers and also to perform certain surgical operations on the feet. I have not seen this law, but I know that any measure giving such privileges to any body of men who have not complied with the law governing practice is an injustice to those who have devoted years of study for the same privilege, and is altogether wrong.

But these conditions, wrong as they are, exist. The latest scheme is one being promulgated among and by the opticians, designed to give them the same advantages. They propose the organization of a body whose purpose shall be twofold: First, to secure legislation compelling newcomers to pass an examination by one or more of their own members—though where they themselves received their qualifications it would be

difficult to say—by which means they will limit competition; and second, to prevent legislation emanating from the medical profession tending to restrict their field.

Year after year the march goes on, and educated men, finding an entrance into the profession growing more and more difficult, and practising physicians, finding the conflict with these inferior competitors becoming greater and greater, will be forced to resort to measures of self-protection. What will these measures be? Why do practitioners of medicine so often have their sons follow some other calling? Why is it we hear the rumblings of discontent in the rank and file?

The medical profession is one an intimate association with which fills one with nobler thoughts and makes one more in touch with the finer feelings of humanity than any calling of which we have knowledge. It is right, it is just that we should require a high standard in applicants for admission into our ranks; it is equally true that we should be jealous of our rights, not only for our protection, but also for the protection of the public, of whose health we are the custodians. But whither are we drifting?

116 EAST EIGHTY-SECOND STREET.
January 15, 1896.

INEBRIETY AND ITS TREATMENT BY HYPNOTISM.

By ANI DE JONG, M.D.,

THE HAGUE, HOLLAND.

I BELIEVE nobody will disprove the claim if I hold, without depreciating all the good it has produced, that the invention of alcohol and of alcoholic drinks, has brought on mankind one of the greatest calamities.

The great destructions, moral as well as material, among all civilized nations, caused by alcoholic drinks are so generally known that they do not need further to be cleared up.

It is very easy to understand that men have tried everywhere by all sorts of means to prevent this horrible abuse, and happily we can confess that during the course of time the founding of many philanthropic societies of temperance, new laws on the traffic in alcoholic drinks, more severe penalties for public drunkenness, the erection of popular coffee houses, etc., have brought about in many countries great improvement as to the abuse of spirits and other alcoholic drinks.

I have not the intention to give a description in general of what has been done and what still is done every day to prevent and to cure inebriety. This I leave willingly to other persons more competent than myself. I only wish to communicate in a few lines my experiences in the treatment of inebriety in special cases.

Some people think that the treatment of inebriety does not belong to the profession of the physician. They pretend that the physician should treat only pathological disorders, diseases produced by alcoholic abuses, but that the treatment of inebriety itself, it being merely a bad habit, must be left to the police and to the moralists occupying themselves with the treatment of drunkenness.

I very willingly admit that inebriety in a great number of cases is caused by bad habits, like a great number of other diseases, but we cannot therefore say that inebriety is only a bad habit. My opinion is that inebriety is a very serious mental disease and that its treatment belongs in the first place to the medical profession. If we examine exactly the origin of a great number of cases of drunkenness, we shall

find that many among them belong in families in which mental and nervous diseases are numerous; that is to say, in other words, that many drunkards are predestined hereditarily to mental and nervous diseases, a predestination we can explain only as being a degeneration of the nervous system, while reciprocally drunkards produce a great number of descendants suffering from mental and nervous diseases.

These facts demonstrate that there exists a great affinity between inebriety and mental and nervous diseases.

If we fix our attention on the drunkard himself, generally we find an alteration of his whole personality, a change of his character, a diminution of his intellectual faculties, a diminution proceeding to a total destruction of the moral sentiment—in one word, a psychical revolution, which is to be explained only by pathological alterations of the organ of the intellectual life, of the brain.

That alcoholic intoxication provokes pathological alterations is proved by physiological experiments and anatomical researches. Physiological experiments have proved that when alcohol is introduced into the body a great deal leaves the body unaltered, that another part remains in the body, and that the greatest part of this is deposited principally in the brain and in other parts of the nervous system. Our knowledge of the influence of alcohol on nervous tissues outside the body is perfectly in harmony with the anatomical alterations of the nervous tissues of drunkards found after death.

This is not the place to give an exact description of the details of these alterations. It is sufficient to know that they consist principally in a destruction of the nervous elements which are indispensable to the normal functions of the brain and the other parts of the nervous system.

Some have made the objection that all this does not prove that inebriety itself is a disease; that all these anatomical alterations in the various parts of the nervous system and all the psychical aberrations which they cause are provoked by the habitual abuse of alcoholic drinks. But can we imagine that if inebriety were only a bad habit, the person addicted to it, seeing all the misery, the dishonor, the unhappiness of his family, the material and moral ruin which threatens him, would not and could not resist it? But he cannot resist; he possesses no longer the faculty of willing; his free will is lost; he is a psychical invalid.

The question is: Is inebriety a curable disease? Incontestably there are drunkards who resist all modes of treatment, but happily there are also others. The experience of many observers and my own as well have taught me that in a great number of cases of chronic alcoholic abuse we obtain very good results by a careful and exact treatment, if it be continued long enough. How should inebriety be treated?

The treatment of inebriety must be directed, in the first place, to the alcoholic abuse; in the second place, to the psychical and physical invalidism. The treatment of inebriety generally employed is the moral treatment. We have seen that one of the disorders caused by alcoholic abuse is a diminution of the moral sense which proceeds to a total destruction; that is to say, the faculty to receive moral impressions is reduced to a minimum and therefore it is clear that a moral treatment cannot have much success.

Before beginning a moral treatment it is necessary that the patient abstain totally from taking alcoholic drinks. A total abstinence continued long enough will be sufficient in most cases to restore to the patient the moral impressionability. But knowing by experience that it is not easy in most cases of inebriety to bring the patient to a voluntary abstinence,

we are obliged to force him by some means to abstain from alcoholic drinks. This is possible, in the first place, by transferring the patient to an asylum where he is rigorously watched; in the second place, by employing means which produce a loathing for alcoholic drinks. The treatment in an asylum involves in many cases great difficulties.

It is to be hoped that before long there will be everywhere laws compelling the drunkard to be treated in an asylum and to remain there until he is quite cured. At present, however, treatment in an asylum is not possible without the consent of the patient himself and nobody can force him to remain there until he is cured.

But there are still other difficulties; for a number of people are not able to pay the expenses of a long sojourn in an asylum. And not only this; sometimes persons who abuse alcoholic drinks are still able to work and to support their families. If they go to an asylum they inevitably expose their families to poverty and misery.

Another great difficulty may be noted by the following question: How are persons leaving the asylum quite cured and going back to society, generally received? Public opinion is not always just. The public does not always forget and forgive. Generally it will not or cannot believe that a drunkard is curable. Once a man is a drunkard, in the eyes of the world he always remains a drunkard.

If I enumerate all these difficulties it is not to oppose treatment in the asylum. A well-managed asylum is a very useful institution. But there is another treatment which does not present these difficulties, one which offers the advantage that the patient can remain at work during treatment and gain the bread for his family, if he is still able to do it; furthermore, the expenses are not great. My conviction is that this treatment ought to be employed before sending the patient to an asylum. I refer to the treatment by hypnotism and suggestion.

Employed by a scientific physician who is perfectly conversant with it, hypnotism can do no harm to the patient and offers the great advantage that in most cases we can provoke in a very short time an aversion to alcoholic drinks. In many cases I was able in the first séance to excite such an aversion that the patient could not smell alcoholic drinks without vomiting.

Another advantage of this treatment is that in the hypnotic state the patient is more susceptible to moral impressions than when awake. Some people pretend that the physician has no right to provoke such an aversion to alcoholic drinks. They call this suggestion immoral, in that it interferes with the free will of the patient. I must remark that this objection is not quite just. I willingly admit that when suggesting to a drunkard, as I always do, that it is not possible for him to take alcoholic drinks, that at the moment he takes them he will vomit, etc., I cross him in his will of drinking. But can we attribute a free will to the drunkard, the slave of his passion? Is his will not bound by the irresistible desire to drink? If I bind his will on the one hand, it is in his own interest; it is to save him; it is to give him back, on the other hand, his free will against his passion.

As I remarked before, the patient is more susceptible to impressions in the hypnotic state than when he is awake. The ideas suggested in hypnotism are more easily accepted by the brain and remain there better fixed, all attention is concentrated on the suggested ideas, and the contrary ideas, not entering the brain, cannot weaken the suggested ideas.

This treatment of inebriety has given me very interesting results. Other physicians, as Dr. Liébeault, Professor Bernheim, Professor Forel, Professor von Krafft-Ebing, Dr. Berillon, Dr. Wetterstrand, Dr. von

Schrenck Notzing, and others, have published very good results of this treatment.

I myself have treated thirty-four patients and they have given me the following results: Eight went away not cured. The other twenty-six patients were all under my care until I believed they were cured and discontinued the treatment. Of these I know that fifteen do not drink any more, and in the case of some of these the period of total abstinence has lasted many years. Of the other eleven patients I believe that seven were cured, but I never saw them again. Four I know have relapsed into their drinking habits, because they were again exposed to temptation.

Of the eight patients who went away, one abstained for four months, and it was the fault of his wife that he began to drink again. I believed him nearly cured and told him to come once a month, and as he did not come on the fixed day I wrote to his wife and asked her to visit me. She came, and when I asked her if she was satisfied with her husband and with the results of the treatment she answered: "No, doctor, I am not content at all. It is true that my husband has not taken any spirits since your treatment, but since he takes no spirits any more he is quite another man. Before he was a jovial, pleasant fellow, but now he is a dreamer; for me he is nothing more; I have lost in him my husband. I prefer a great deal that he take his dram as before." Another who went away, an artillerist, had been some weeks under my treatment and really with success. He abstained totally for some time, but one day when he was due at my clinic he did not come. He never came again, and one day I met him in the street and asked him why he did not come any more to be treated. "I am sure," I said, "you have taken spirits again." He answered: "Yes, doctor, it is so. My comrades teased me always, so that I could no longer abstain, and consequently I was obliged to begin again to drink. But, doctor," said he triumphantly, "I cannot drink gin any more; I drink only brandy."

I relate these few interesting cases only to show that a patient once having abstained for a long time and really being in a fair way of being cured, must not be in the society of persons who oppose the treatment. His family and his friends must help the physician. They must do all they can to render the abstinence light and easy for the patient. They must treat him with compassion and try to forgive him and forget all the wrong that he has done, and they must do as much as possible to raise him physically and morally. Under these favorable circumstances, I am convinced that a great number of drunkards can be cured and become again useful and honorable members of society.

23 LANGE VOORHOUTS.

Serum Injections in Secondary Syphilis.—Vieorovsky reports (*Semaine Médicale*, No. xv., 1895) having treated five cases of secondary stage with subcutaneous injections of serum obtained from the blood of robust persons in the tertiary stage. The serum was filtered and 0.5 per cent. of carbolic acid added. From four to twenty cubic centimetres were injected in the scapular region. There were from twenty-one to twenty-three injections in each case. The results were general improvement, healing of the initial lesion, and more rapid disappearance of the eruption. Mucous patches showed the least improvement, and the relapses were more rebellious to the treatment than the early symptoms.

There are two things I have never seen succeed in practice: to speak ill of a confrère and to buy your patients by charging a small fee.—ALLISON.

Progress of Medical Science.

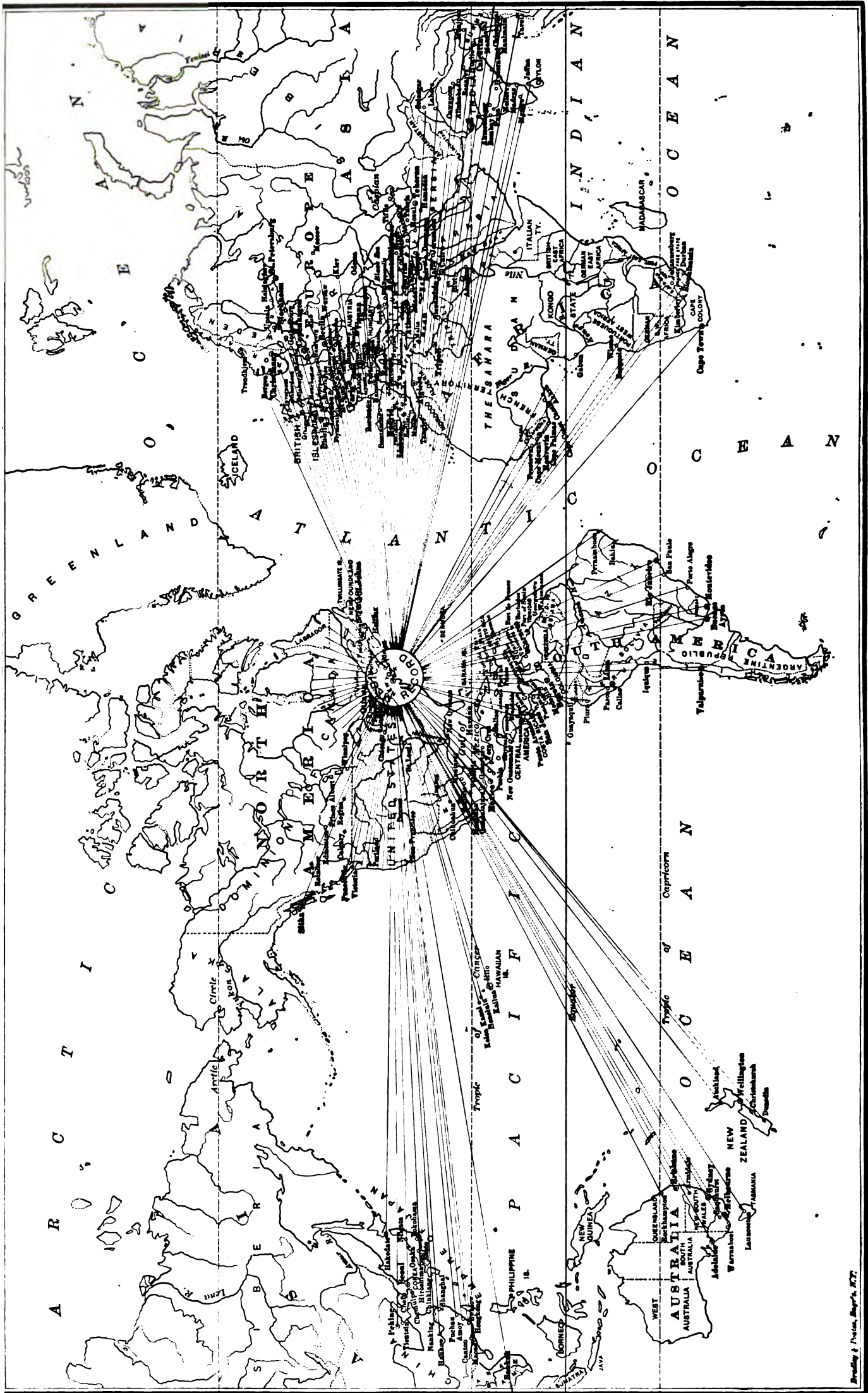
The Universality and Antiquity of Adenoid Vegetations.—In an interesting address delivered before the Copenhagen Medical Society, published in the *Hospitalstidende* of February 6 and 13, 1895, and translated in the *Archiv für Ohrenheilkunde*, December 30, 1895, the late Dr. Wilhelm Meyer showed from statistics, from portraits of historical personages, and from a study of antique busts preserved in the Vatican Museum, that hypertrophy of the pharyngeal tonsil is an affection of universal prevalence at the present day and one that has existed likewise in past ages. Reviewing the signs of closure of the naso-pharyngeal cavity as expressed in the physiognomy, he showed that these consist in the habitually open mouth, the laterally compressed nose resulting from the perma-



FIG. 1.—Young Greenlander, from Arzuk, with Adenoid Vegetations.

nent inactivity of the alæ, and a sort of veiled look about the eyes due chiefly to an elevation of the under lid. This appearance of the eyes is that which characterizes all of Fra Angelico's saints. Another objective symptom of the affection and one that forces itself upon the attention of even the most unobservant of the laity, is the altered tone of the voice, the so-called nasal twang, the absence of resonance, and the faulty enunciation of the sounds of m and n.

When once the significance of these symptoms had been pointed out and it had been shown that the presence or absence of adenoid vegetations could be determined with certainty by means of digital exploration, these growths were very generally found wherever they were looked for. It was learned that not only in countries like Denmark, with a damp, raw climate, but also in all other parts of Europe, the affection was widespread. Statistics were quickly collected with a view to determine the relative frequency of the condition in different countries. The first of these were based upon the phonetic method of investigation, school children being made to utter a certain word or phrase containing the letters m and n, the inability to pronounce these letters distinctly being regarded as an indication of the presence of adenoids. This method commends itself by reason of its ready



THE LINES RADIATING FROM THE CITY OF NEW YORK TO EVERY CIVILIZED COUNTRY IN THE WORLD INDICATE A FEW OF THE POINTS TO WHICH THE MEDICAL RECORD IS REGULARLY MAILED TO SUBSCRIBERS EACH WEEK. IT IS A MOST CONVINCING DEMONSTRATION OF THE WORLD-WIDE APPRECIATION AND INFLUENCE OF THE MEDICAL RECORD - THE LEADING MEDICAL NEWSPAPER OF THE WORLD.

that no artist would delineate a subject, especially himself, with open mouth if he could truthfully avoid it, and it seems quite certain therefore that Canova was an habitual mouth breather—an assumption that is strengthened by the shape of the nose. That this was the result of adenoid vegetations is rendered highly probable by the fact, which is given on the authority of one of Canova's pupils, that the master was deaf.

Going still further back we find the Emperor Charles V., of whom it can be said with great probability that he too had adenoid vegetations. His physiognomy is familiar to all and offers a typical example of the adenoid facies. In all his portraits we have the same open mouth, laterally compressed nostrils, and veiled look. The explanation of the open mouth of Charles V. has usually been the projecting lower jaw and the thick under lip of the Hapsburgs, but Dr. Meyer believed it to be an indication of adenoids. In proof of this is the fact that his brother Ferdinand I. also had the adenoid facies, but especially confirmatory are the indications of a gradual disappearance of the hypertrophy furnished by the successive portraits of the emperor from childhood on through youth to adult life. We are told also that Charles V. had a peculiar pronunciation of certain words so that it was sometimes difficult to understand him. Vesalius, the emperor's physician, states also that his illustrious patient suffered from asthmatic attacks—a fact of little importance taken by itself, but one that lends much weight to the adenoid theory when taken in connection with the other evidences.

Francis II., of France, who died in 1560, was also apparently a sufferer from adenoids, although his portraits present none of the characteristic features of the adenoid facies. Potiquet argues that this was the case, as he finds from contemporaneous records that Francis was a mouth breather, spoke with a nasal intonation, and had a chronic otorrhœa.

Another proof of the existence of hypertrophy of the pharyngeal tonsil is that the artists of the Renaissance have often depicted a typical and unmistakable adenoid facies in their paintings and sculptures. For example, in a painting of Ghirlandajo in the Uffizi collection there is a man in the crowd with a uffizi and pronounced adenoid face, and in the Copenhagen Bourse there is a stone head among the decorations in which all the external signs of hypertrophy of the pharyngeal tonsil are evident. It is highly improbable that artists would have depicted such faces had they not been common types.

The remains of antiquity present few evidences of the existence of hypertrophy of Luschka's tonsil among the ancients, yet there are some heads presenting the typical adenoid facies. The author found three in the Museo Chiaramonti in the Vatican. No. 80 is the head of a ten to twelve year old boy. The nose is restored, but the mouth, the eyes, and the half-stupid, half-resigned expression of the face point clearly enough to the fact that the boy had adenoids. No. 189 is an artistically executed head of a three or four year old boy with the characteristic facies. No. 192 is the bust of a young lady of the upper classes, as evidenced by the drapery and the carefully dressed hair. This face is regular, with good features, but is somewhat disfigured by the partly open mouth, looking as if air were being drawn in, and by the veiled look about the eyes. The two boys' heads are apparently portraits, while the woman's head is regarded simply as an ideal; but that signifies nothing, since even for an ideal head the artist must have had a model and must have presented a type of what was seen in life, that is to say, a sufferer from adenoid vegetations.

Thus, the author concludes, it has been shown that

adenoid vegetations are found among the inhabitants of at least three continents, and that there have been sufferers from the affection during the greater part of the historical era. The subject was one of peculiar interest to Danes, since it was in their country that the condition was discovered and first accurately described.

Post-Influenzal Pericranial Effusion.—Dr. Wynter exhibited before the Harveian Society of London, March 5, 1896, a case of pericranial effusion following influenza. The patient, a man aged thirty, had influenza at the end of January, 1896. About a fortnight later he noticed seven or eight tender bumps on the head, situated over the brow, temples, and vertex, about the size and shape of half a hazelnut, and in the first instance almost as hard as bone. After three weeks some had nearly disappeared, the others fluctuated and were evidently fluid. They were firmly fixed to the bone and the scalp moved freely over them. There was no redness and no history of syphilis. Dr. Wynter quoted two other cases he had met with in the spring of 1895 in a man and woman, both aged fifty. In the latter one bump had suppurated and the condition recurred with a subsequent attack.—*British Medical Journal*.

Treatment of Epithelioma.—Dr. Dumontpallier, writing in *La France Médicale*, March 13, 1896, relates a number of instances in which tumors of the mouth have been improved under the use of solutions of chlorate of potassium. Several cases of ulcer of the tongue which appeared to be of epitheliomatous nature healed under this treatment. Internally the patient is given daily a mixture containing four grams of chlorate of potassium in one hundred and twenty grams of distilled water, and four times daily he applies the same drug in fine powder freely over the whole tumor. The kidneys must be examined before these large doses to make sure there is neither albumin nor sugar present. His first patient had been previously operated upon without lasting result, but has now been well eleven months since the above treatment was carried out. In the second case the ulcer has cicatrized and treatment is being continued.

Treatment of the Gravest Forms of Cardiac Dilatation.—Sir Dyce Duckworth, according to *The Practitioner*, says that in a large majority of cases venous engorgement, anasarca, nausea, gastro-enteric catarrh, etc., are coincident with and dependent on the dilatation of the cardiac cavities. Such patients are admitted into hospitals *in extremis*, too ill even for examination; a physiological diagnosis shows what is necessary to be done at once. The heart beats tumultuously, no murmurs can be detected, the two sounds closely resembling each other. We can almost certainly predicate mitral stenosis. The prime necessities are rest, adjusted pillows, warm bed, and warmth to the feet. Large doses of spiritus ætheris compositus are exceedingly useful. Forty to one hundred minims may be given every three hours in an ounce of camphor or peppermint water. An excessive lividity of the surface or turgescence of the jugular veins demands venesection. The symptoms may be distinctly relieved by the removal of not less than six nor more than ten ounces of blood. In lieu of venesection one may place six or ten leeches over the precordia. Subsequent examination will reveal anasarca, swollen liver, etc. The tumultuous action of the heart having subsided, we may find dilatation superadded to hypertrophy, with pericardial or pleuro-pericardial adhesions. In a few days we may find marked improvement in response to rest, careful diet, saline aperient (mistura sennæ composita, one to one and one-half ounces, with tinctura jalapæ, one drachm), with occasional doses

of citrate of ammonium and potassium. It is wisest not to give digitalis during the tumultuous heart action. A feeble, irregularly acting heart, with a feeble fluttering pulse, demands digitalis. Ten to twelve minims of the tincture of digitalis three or four times daily will prolong the diastole and make the heart steady and regular; not infrequently a free flow of urine and a subsidence of the dropsy supervene. In many cases, after a return to the usual conditions of life, a relapse occurs. The same measures may again succeed, but often benefit is derived from restricting the amount of fluids in cases of dropsy (of cardiac origin) and a pill of two grains of bluepill with one each of powdered digitalis leaves and squill. Two or three ounces of brandy or gin in twenty-four hours, given in milk, are very useful. The hepatic engorgement is greatly relieved by the mercurial pill. Persistent dropsy occasionally requires puncture. Dyspnoea and insomnia are best relieved by morphine. Paraldehyde is also useful. Constipation is best treated by drachm or half-drachm doses of compound jalap powder in milk. A diuretic drink is lemonade, to which bitartrate of potassium, one drachm to the pint, is added. Easily digestible and nutritious diet should be given—tender mutton, meat, fowl and fish finely minced, milk, eggs, broth, and custard pudding; cocoa and coffee, toast and rusks, potatoes well mashed, and spinach. In the majority of cases digitalis is the best drug. Strophanthine is useful when digitalis is not well borne. Caffeine in four to five grain doses, combined with strychnine, is valuable. In cases with an aortic reflex digitalis must be guardedly used. The diastole may be prolonged too much for the left ventricle to bear. When the case is not under constant supervision it is best to rely on strychnine.

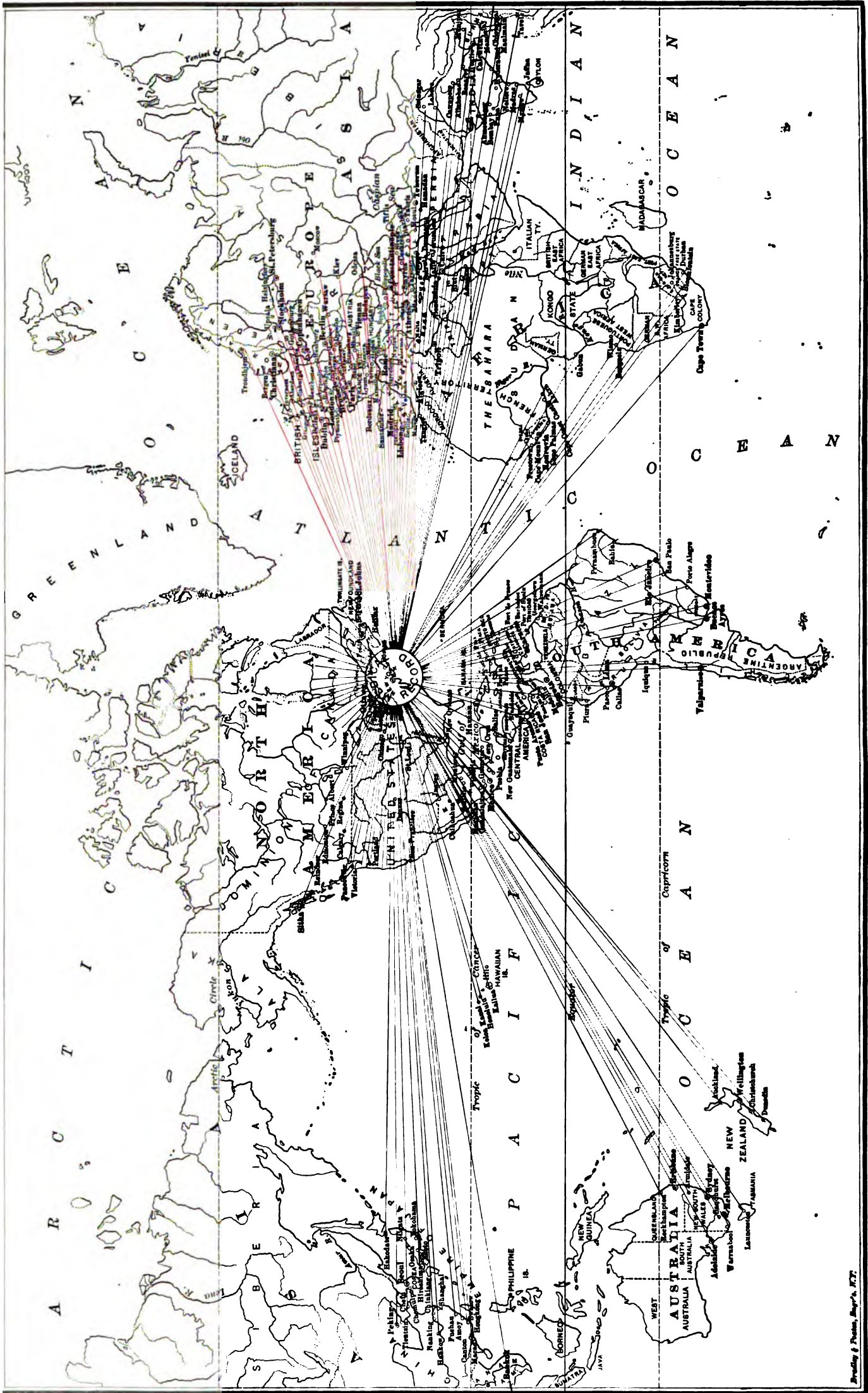
Bacteria and Milk.—That we may count upon microbes sometimes as our friends and sometimes as our enemies is well illustrated in the bacteriology of milk and milk products, says a writer in *The Lancet*. Though milk may leave the udder perfectly sterile, yet a few moments of contact with the air, and especially the air of insanitary surroundings, are sufficiently long to be the starting-point of the development of a whole microbial menagerie. By fissure alone—that is, by splitting in two, and by the resulting two dividing again in the same way—one bacterium may become the parent of over sixteen million bacteria in twenty-four hours. The composition of milk is such as to be most favorable to the growth and development of organisms, pathogenic and non-pathogenic. Some are detrimental to the healthy condition of the milk itself, or, in other words, milk has its own diseases to contend with. Experience is ever teaching how imperative it is that the strictest care should be taken to protect milk against the possibility of microbial invasion. The risks of pollution are great, and may arise from an unhealthy or dirty condition of the cow, or of the stall, or of the milker's hands and clothes. The air of the cow house is frequently made insanitary by cleaning it out and dislodging dirt just previously to milking, and another source of contamination is the diluting of the milk with unwholesome water which may be infected with typhoid fever or cholera poison, or by placing the milk in dirty vessels, or by exposing it to the atmosphere of warm and unhealthy places, as cupboards. With these possibilities of pollution in mind the advantages gained by sterilizing or Pasteurizing milk by boiling are evident. Particularly is this so in the case of bottle-fed infants, the lives of many of whom would be saved from fatal diarrhoea, so frequent in artificial rearing, were these precautions taken. The same lesson is taught by the fact that mother's milk is sterile. Although boiling will destroy the disease-producing germs in milk, it may still

leave spore-bearing bacteria, which in course of time would produce undesirable changes in the milk itself and render it unwholesome. There are friendly germs to be found in milk whose functions can be cultivated and turned to account in the production of an acceptable flavor in cream and in butter. After clearing the milk or the cream of competing organisms by Pasteurism it is sown with a pure culture of lactic-acid-producing organisms. The flavor of the butter and, moreover, its keeping qualities being dependent upon the character of the souring process undergone by the cream preparatory to churning, a uniform product acceptable in both these respects may be obtained by proceeding carefully on these lines. The inculcation of these methods among dairy farmers would add an impetus to the milk-products industry.

Facial Paralysis.—Dr. Neumann (*Neurol. Centralb.*, October, 1895) says that the special liability of the facial nerve to be affected is due not so much to its exposed position, else the ulnar should often be affected, but to the large number of lymphatics and lymphatic glands surrounding it at its exit from the stylo-mastoid foramen. Stagnation of lymph would favor morbid changes in the neighboring nerve, and such stagnation would be particularly likely to occur at night; hence the frequency of nocturnal onsets.

Cocaine in the Eye.—Dr. Jackson (*Philadelphia Polyclinic*, December 28, 1895), says that when using cocaine to dilate the pupil for ophthalmoscopic work or for the determination of refraction in persons past fifty years of age, one must prevent drying of the cornea. Drying of the corneal surface will cause an irregular astigmatism that will cloud the view of the fundus. To prevent this one should use only so much of the drug as will be necessary (one drop of a four-per-cent. solution), and after its instillation keep the eye closed most of the time for fifteen or twenty minutes.

Treatment of Acute Rheumatic Endocarditis.—In the *Liverpool Medico-Chirurgical Journal*, Dr. Richard Caton describes the results of his treatment of rheumatic endocarditis during the last thirteen years. In that period rather more than three hundred cases of acute rheumatism have passed under his care, fifty-two of which developed endocarditis. In all the cases perfect rest, avoidance of exertion, and a light milk diet were adopted. The heart was examined daily and care taken to exclude from the statistics any cases of cardiac murmur not due to genuine endocarditis. In thirteen cases treatment was directed to the rheumatism only, no special remedies being employed for the cardiac complication; in one case the bruit disappeared spontaneously; in the others the lesion was permanent. These patients remained in hospitals for an average of twenty-eight days. The remaining cases were treated on a definite plan. As soon as the first indications of a bruit made their appearance, sodium or potassium iodide in ten-grain doses was given thrice daily in addition to the salicylates, and a blister the size of a florin was applied over the apex. As soon as the irritation of this blister began to subside a second was applied close to it; then a third, and so on—the patient being kept meantime as quiet as possible; exertion, exposure, and excess of nitrogenous food being strictly forbidden. A gradual subsidence of the bruit was frequently noticed in ten days. Of these thirty-nine cases twenty-nine were discharged with normal heart-sounds, ten with a bruit. This exceptionally good result may be in part due to prolonged rest, the average duration of hospital residence being forty-one days and of confinement to bed thirty-six days.



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MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE RECORD RAYS.

It is well after long striving and unremitting labor to note occasionally such indications of progress as may encourage continuance of effort and stimulate still more ambitious endeavors. In this view we doubt not our many readers will share with us the gratification of noting in the present issue the distributive power and the widespread influence of the MEDICAL RECORD, as demonstrated by the accompanying map of the world, on which are shown the route rays of their weekly visitor. There must necessarily be a feeling of satisfaction also on the part of writers and subscribers to know that individually and collectively they are so directly in touch with such a wide range of cosmopolitan intercourse. Such a condition of affairs would hardly be possible save with a scientific journal treating on subjects of living interest to mankind of all nations and having a practical application as broad as is humanity itself. With the constant interchange of direct and reflex influences, the widest and freest discussion of vital questions is made possible through a channel common to all and in the interest of all. This map pictures a realization of the actual against the imagination of the probable. It is a demonstration that not only is New York a natural medical centre, but that the RECORD is an efficient exponent of this fact. In touch with every nation and with the inhabitants of every clime, it joins all in the best of all missions—that of caring for the health and lives of every race; of giving to useful knowledge something of the characteristics of common property and making it practically available throughout the length and breadth of civilization. Although each ray represents a distinct route of transmission, it by no means indicates the actual numbers, sometimes amounting to hundreds and thousands, distributed along the lines traversing the different towns and cities here and abroad. If each line should represent merely an individual reader in a given locality, it would be necessary to make special maps of the larger cities on the same plan and would thus interfere with the more general schematic representation. To our many friends far and near we thus extend our cordial greeting, appreciating more than ever their substantial endorsement of our efforts and the grave responsibilities which attend the faithful discharge of a privileged duty.

THE SANCTITY OF PROFESSIONAL SECRETS.

It is a pity at this late day, considering the well-known confidential relations between physician and patient, that there should be any question as to the propriety or utility of divulging professional secrets. It is still more to be regretted that a physician holding an eminent position in London should stubbornly and foolishly set his opinion regarding the expediency or necessity of such action in direct opposition to that of every sensible man and woman in Christendom. The case in question carries the condemnation of its wrong answer on its face and needs only to be told to be appreciated. It appears that a year ago Dr. Playfair, of London, attended Mrs. Kitson, his sister-in-law, in consultation. The patient submitted to a necessary examination and a subsequent operation. As a result of the latter Dr. Playfair became convinced, inasmuch as her husband had been away from home for over a year, that the patient was not a faithful wife. She protested her innocence and begged Dr. Playfair not to tell his wife, nor her father-in-law, Sir James Kitson. Dr. Playfair refused to believe her statements unless she would admit that she had seen her husband within a year. She being unable to do this, the consultant not only cut off all communication with her but deliberately related what he believed to be the facts in the case to his wife and to Sir James Kitson. Sir James immediately thereafter deprived the patient of her annuity and she became a social outcast to her relatives. Mrs. Kitson then sent for her husband, who, believing in his wife's honor, instituted proceedings against Dr. Playfair for defamation of character.

On the trial the defendant did not attempt to plead the truth of his imputation, but sought to justify his action on the grounds that the facts were based on his honest belief and that his communication was privileged. The latter was the only issue involved in the case. He maintained that he had the right to protect his family against damaging associations with improper patients and without the knowledge or consent of the patients themselves. This view was also maintained by Sir John Williams, who specifically declared "that it was within the discretion of any of the twenty-three thousand physicians in England, on his own responsibility, to disclose a secret without consulting the patient, if he deemed it his duty for the protection of his wife or family or in the case of a crime." This moved the judge to inquire if he considered it the duty of a physician to inform the public prosecutor in case he found a patient had submitted to an illegal operation. Sir John replied that the College of Physicians had answered "Yes" to precisely that question.

"Then all I can say is," replied Justice Hawkins with some heat, "that it will make me very careful in the selection of my medical man."

In charging the jury the justice observed that if every medical man in the kingdom chose to betray a professional confidence under any given circumstance it would not alter the law, and that there were other means than those adopted for protecting the defendant's family.

"It would have been quite sufficient," continued he, "to request his wife not to be intimate with Mrs. Kitson, who had herself written him, saying that she would not cross his threshold until she had cleared herself, and especially as she had written him a pitiful letter, saying that the matter concerned only their two selves, and asked:

"Why did you not let my unhappy life go? I am hunted out like the veriest outcast. Do, for God's sake, err on the side of mercy and be my friend.'"

The doctor's reply was that he must close the correspondence, and that he would inform his wife the next morning.

Although leaving the questions both of fact and of privilege to the jury, the charge was clearly on the side of the plaintiff, with the resulting verdict of the enormous sum of sixty thousand dollars for the plaintiff. The verdict was received with cheers, the patient swooned, the defendant bowed his head to the stormy denunciations of an outraged community and to the bitter scathing of the astonished press. We repeat that it is a pity that one who by previous good work had won for himself fame in his profession should risk his good name, his self-respect, his sense of professional honor, his appreciation of justice to even the lowest of his patients, by such an unwarrantable and outrageous pretext. There is but one answer to the question as to whether or not professional confidences should ever be violated. Never, never, never. For those who do otherwise there is neither excuse nor argument. Nothing but silence and shame.

AN OPPORTUNITY FOR JINGOISM.

A CORRESPONDENT of the *Pacific Medical Journal* contrasts in a very striking way the difficulties which an American physician encounters who desires to practise medicine in Germany to those which a German meets who wishes to practise in this country. We all know very well that a German who comes here has, in most States, nothing to do but to put out his sign or perhaps have his diploma registered. Thus, he jumps at once into a more or less lucrative practice. They do things differently in the land of Kaiser William II. In the first place, an American who goes to Germany after he has graduated and received a degree in this country gets no credit for his degree, but only for the time he has passed in study. This is put to his credit on his university course. If he is beginning the study of medicine, he passes his nine or ten semesters, which mean four or five years of work, and then he receives his German degree. This, however, does not entitle him to practise. To do this he must pass the State examination, which requires a period of one or two years more. When he has done this he still is unable to practise medicine, because the government declares that no foreigner can practise in the German Empire. He must first, therefore, become a naturalized German citizen. But in order to do that he has got to serve three years in the army, so that altogether it is practically impossible for an American to go to Germany and practise medicine. We do not

know why any American should want to do it; still, as a matter of pure justice, it is not right that the privilege should be extended in the United States without any reciprocity. Nearly the same difficulties attend practice in France. The spirit of "jingoism," which is now so interestingly active throughout the country, might find a legitimate field to expend itself in this protective tariff against Americans.

IS SPECIALISM ON THE WANE?

A REPORT has gone abroad during the past year that in some of our larger cities the specialist has suffered in his practice out of proportion to the general practitioner. There seems to be no doubt that physicians in common with others have felt the effects of the financial depression under which the country has labored during the past two years, and it is quite probable that some workers in special fields have noted a palpable lightness in their exchequer.

There is, however, no reason to believe that there has been in any quarter a marked tendency to return to general practice by those well established in special lines. Owing to the rapid progress being made in medicine in general, it becomes more and more impossible for any man to acquire and maintain that degree of perfection in knowledge and skill in its application which will permit of his being regarded as a finished specialist in several branches at the same time. Obstetrics and gynecology naturally go hand in hand; the eye and ear make a good combination; the nose and throat are so closely connected in their pathological manifestations that they make quite proper and even necessary subdivisions of the broad field; while dermatology and the venereal diseases are so bound together by syphilis, with its untold cutaneous efflorescences, that no great objection can be raised to their being pursued conjointly by those whose opportunities have rendered them competent. Exclusive specialists are rarely found—not so those who would have it believed that they are "exclusive." To be sure, a man who practises outside of his chosen branch does not and cannot, as a rule, have the same support from his *confrères* as he who confines himself strictly to his own line, but in times of depression he has two strings to his bow, and an epidemic of diphtheria may help him out when his anteroom is no longer overflowing with ladies waiting to have their tubes removed. A specialist does not always have the "cinch" he is often presumed to enjoy. In many ways the matter has been overdone or has become too refined. Good, old-fashioned family practitioners are too few, and without them no special branches can exist. When every one becomes a specialist chaos reigns. When men start upon their careers as specialists without that experience in general medicine which practice alone can confer, they are starting upon a road which surely leads to the discredit of all true specialism. Specialists are never born. We would say to the student, whether or not you now have the idea of doing special work, ground yourself well

in pathology. If in after years you turn your attention to some particular branch of medicine, you will find this knowledge your best stock in trade. Without it your work will ever be on the upward incline. With it you can outstrip your competitor whose foundation was not so firm.

Choose the branch for which you find you have a particular liking, whose work is congenial, and for which your experience has particularly fitted you. Otherwise fit yourself thoroughly before you go into it, but once in work with zeal and courage and always with the end in view, not of getting rich, for few specialists even do that, but of leaving your chosen branch better than you found it.

In this way specialism will maintain the place it should have in scientific medicine, every branch will add to the general advance, and definite knowledge will increase much more rapidly than it ever could without the work of the specialist.

Let pseudo-specialism wane, but all credit and success to the honest worker in a narrow field of research.

News of the Week.

The Death Rate from Tuberculosis in Massachusetts is reported by the State Board of Health to be higher than in any other part of the world except certain restricted localities in Austria and Bavaria.

Chicago Physicians, under a new ordinance, can secure a permit and a badge entitling them to right of way in the streets when answering professional calls.

Examinations for Physicians in the Indian Service.—The Civil Service Commission has announced that the list of eligible candidates for the offices of physicians in the Indian service is entirely exhausted. The latest vacancy is at the Grand River boarding-school at the Standing Rock Agency in North Dakota. This is a \$900 per annum office, and there is no one available for the appointment. Civil service examinations for these places will be held in various cities on different dates from March 30th to May 20th.

He Blew Out the Gas.—One of six students of the West Penn Medical College blew out the gas in a hotel bedroom in Pittsburgh, Pa., the other night. All six students were sleeping in the room, and all came very near being asphyxiated.

Guy's Hospital is greatly in need of money and a subscription has been started under the patronage of the Prince of Wales in order to raise the desired £500,000.

Dr. T. K. Tuthill has been appointed a coroner in New York City by Governor Morton to fill the vacancy caused by the death of the late Coroner O'Meagher.

Dr. Theodore C. Heyl, a retired surgeon of the United States Navy, died in this city on March 21st. Dr. Heyl was born in Philadelphia in 1838. He was a graduate of the University of Pennsylvania and en-

tered the navy as an assistant surgeon in March, 1870. In 1874 he was promoted to passed assistant surgeon and was promoted to surgeon in 1881. In December, 1891, he was retired from the service on account of ill health.

Philadelphia Hospital.—Drs. Augustus A. Eshner and Alfred Stengel have been elected to the medical staff of the Philadelphia Hospital, one of the most valuable clinical schools in the country and whose roll of physicians at different times has included some of the best-known names in American medicine. Both appointments may be viewed as civil-service promotions, each of the new incumbents having been for a term of years a registrar.

A National University.—The bill establishing a National University of the United States has been reported favorably by the Senate committee. It grants a charter to the university, provides for its government, grants it the ground in the city of Washington designated by President Washington as a site for a national university, and appropriates \$15,000 for the fiscal year ending on June 30, 1897, and \$25,000 for the year following.

Population of Greater New York.—It is estimated by Dr. Roger S. Tracy, of the Board of Health of this city, that the number of persons living within the limits of Greater New York is 3,195,059.

The Case of Dr. Kershner.—The President has approved the findings of the court martial against Dr. Kershner, who is thus dropped from the roll of the medical department of the navy. Our readers are already informed of the circumstances of this celebrated case. After thirty-five years of service he is now deprived of his rank and sacrificed to technical charges which would not be entertained outside of a court martial. It is the old grievance of the line against the staff, and should stimulate every ambitious medical man to try his luck in the navy. There is one more vacancy.

Philadelphia County Medical Society.—At a meeting of the Philadelphia County Medical Society on March 25th Dr. M. H. Cryer presented by invitation a number of interesting lantern slides, illustrating various normal and pathological conditions of the maxillary bones and their adnexæ and prepared from actual dissection. Among other things he pointed out that the natural orifice of the antrum of Highmore is situated at the upper and inner angle of this cavity, so that spontaneous drainage could scarcely take place in the ordinary erect posture. He also contended that from the situation of this orifice and from its protection by a valve-like covering it would not be possible to enter it with a probe through the nasal cavity. Certain interesting peculiarities in the relations between the antrum and the infraorbital nerve on the one hand and some of the teeth on the other hand were also demonstrated. Dr. G. Hudson Makuen detailed an account of "An Unusual Alveolar Abscess with Antral Complications," the pus collection forming in the periodontium. The antrum was entered by

Reorganization of the State Lunacy Commission.

—The following amendment to the pending lunacy bill is proposed by THE MEDICAL RECORD:

SECTION 2. There shall continue to be a State commission in lunacy, consisting of one commissioner from each State hospital district, all of whom shall be citizens of this State. The commissioners from the following districts: viz., from the Long Island State Hospital district, from the Manhattan State Hospital district, and from the Buffalo State Hospital district, shall be reputable physicians, graduates of an incorporated medical college, and of at least ten years' experience in the actual practice of their profession. Within twenty days after the passage of this act, the Governor, by and with the advice and consent of the Senate, shall appoint said commissioners and shall designate their respective terms of service, as follows: viz., one medical commissioner to serve two years, one to serve four years, and one to serve six years; two of the commissioners who are not physicians to serve one year, two for two years, two for three years, and two for four years. Thereafter each appointment shall be as follows: For the medical commissioners a term of six years, and for the non-medical commissioners a term of four years, except when an appointment is made in either class of commissioners for an unexpired term, when the appointment shall be for the remainder of the term. Said commissioners shall be entitled to receive as compensation ten dollars per diem for each day's attendance upon the meetings of the commission, but the total amount received annually by any one commissioner shall not exceed five hundred dollars. Said commissioners shall be entitled to receive their actual and reasonable expenses while engaged in the performance of their duties. Said commissioners shall meet at the rooms of the Lunacy Commission at the Capitol, on the first Wednesday of June next, and organize by the election of a president, and of a secretary who shall not be one of their number. Thereupon the commission created by this act shall succeed to all the powers, duties, and privileges conferred upon and exercised by the former State commission in lunacy by virtue of any law or laws, and shall take, hold, and possess all records, documents, books, and other property, of whatever name or nature, in the possession of said commission.

The Medical Profession in Belgium.—According to statistics recently published, the number of physicians in Belgium at the beginning of the year 1895 was 2,956. The proportion of doctors to population was 1 in 2,100. In addition to these there were 2,394 midwives, 1,828 pharmacists, and 522 veterinarians.

A Solemn Fact Solemnly though Tardily Expressed.—The introduction of such drugs as chloroform and ether and their adoption as means of rendering the patient insentient and passive during the performance of even the most complicated operations have added one more to the grave responsibilities which surround the medical practitioner of to-day.—*The Lancet*, March 7, 1896.

The Intercolonial Medical Journal of Australasia is the title of a new journal published in Melbourne and formed by the amalgamation of the *Australian Medical Journal* and the *Intercolonial Quarterly Journal of Medicine and Surgery*. It has no lack of editors, the names of no less than seventeen appearing on the title page of the first number. The receiving editor, to whom communications should be addressed, is Dr. David Grant, of Melbourne. The initial number, dated January 20, 1896, gives promise of an excellent journal and we wish the new venture all prosperity.

The New York State Medical Association.—Members of this society who intend to read papers at the next annual meeting in October are requested to send the title of such papers to Dr. E. D. Ferguson, Troy, or Dr. J. G. Truax, 17 East Twenty-Seventh Street, New York City.

Dr. Ostrowmoff, professor of clinical medicine at the University of Moscow, has received from a resident of that city the sum of \$200,000 for the erection of a hospital for the treatment of purely medical cases. The donor has forbidden the disclosure of his name.

A Homœopathic College in Mexico.—President Diaz has recently signed a decree authorizing the establishment of a homœopathic medical college in Mexico City. There will be a five-years' course of study, and the faculty, composed of homœopathic physicians, will be appointed by the government.

The Language Question at Moscow.—The St. Petersburg correspondent of the *British Medical Journal* says that the regulations of the Moscow International Congress, excluding the use of English, have caused so much dissatisfaction that one of the secretaries of the congress, Professor Diakonoff, has thought it necessary to address a long letter of explanation to the *Vratch*. The writer says that the inconvenience of polyglot discussions had become so marked at international conferences that the medical press of all countries, after the Rome congress, recommended that one official language be chosen for future congresses, and all pointed to French as the best for the purpose. The rules which the organizing committee of the next congress has adopted were drawn up by the medical faculty of Moscow University. In drawing them up the faculty felt bound to act on the opinions so generally expressed in the medical papers. Consequently, it at first decided to make French the one official language of the congress. Later it appeared necessary to admit the use of Russian, although "from a feeling of delicacy to our foreign guests, of whom few could know Russian," it was decided to employ that language as little as possible. Still later the fact that more Russian medical men go to German universities than to French, and a great many understand German and are ignorant of French, was taken into consideration, and therefore German was admitted to the sectional meetings. "But," the letter continues, "in thus admitting two foreign languages, we cannot hide from ourselves that we have

departed from the principle of a single language—albeit from necessity—and we recognize that in future efforts must be made to return to that principle in all its purity.” This is the present stage of the language controversy. If the regulations as they now stand continue to hold good, there will be no possibility of reading English papers or of discussing in English in any of the sectional meetings. It will only be in the three general meetings that Englishmen or Americans who are unable to speak either French or German will have a chance of speaking at all. But as no discussions are permitted at the general meetings, this is equivalent to an intimation that “no English need apply.” Dr. Diakonoff’s explanation is ingenious but not ingenuous, and was probably not intended to be believed.

Diphtheria Antitoxin in Japan.—There were 353 cases of diphtheria treated by serum injections in Tokio during the year ending November 25, 1896. Of this number 31, or 8.78 per cent., died. In the statistics collected by Kitasato of 26,521 cases of diphtheria in Japan, treated before the introduction of orrotherapy, the number of deaths was 14,996, a mortality of 56.54 per cent.

Rectal Orrotherapy.—Dr. Chantemesse, of Paris, advocates the administration of antitoxin serum by rectal injection instead of subcutaneously. He has used this method in twenty cases, and believes that the fluid is easily and quickly absorbed. The bowel is first washed out by a simple enema, and then by means of an ordinary enema syringe and a gum-elastic catheter of medium size and about twenty centimetres long the serum is introduced into the rectum. The method causes neither pain nor any other unpleasant effects. The curative effect seems to be as certain as when the antitoxin is given by hypodermic injection. There is no need, so far as Dr. Chantemesse’s experience goes, for any increase of dose when the serum is administered by the rectum.

The Effete East.—The medical institutions of the Atlantic seaboard are not so good as, or at least no better than, they are in Cleveland. Dr. Parker has been visiting them and writes to the *Cleveland Medical Gazette* that “they have some palatial operating-rooms at the Roosevelt and Presbyterian hospitals and many others not so palatial, but in each are found the same operating-furniture, instruments, and appliances as we have at home. One surgeon and his assistants stamped about in wooden shoes, another surgeon and his assistants wore canvas shoes, and still another operator made a complete change of his clothing after each operation. Perfect asepsis does not depend upon such non-essential details. Indeed, there is great danger that in carrying out these non-essential details the principles of clean surgery may be overlooked. Asepsis is not secured by wearing wooden shoes or canvas shoes, and there are various ways of rendering the hands surgically clean.” At the Johns Hopkins Hospital the chief peculiarity was the use of silver wire for sutures and silver foil for protection immediately over the wound. The writer

observed numerous instances at this hospital of the violation of aseptic principles. Philadelphia medical schools seem to be very much behind in the procession. “At one of the Philadelphia schools the professor of surgery spoke very enthusiastically of what he was pleased to call his method of teaching surgery. He divides his class into sections, and each section attends the surgical dispensary every day one hour for a few weeks, examining the cases presented and assisting in the minor operations performed. This is certainly an excellent method of giving instruction, but it is just what we do for the entire term. At one of the schools I sat with over four hundred students in a most filthy amphitheatre through a lecture upon fractures of the elbow-joint. There was an ill-concealed impatience among the students; so boisterous did they become that the lecturer twice stopped in his discourse and begged in supplicating manner that they desist and permit him to finish his lecture. And this was no fault of the lecturer, for his talk was most practical and richly illustrated with numerous specimens, well-executed diagrams, blackboard sketches, splints, and dressings.” Finally, at all of the clinics there was a dearth of operation cases and a class in operative surgery could not be held, as there was no subject at hand.

Houston, Tex., has about one hundred and twenty-five physicians and they are still coming. A local journal intimates to intending newcomers that all the city will support are already located and at work.

A New Branch of Department Stores.—A Toronto daily paper says that there is to be established in a certain departmental store in that city a doctor’s office where consultation may be had for a quarter. The *Canadian Medical Review* asks with alarm if it is possible that in that city there is a medical man who would so demean himself and dishonor the profession as to value his work as a diagnostician and a medical adviser at a quarter per patient.

Roentgen Rays in Court.—The *Canadian Medical Review*, quoting from a Montreal daily paper, says that the Court of Queen’s Bench of that city will be the first court on record where Roentgen’s new photographic discovery will be used in evidence. A photograph of the leg of Tolson Cuning, who was shot on Christmas eve, will be filed, showing the location of the bullet. The photograph was taken by Professor Cox, of McGill University.

The Provincial Medical Journal ceased to exist at the beginning of this year, but another journal, *The Scalpel*, has been started by Dr. Dolan, the editor of the defunct journal, and gives promise in its early numbers of surpassing its predecessor in interest.

The Presbyterian Hospital of Philadelphia celebrated on April 3d with appropriate ceremonies the twenty-fifth anniversary of its organization. Among the events of the programme were addresses by Dr. S. Weir Mitchell, Provost Harrison, of the University of Pennsylvania, Dr. John Dewitt, of Princeton, Dr. Woods, and Dr. J. Addison Henry.

The Jenner Centennial.—The 14th of May next will be the hundredth anniversary of Jenner's first experiment in vaccination. The event will be celebrated by the American Medical Association in Atlanta a week ahead of time.

A Predecessor of Roentgen.—The method of photography reputed to be Professor Roentgen's discovery has been known and utilized by an Oxford professor for some time. Unfortunately for his fame, he never applied the method to the human body, devoting its use in research in mineral substances.—*The Hospital*.

A New Treatment for Colds.—Dr. Schnee is said to have cured acute coryza by a series of slight taps with a rubber hammer on the forehead just above the root of the nose. The theory is that slight shocks upon terminal nerves have the effect of contracting the blood-vessels.

Dr. Gwilym G. Davis has been elected surgeon to the Philadelphia Orthopædic Hospital and Infirmary for Nervous Diseases, in succession to the late Dr. H. Ernest Goodman.

A Double Treat at the Terrapin Club.—The Terrapin Club of Philadelphia at its annual meeting on March 16th entertained Dr. S. Weir Mitchell, who made an appropriate and humorous address on the subject of terrapin.

Reception to Dr. A. Donaldson Smith.—Dr. Louis Starr, of Philadelphia, gave a reception at his residence on March 19th in honor of Dr. A. Donaldson Smith, the recently returned African explorer. Dr. Smith already speaks of resuming his explorations later on.

North Carolina Physicians are forced to pay a licence fee of \$10 per annum. The State is now asked to use the \$15,000 so obtained to establish and maintain a vaccine and antitoxin farm.

The Constitutionality of the Louisiana State Medical Law is about to be tested in a suit brought against the Board of Medical Examiners by two irregular practitioners whom it has endeavored to restrain from practice.

Dr. A. L. Metz has been appointed to fill the vacancy in the chair of chemistry at Tulane University caused by the death of Dr. Joseph Jones.

Cut Rates for Insurance Examinations.—The medical examiners in British Columbia for two of the larger life insurance companies of this city have been notified of a reduction of their fees to \$3 for all examinations under \$2,000. They have declined to make examinations at the reduced rate. A correspondent of the *Ontario Medical Journal* says that the *esprit de corps* is high in the medical profession in that province, and he predicts that the insurance companies will be unable to secure competent physicians to fill the places of the examiners who have resigned. The Sacramento Society for Medical Improvement has passed a series of resolutions protesting against methods which it characterizes as unfair, irrational, and

indefensible, and on behalf of its members pledging them to decline absolutely to examine applicants for life insurance for any "old line" company for any fee less than \$5 for each and every examination made.

Pay of Fire Department Surgeons.—A bill has been introduced into the legislature at Albany raising the pay of surgeons in the New York City fire department from \$2,000 to \$3,000 a year and giving them a pension as well. The surgeons to the police department get \$3,000 a year. There is also a clause in the bill which provides that a surgeon in the fire department shall not be dismissed except for cause.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for the week ending March 21, 1896: March 16th.—Surgeon P. M. Rixey ordered to the naval dispensary, Washington; Assistant Surgeon H. La Motte detached from the naval hospital, Chelsea, Mass., and ordered to the receiving-ship *Franklin*; Surgeon G. E. H. Harmon detached from the naval dispensary, Washington, and ordered to the Naval Academy; Passed Assistant Surgeon C. H. T. Lowndes ordered to the Washington Navy Yard.

Changes in the Medical Corps of the U. S. Navy for the week ending March 28, 1896. March 23d.—Passed Assistant Surgeon B. R. Ward detached from Coast Survey Steamer *Blake* and ordered to the *San Francisco* holding survey on Chaplain J. J. Kane in London en route. March 26th.—Surgeon J. C. Wise ordered to examination for promotion March 27th.

Raising Them out.—Having increased the term of study, some medical schools are making an effort to increase the requirements for admission. The University of Pennsylvania is among the latest of those pursuing this praiseworthy endeavor. It is suggested, too, that the tuition fee be increased. If any of these attempts at standard raising has the additional effect of keeping out embryos for a few years, the overcrowding in the profession may become less marked.

Two Hundred and Fifty Druggists Indicted.—A law and order league in Indiana has been busying itself with the sale of liquor in drug stores other than on physicians' prescriptions. Many proofs of violation of the law have been obtained and the campaign has resulted in the bringing into the circuit court of two hundred and fifty indictments against druggists.

The Tennessee State Medical Society will hold its annual meeting at Chattanooga on April 14th–16th. The preliminary programme contains thirty-five titles of papers and discussions and gives promise of a successful meeting.

Hot Springs.—According to Dr. Barry's article in the medical journal which bears the name of this celebrated resort, Hot Springs is the healthiest city in the world. The statistics of six consecutive years gives a death rate of 10.79 per 1,000 or 7.54 for the permanent residents alone.

The Dangers of Advertising.—Dr. Krause has resigned his position of privat-docent to the Berlin Medical University, owing to a difficulty with the faculty, who had asked him to give his reasons for allowing his name to appear at the foot of a testimonial for a certain brand of soap. On his refusal to do this, the faculty inflicted the severest reprimand in its power and he resigned.—*Boston Medical and Surgical Journal*.

Many Persons Frozen to Death.—During a recent snowstorm in the province of Oro, in Russia, one hundred and thirty persons were frozen to death.

Dr. J. Jameson has been appointed director-general of the medical department of the British army in place of Sir W. Mackinnon.

The Virginia Medical Monthly, after a long life of twenty-two years under the able editorial management of Dr. Landon P. Edwards, is now to become a semi-monthly. We congratulate our esteemed contemporary on this evidence of well-deserved prosperity and ever-increasing usefulness, and we hope that before another cycle of twenty-two years the *Virginia Medical Semi-Monthly* will become the *Virginia Medical Weekly*.

The Ohio State Board of Medical Examiners, recently appointed by the governor under the new law, consists of three regular practitioners, one homœopathist, two eclectics, and one physio-medical. What the belief and practice of the latter may be we confess we do not know.

The British Medical Association.—The next meeting of this association will be held in Carlisle on July 28–31, 1896. Mr. Henry Barnes, of Carlisle, is the president of the association for this meeting.

Public Health Officers in Germany must hereafter possess a practical knowledge of mental disease. The minister of education has issued an order which provides that candidates for this office will be required to attend a course of lectures on psychiatry at a German university and to attend the practice of a lunatic hospital for six months or to hold office as interne of such a hospital for three months. A hospital in which such lunacy practice is taken out must not have fewer than one hundred and fifty mental cases yearly. The order comes into force in October of the present year, and it will apply to all candidates who are not already in their last year of study.

Better Late than Never.—Now that the suppression of the Cuban revolution is rendered difficult, if not impossible, by reason of the decimation of the army of occupation by yellow fever, the Spanish government at Havana has appointed a commission to investigate the yellow fever of that island. The commission is composed of medical officers of the army and navy and of prominent medical men of Havana.

The Ohio State Medical Society will hold its fifty-first annual meeting in Columbus on May 27th–29th. The president of the society is Dr. Milliken, of Hamilton; the secretary, Dr. Thomas Hibbard, of Toledo.

The Medical Colleges of Kansas City, having refused to comply with the requirements of the Missouri State Board of Health, as a consequence have been dropped from the board's list of colleges in good standing.

The Missouri State Medical Association will hold its annual meeting in Sedalia, May 6–8, 1896.

The Medical Societies in Havana are reported to have suspended meetings on account of the unsettled condition of affairs on the island. The medical journals, however, still appear regularly.

The Canada Medical Record has passed under the control of the medical faculty of Bishop's College, Toronto. The editor-in-chief is Dr. J. B. McConnell.

A Little Mixed.—The *Denver Times* says: "Dr. George M. Gould has retired from the editorship of the MEDICAL RECORD, which is now being published in New York with J. Riddle Goffe as editor."

The Indiana State Medical Society will hold its forty-seventh annual meeting at Fort Wayne on May 28th and 29th.

Medical Men in the Cabinet.—According to the *Journal of the American Medical Association* the only medical man who ever served in the cabinet of the President of the United States was Dr. Oliver Wolcott, of Connecticut, who was appointed secretary of the treasury by Washington in 1795. Dr. Wolcott had served in the Revolutionary War and had risen to the rank of brigadier-general.

Cholera in Egypt.—There were one thousand and thirty-four cases of cholera reported in Cairo since last October, but of the entire number there was not a single one among Europeans.

The Overcrowding in the British Islands.—The British Medical Register for 1896 contains the names of 33,601 medical men—or one doctor for every 1,164 persons.

Gifts to McGill University.—W. C. McDonald, of Montreal, has given \$500,000 to McGill University for the purpose of providing a building for the study of chemistry, mining, and architecture. This brings his gifts to this university up to \$2,000,000.

The House of Detention, in which detained witnesses are kept, is said to be in a very insanitary condition, and the matter is now being investigated by the grand jury.

New York Veterinary College.—The twenty-first annual commencement of this college was held in Chickering Hall last week. There were twenty-six graduates.

Professor Mikulicz, of Breslau, has been seriously ill, but after a stay of several weeks at Abbazia is now, we are glad to learn, entirely restored to health and has resumed his work at Breslau.

A Case of Varicella.—A woman living as a domestic in Brooklyn was recently taken ill and sent to the Reception Hospital as a suspected case of small-pox. After a short stay there she recovered, and it was concluded that the case was one of chicken-pox.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 7, 1896.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

BEFORE presenting the case which follows Dr. SEXTON said that the case of deafness due to sclerosis which he presented at the December meeting was operated upon a few days later. Before this the patient could scarcely hear anything spoken close to the ear. After the operation she could hear an ordinary tone of voice four or five feet away.

A Case of Twelve Years' Standing of Purulent Discharge from Both Ears, with Great Deafness, Speedily Cured by Excision of the Diseased Structures in Both Drums.—DR. SAMUEL SEXTON presented a girl aged fifteen years, who had had a discharge from both ears consequent on an attack of measles, accompanied by great deafness, since she was two years old. A sequestrum came from the right mastoid at the start. The membrana tensa and a narrow rim of the membrana vibrans on either side held the remains of the malleus, which interfered with drainage on both sides. She could hear an ordinary tone of voice in the right ear at less than two feet, in the left ear at six inches. She had been under the care of Dr. C. G. Stevens, of Watertown, N. Y., who, finding the case not to yield to ordinary treatment, sent her to me for an operation.

On November 26, 1895, the carious ossicles and diseased membrane holding them in place were removed under ether narcosis. From this time on the discharge became less and less and in a few weeks the drums were found to be healthy and dry. The hearing now is excellent; she can hear the voice in an ordinary tone from six to twenty feet away with either ear.

Attention is called to the mental inertia, so to speak, in this case due to long neglect in intellectual training. The patient often hesitates for some moments when spoken to before she is able to bring the mental apparatus into action and reply. This is one form of inattention and sometimes such wool gatherers forget what has been said to them before they formulate an answer.

Approves the Operation in Suppurative Cases.—DR. BEVERLY ROBINSON had no hesitancy in saying that in suppurative conditions he believed the operation did good in many cases. An instance was the case just shown. Taking out carious bone from the ear cavity, allowing that cavity to drain properly, and putting it into the best possible condition, was a procedure which appealed to everybody's surgical intuition. For such cases the operation was known to result in considerable benefit, in the judgment of careful observers, and it was endorsed by a certain proportion of the most advanced workers in otology. He must confess that he was much more in favor of the operation in suppurative cases than he was in those of dry catarrh, where he thought it was of doubtful utility.

DR. VIRGIL P. GIBNEY expressed his interest in the subject, and asked Dr. Sexton whether he made a distinction between dry and suppurative cases, as did Dr. Robinson. He would also like to know from him what was the status of the operation with otologists to-day.

DR. JOSEPH D. BRYANT inquired what tissues were referred to as being associated with the disease process.

DR. SEXTON replied that in suppurative cases there was usually great loss of the lower portion of the tym-

panic membrane—the membrana vibrans—while the upper portion which retained the malleus became thickened, retracted in some instances, but not often atrophied. The various folds of the membrane lining the attic and having reflections over the chorda tympani and ossicles formed a series of sacs sufficient to retain purulent and mucous matter constantly, so that the tympanic attic in which these parts were contained was scarcely ever free from mucus and purulent matter. A portion of this membrane in most instances went on secreting mucus, and with each head "cold" the patient had "gathering in the head," often accompanied by earache. Beginning in childhood, these gatherings often lasted well on to old age. Removal of the diseased parts, as in the case presented, resulted in cure. As could be seen, nothing remained in the tympanic cavity, and the very narrow edge of membrane adherent to the annulus tympanicus interfered in no way with drainage.

In reply to Dr. Gibney, he would say that he was as well satisfied with this operation in cases of "dry catarrh" as he was when he began it ten years ago, and even more so. But he was careful in the selection of his cases, and unsatisfactory results which had been reported by operators he thought were due to neglect in this direction. In some few cases it was to be expected that little was to be gained in the improvement of the hearing, but that little was important to the patient. Occasionally a patient who had been treated in this manner had subsequently consulted some local physician, who, finding a new and puzzling condition of things, applied some irritant resulting in injury, and the operation had been condemned unjustly. Dr. Sexton's experience had been that when patients had been told frankly before the operation what could be expected and what not, they had been satisfied and there had been very few disappointments. In young persons the amount of improvement in hearing had often been startling, while in older persons, those of forty or fifty years, it was naturally less. In purulent cases there was nearly always decided improvement in hearing. There was something in the technique of the operation, especially in sclerosis, for it had to be done with great delicacy. Subsequent reproduction of the drumhead might take place, but it could be easily removed again without pain if cocaine were used. He had observed cases in which the explosion of a shell had knocked a hole in the drum membrane, and although the membrane had not been reproduced the men had not suffered from deafness. Five or six soldiers in the ordnance department in whom he had noticed this (due to the explosion of a mortar shell at the United States Army proving grounds at Sandy Hook) did not complain of deafness when they were examined some time after the accident. In practice he was unable to explode a shell to make this opening, with but little local irritation, but he could do it with delicate instruments. An operation was the only treatment of much benefit to patients with sclerosing inflammation. Inflation, throat treatment, the use of pilocarpine, of electricity, of so-called massage, etc., were only a waste of time resulting in disappointment. Many of his patients had passed through all this at home and abroad and had received no benefit, and it was from operations on such unfavorable cases that many of his good results had been obtained.

DR. ROBINSON remarked that there were prominent otologists who doubted the utility of this operation in sclerotic cases, and it was to this class that his remarks at the former meeting applied. On the other hand, he knew some very eminent specialists who favored it in suppurative cases. He would ask Dr. Sexton how he would account for the opposition in the dry cases.

DR. SEXTON would reply, without going tediously into the history of the matter, that such work was begun in a simple way half a century ago by Sir Astley Cooper, and twenty-five years ago the Germans resorted to it, for the most part on hospital patients, and as this class was usually the more unfavorable one they failed to establish reliable indications for the procedure in sclerosis. It was more difficult abroad to introduce radical innovations in practice, and aural surgery in this direction came to a standstill in many places, as in Berlin and in London. In the United States it was different, for Dr. Sexton had not found such reluctance on the part of patients in private practice to whom he had recommended it. It was not to be supposed that it was applicable in all cases of deafness. Probably he did not resort to it in catarrhal inflammation with one out of twenty sent to him especially for the operation. Nor did he believe the medical profession was as much divided with regard to it as Dr. Robinson seemed to believe. One reason perhaps why it was not more commonly practised was lack of time to become familiar with the details—the *modus operandi* of the operation. However, the literature of the subject for the past five or six years shows that much successful work has been done in Germany, France, England, Holland, Italy, Sweden, and the United States. Were not so many years usually spent by patients with advancing sclerosis in unavailing devices, very much more satisfactory results than any hitherto reported would be obtained.

Treatment of Fracture of the Patella by Continuous Extension without Confinement.—DR. JOSEPH D. BRYANT read the paper (see p. 472).

DR. GIBNEY inquired what the results had been with regard to bony union or close fibrous union.

The Method is too Elaborate.—DR. ROBERT ABBE said the method appeared to him as too elaborate and as not consistent with the most recent views of the treatment of fracture of the patella. He thought the fixation method pure and simple gave practically perfect results. It consisted in putting a plaster casing over the entire limb, leaving a fenestra at the central part, applying figure 8 strips, and keeping the patient abed. Then came the suture method, which every one admitted gave the most perfect results, barring risks. But the risks were so great that even the most able men were afraid to use it in all cases.

Recently a method had come into vogue which seemed to him more reasonable than elaborate fixation with splints. He referred to massage while the patient was up and about, after ten days or two weeks. Championnière had recently written a book in which he advocated the principle and gave beautiful results from its practical application. When one remembered that there must be fibrous separation of the fragments in any form of fixation treatment except that of suture, it appealed to reason that the massage method might give as good results as any. A dog's broken leg formed a better callus while it was walking about than if the limb were put up in plaster of Paris. If in fracture of the patella the limb were fixed, the callus would separate or stretch half an inch or more a short time after beginning use of the limb, whereas the callus which formed under massage treatment was said to be a stronger one. The patient was kept abed about two weeks while effusion was subsiding, then with light support he was permitted to go about and massage was repeated every day rather vigorously. The muscular atrophy seen after the fixation methods was avoided. While he had not tried the method himself he felt much confidence in it.

DR. SEXTON remarked that some years ago he found a frog's leg at the dinner table which had been fractured and had healed by callus in remarkably natural position. There must have been much motion during

the healing process. He sent it to DR. GROSS, who expressed much interest in it.

DR. ROBINSON inquired whether Malgaigne hooks were any longer used for coaptation of fragments in fracture of the patella.

The president, DR. ANDREW H. SMITH, asked Dr. Abbe if anything was done to bring the fragments together, for otherwise it would seem they would be likely to remain widely separated. As far as his observation had extended, it seemed there had been a wonderful amount of uncertainty among surgeons in the treatment of fracture of the patella. About ten years ago he was compelled to attend a case in the country and several of the most eminent surgeons in the city were called in consultation. Perhaps the most eminent one had the whole anterior part of the thigh covered with adhesive plaster, a similar piece was put on the leg, and the two were drawn together by straps, with about as much influence on the fragments of the patella as if nothing had been done, for only the skin was pulled upon while the parts below retained their former position. This was in very hot weather; the patient endured the torture for three days and then the adhesive plaster was removed, exposing an excoriated surface underneath. Finally a figure 8 strap was applied and the patient recovered with good union, being able to dance and to use the limb subsequently as well as anybody. He thought there was much need of agreement upon some rational mode of treating these cases.

DR. ABBE replied that if the fragments were strongly disposed to separate, they should be approximated and held in position by pad and figure 8 straps until a callus was thrown out, and then massage would tend to fortify this.

DR. BRYANT said he had not intended to open up the general subject of treatment of fracture of the patella, for it was a pretty large one and, as others had remarked, it was far from being settled. There were some who believed in wiring the patella in every case of fracture, and while they had reported remarkable results, personally he was not one who believed the patella should be wired simply because it was broken. The method which he had described had nothing particularly novel, but commended itself because the patient could be up and about his room in about ten days.

It was Dr. Bryant's custom, when a case of fracture of the patella entered the hospital, to direct the house surgeon to apply an Esmarch bandage in order to reduce the swelling, and it was remarkable how small an amount of effusion was present after leaving the rubber bandage on for forty-eight hours. Dr. Abbe had spoken of fibrous tissue then preventing the fragments from being brought together, and although this was one obstacle Dr. Bryant had found firm blood clot a greater one, as proven in cases in which he had wired the patella. He had no reason to think that bony union between the fragments ever took place unless they were wired. Therefore he made no claim for the method described in his paper of securing bony union. He had never employed the massage method. Certainly the limb must be confined at some period, in order that the callus might have opportunity to harden. But the greater the movement the larger the callus, as was seen in fracture of the humerus, etc. He could commend the treatment described in his paper as one which would give as good results as any non-operative method and at the same time it would allow the patient to walk around. He mentioned the case of a man with fracture of the patella who refused to have it wired. It united with half an inch separation. Fracture occurred subsequently in the same line and he supposed that then he would surely have opportunity to wire the fragments, but the man again absolutely refused

to allow it. Union took place with three or four inches separation, and the man never met him in the street but what he danced a jig and reminded him that wiring was not a necessity.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 23, 1896.

E. D. FISHER, M.D., PRESIDENT, IN THE CHAIR.

Clubfoot and its Treatment.—DR. A. M. PHELPS read the first of three papers announced on clubfoot. The varieties of clubfoot were, he said: 1, congenital; 2, non-congenital; 3, paralytic; 4, non-paralytic. The paper had to do only with the congenital form, more particularly talipes equino-varus. Besides the more or less complete paralysis of one group of muscles, there was contraction, spastic or otherwise, of the opposing group, which caused deformity. Opinions differed regarding the cause of the congenital forms, but all, perhaps, admitted that heredity often played an important part. Where there was lack of amniotic fluid, intrauterine pressure might produce clubfoot; sometimes there was clubfoot on one side, bowleg on the other. Maternal impressions could be excluded. Specimens were shown of clubfoot at the second, fourth, and sixth months of intrauterine life, and up to the sixth year of age. It was apparent even at the earliest period that the astragalus was twisted inward. There was also contraction of the anterior division of the deltoid ligament, shortening of other soft structures on that side, later a wearing off of the articular facets of the astragalus, and more or less displacement of scaphoid and other bones.

The treatment of congenital clubfoot should be begun from birth. Manipulation practised daily up to the third month would remedy ninety per cent. of the cases. In some instances it might require five months, but usually he operated if a satisfactory result had not been obtained by the third month. Treatment should begin with subcutaneous tenotomy, straightening the foot and placing it in supercorrection. If one stopped short of that, there would be relapse. If subcutaneous tenotomy of opposing tendons did not permit of overcorrection, he divided the contracted skin and fascia, or whatever soft structures offered resistance. If overcorrection was still impossible, he did osteotomy. Finally, failing in all these, he performed Pyrogo's amputation of the foot. But osteotomy was seldom required. In young children the foot could best be retained in the corrected position after manipulation by passing adhesive plaster around the outer side of the foot up on the leg. It was superior to all apparatus.

Illustrative cases were shown. One was that of a girl, fourteen years old, with double equino-varus, who was taken to an orthopædic surgeon when six months old, and treated for years by apparatus. Finally an insufficient tenotomy was done, which failed to fully correct the deformity. Dr. Phelps saw her last spring, divided the tendo Achillis, skin, abductor pollicis, plantar fascia, etc., and then made overcorrection. The feet now presented good shape. In this case and others in which apparatus had long been worn the pressure had caused the toes to permanently overlap.

DR. LEWIS A. SAYRE was unable to be present to read his paper on "Congenital Clubfoot and its Proper Treatment as Soon as Discovered." It will be published later.

The Place of Forcible Reposition in the Treatment of Clubfoot.—DR. REGINALD H. SAYRE said he had chosen this subject for his part of the discussion because he thought it had not received the atten-

tion which its importance demanded. He also began treatment by manual correction and did not resort to operative measures until this had failed. It appeared from the literature that many surgeons were prone to resort to extensive bone operations on feet which could be placed otherwise in more useful condition with less risk to the patient. Regarding overcorrection at one sitting, he thought he had sometimes obtained rather better results by going slower, making subcutaneous section where it seemed necessary and correcting the position as far as possible, and somewhat later further reducing the deformity without necessarily doing another operation. His ability to make further correction with less difficulty than at the time of the operation was explained on examining the distorted astragalus, for the articular facets were found to have become worn down, thus removing an obstacle to replacement. He was convinced that in many cases correction could thus be secured without a bone operation.

Dr. Sayre presented an instrument for forcible reposition of the foot, the use of which would often save an osteotomy. Subcutaneous tenotomy having been performed, the foot was fastened in a lever which was capable of exerting a great deal of power. The one devised by Dr. Phelps was best suited to talipes equinus; the other gave a better purchase in varus. After forcible reposition, plaster of Paris was applied. When the patient walked the weight of the body tended to force the foot into better position. He had observed a better result where reposition had been effected by tenotomy and this instrument than where osteotomy or removal of the astragalus had been resorted to. He did not mean to say, however, that osteotomy was never demanded.

The Influence of Experience on the Use of the Knife.—DR. W. R. TOWNSEND thought Dr. Phelps had omitted an important part of his paper, his statistics, that one might compare them with other methods of treatment. The principal thing was to correct the deformity. This could be done by different means. Failures were numerous, but the principal fault rested with the surgeon rather than with the method. The majority of men had not sufficient patience to carry on treatment every day for months or a year. How long mechanical treatment should be continued, whether three or twelve months, would depend on the case and on the orthopædist. There could be no doubt of the value of operative treatment where for any reason mechanical treatment failed, but he thought the success of Dr. Phelps' procedure depended chiefly on the great force which he was able to apply in effecting reposition. The failure of others was in not making as complete correction or overcorrection. There was no doubt that the longer a man lived the less operating he did, and that he saw an increasing number of cases in which he could make reposition without resorting to the knife. It seemed to him that a foot which could be replaced by forcible measures was a better foot than one which had been operated upon.

DR. PHELPS showed his osteoclast, which was adapted to reduce any form of clubfoot. Regarding statistics, he said that in 1891 he had reported one hundred and sixty-one operations, eight of which were osteotomies, with no deaths and ten relapses. Since then he had operated without osteotomy about one hundred and eighty-one times, resorting to osteotomy but twice and to amputation once, with no deaths. In the hands of others osteotomy gave a mortality of from one and a half to five per cent. Had he resorted to osteotomy as often as was customary with many other surgeons he would have had, at their mortality rate, nine deaths instead of none. He therefore never did osteotomy except when necessary as a secondary operation.

A Synopsis of the Modern Treatment of Chronic Cardiac Disease.—DR. WILLIAM H. MCENROE read the paper (see p. 474).

Primary and Secondary Heart Disease.—DR. WILLIAM H. THOMSON said he would speak of only one or two points connected with the treatment of heart disease. In the first instance it was necessary to distinguish between cases of primary heart disease and cases secondary to disease in some other part of the body, as the kidneys. Primary heart disease was almost invariably from rheumatic poison, usually in early life. Chorea cases were no exception. But why should rheumatism, which left almost no traces in the joints the day after subsidence of the inflammation, prove so injurious to the endocardium? It was because the heart with its valves was in constant motion, having no opportunity for absolute rest such as was allowed the knee and other joints. This constant irritation led to changes which increased, as by a form of cicatricial contraction of the valves, and became permanent.

Rest and Aconite.—The indication was rest, and this was best secured by keeping the child abed and giving aconite. No greater mistake could be committed than to allow a child with rheumatic fever to get up too soon. In primary endocarditis, digitalis was not to be compared in value with aconite.

Totally different was secondary heart disease, which depended upon some obstruction to the circulation through the vessels. The enlargement of the heart in these cases was lateral and to the right, while in primary endocarditis in children it was upward and to the left of the sternum, and might even cause dullness up to the first intercostal space. First, there was in the secondary form hypertrophy of the cardiac muscles from overaction, but hypertrophied muscles were always shorter lived and one must watch for the first indications of dilatation. This was shown by increased frequency of the pulse. Our ideas of treatment of this class of cases had changed. We must increase the power of the heart muscle and let the valves go. The patient must take walks, even to the extent of six miles a day.

Mentioning pericarditis, nothing gave so much relief where the heart was bound through its envelopes to the thorax as strapping the latter firmly on that side by adhesive plaster. Where no such adhesions existed pericarditis frequently caused no symptoms.

Rest in Bed.—DR. WILLIAM H. DRAPER had learned to depreciate more and more cardiac drugs and to appreciate more and more the value of rest in cardiac disease. Certainly in the class of cases seen in hospitals one would be surprised to learn how much the improvement which took place was due to rest in bed. But rest was something which was usually prescribed in a perfunctory way. In reality it meant a great deal in these cases. It meant reduction of the heart beat fifteen or twenty a minute; it secured equilibrium of the circulation, etc. Next in importance came dietetic management. Many of the symptoms of valvular disease were aggravated or were due to gastric disturbance with fermentation, embarrassing the heart, lungs, etc., by pressure. Regarding drugs, he said that he had tried all the cardiac stimulants and had come to the conclusion that there was no one so universally useful as digitalis. It was commonly useful in affections of the mitral valve, especially those which increased frequency but diminished force of heart beat. It was not so useful in aortic regurgitation until this had become complicated by mitral insufficiency.

DR. MCENROE made a few remarks in closing.

The special committee, through DR. GRANDIN, reported resolutions on the death of Dr. Alexander S. Hunter, which were unanimously adopted.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, March 26, 1896.

W. R. PRYOR, M.D., CHAIRMAN.

Difficult Delivery.—DR. A. ERNEST GALLANT related a case of difficult delivery due to excess of adipose tissue in the mother's pelvis and to great circumference of the infant's shoulders. The woman weighed two hundred and twenty pounds, the child's head was of ordinary size, but the circumference at the shoulders was unusually great, interfering with completion of delivery after the head had been safely, although with difficulty, extracted by forceps. The excessive compression of the child's body due to the combined conditions, great circumference at the shoulders and adipose tissue narrowing the mother's vagina, caused its death. The case was also of interest from the fact that no hernia had developed, although a scar existed where some months previously he had performed an operation for appendicitis. Only a single line of sutures had been used.

Blighted Twin.—DR. PHILANDER A. HARRIS presented twin foetuses, one of which was apparently of about the seventh month and measured thirty-three centimetres; the other one was blighted, body and head being quite thin and flattened, and the length nineteen centimetres. The larger of the two seemed to have been in excellent condition until about the time of birth. The patient had been attended by another physician. She had four other healthy children, the oldest two being twins.

Ovarian Tumor with Twisted Pedicle; Hæmatoma.—DR. HARRIS also presented an ovarian tumor larger than an orange, with a narrow pedicle which had permitted the tumor to become twisted around it twice. At the time of operating he also found a hæmatocele at the right of the tumor which had been the cause of some difficulty in diagnosis, for by its presence it had forced the tumor, which formerly had been felt on the right side, over to the left side of the abdomen. The hæmatocele had arisen from rupture of a vein at the time the tumor had become twisted on its pedicle.

Dumbbell Fibroid of Uterus.—DR. HARRIS also showed a uterus with so-called dumbbell fibroid, or double fibroid, springing from its two sides. He had chosen to remove the uterus with the tumors because the woman had had no children, although married sixteen years.

Retroperitoneal Abscess Following the Puerperium.—DR. E. E. TULL presented an unbroken pus sac about the size of a hen's egg removed two days before from below the peritoneum, it having been attached to the omentum in the right iliac fossa. The patient, who had been confined by a midwife, came to the clinic with a temperature of 105° F. The uterus had already undergone involution and was found at the operation, together with ovaries and tubes, to be practically normal. The sepsis, therefore, seemed to have taken place without involving the tubes and ovaries. He had seen two other similar cases of abscess which had formed during the puerperium independently of the tubes and ovaries. In one the abscess was high above the uterus in the folds of the omentum; the pus poured out and infected the peritoneal cavity, causing death.

Carcinoma of Cervix; Multilocular Cyst of Ovary.—DR. H. N. VINEBERG presented what he said was a rather rare combination of specimens from the same patient—large cancer limited to the cervix uteri and multilocular ovarian non-malignant cyst. The woman had had no signs of cachexia. The operation, an abdominal hysterectomy, was difficult, there

was considerable hemorrhage, and fully two feet of the intestine was laid bare of omentum.

Spoon Depression of Fœtal Skull.—DR. SIMON MARX said the specimen which he was about to present was somewhat rare in this country, although common enough in Germany. It was a part of the fœtal skull, including one parietal bone, showing so-called spoon depression which had occurred during labor. The woman had been in labor twelve or fourteen hours before he saw her. The head was above the brim and the os fully dilated; the pelvis was small and flat, its true conjugate being 3.75 inches. He performed version and without trouble extracted the baby. The heart was beating slowly, forty a minute, but the child could not be revived. The depression was in the left parietal bone, which had rested on the brim of the pelvis, and beneath was some old blood.

Discussion on the cases being in order, Dr. Marx said concerning Dr. Tull's that in one instance two surgeons had made a diagnosis of appendicitis, but operation revealed retro-peritoneal abscess.

DR. VINEBERG was disposed to think from some observations and studies which he had been making that these abscesses were due to small hæmatomata occurring during labor. He believed that such hæmatomata occurred oftener than stated in statistics, once in 1,500 or 3,000 cases of confinement, and while some of them became absorbed, others suppurated and formed abscesses, which might be subperitoneal, extraperitoneal, or involve other tissues.

DR. R. W. MURRAY thought that when a septic condition was met with during the puerperal state one should make examination by rectum before operating. In this way many obscure cases could be made clear.

DR. MALCOLM MCLEAN remarked that the inference was not to be drawn from Dr. Harris' case that where one fœtus of twins became atrophied and compressed it was likely to cause death of the other. As a rule the healthy fœtus remained healthy, went on to develop, and was born normally at term.

DR. GALLANT, referring to Dr. Vineberg's specimens, said that advanced carcinoma of the cervix or of other pelvic tissues without general cachexia was frequently seen at the Cancer Hospital.

DR. E. A. TUCKER said he had seen three or four cases of so-called spoon depression of the fœtal skull and all the children lived.

Alexander's Operation and Hernia.—The Chairman, DR. PRYOR, asked for statistics bearing on hernia following Alexander's operation. At a recent meeting Dr. Ill, of Newark, had stated that he had seen fourteen cases of hernia after this method of lifting the uterus, and had confirmed his statement by letter in answer to one from Dr. Pryor. Another gentleman had told him he had seen nine cases, and to these he could add three more, making a total of twenty-six.

DR. JOSEPH BRETTEAUER, the gentleman who had seen the nine cases, stated that he was himself a believer in the Alexander operation under proper conditions and when carried out, as it could be, without suppuration and with primary union. He knew of no reason why hernia should occur under such circumstances, but believed that it was due to suppuration.

THE CHAIRMAN mentioned the fact that there were two methods of performing the operation, one consisting in opening the canal, the other in making an incision at the insertion of the ligaments at the spine of the pubes and searching for them there, without entering the canal at all. It would be interesting to know what proportion of the cases of hernia had occurred in each class.

Three Warnings of Interest to Obstetricians.—DR. J. MILTON MABBOTT read the paper. The warnings referred to were for obstetricians to convey to mothers. They were extremely simple in character,

yet they were important to life. 1. Warn women not to neglect any kind of hemorrhage during pregnancy. Dr. Mabbott had seen two cases of death due to hemorrhage which might have been prevented had the patients notified the physician earlier. 2. Warn women during confinement to keep the hands away from the vulva and vagina. It was difficult to say how many cases of infection had arisen from neglect of this precaution, but he knew of one case of fatal pyæmia in a colored woman which could be accounted for in no other way than by the fact that she had examined herself after delivery to learn in what way the genitals differed from their previous state. 3. Warn nursing women never to fall asleep with the infant at the breast. It was not sufficient simply to have the baby sleep in a separate bed. The writer had had two cases of death of the infant from suffocation by falling between the mother's breasts while she was asleep. A separate bed would prevent overlying, but it would not prevent this accident.

DR. E. A. TUCKER thought the three warnings were important, but he was not sure that they would be observed if given. Carelessness was at the bottom of the trouble. With regard to hemorrhage, it would seem that intuition would tell the pregnant woman of its danger and lead her to consult a physician, yet that this was not so was illustrated by the case of a woman who had been a nurse before her marriage and died of recurrent hemorrhage due to placenta prævia, because of failure to consult a physician early. To prevent overlying, the child should sleep in a separate bed. It had been argued that it would thrive better if it were warmed by the animal heat of the mother, but Dr. Tucker doubted this.

DR. E. E. TULL thought the child should not nurse longer than ten minutes. This limit of time would render suffocation from falling between the mother's breasts less liable to occur and would also tend to prevent sore nipple.

Beer and Overlying.—DR. L. F. BISHOP said this subject was discussed very often in foreign periodicals, but had not been much agitated in this country, yet the accident was not infrequent. In London a thousand healthy children lost their lives in this manner every year. He had once been called to a case in which the mother and father had been drinking beer on Saturday night, and on retiring they had put the child between them. Next morning it was found dead. Only a little liquor was sufficient to prevent the natural reflex movements during sleep which would warn the mother of lying on her child. It was important to know that the face of the child was not necessarily livid and swollen, but often presented a natural appearance after overlying. Our conclusion as to the cause of death must often rest to a great extent on the history of the occurrence. Dr. Bishop also related a case showing carelessness on the part of the mother about consulting the physician for hemorrhage, which in this instance was due to retention of a dead fœtus.

Three Warnings and Many Others.—DR. P. A. HARRIS remarked that there were these three warnings and many others, and the only question was whether they would be followed if given. Regarding danger of infection from the mother's hands, he thought a similar warning might well be given midwives. He recalled a paper on the habit of negro midwives in a Southern city. It was stated that they never made a vaginal examination, and although the surroundings of these people were very filthy, puerperal fever was very rare.

DR. BROOKS H. WELLS said the remark made by the last speaker applied equally to certain Indian squaws: they never allowed the finger to go near the vagina or vulva during labor, and they were wonderfully exempt from puerperal fever.

Intentional Overlying.—DR. MARX said that in institutions young unmarried mothers were sometimes guilty of deliberate overlying, for in their condition they stood little chance in a great city. One source of infection among the ignorant classes was early approach of the husband after labor.

THE CHAIRMAN stated that it was undoubtedly true that many puerperal women were in the habit of examining themselves to see how they were getting along. The custom mentioned as presumably peculiar to negroes in the South existed also to some extent among women of the highest classes, who preferred to be attended by a midwife who made no examinations than by a physician, however skilled he might be, who was in the habit of making repeated examinations. Pure-blooded negroes were said to be less susceptible to inflammation than white people, which might in part account for their freedom from puerperal fever.

DR. MABBOTT thought that those who should neglect to give these warnings because of belief that through carelessness the women would not heed them, themselves showed a careless mind which ought first to be corrected. Regarding midwives, he would, as stated in a former paper, have them act the part only of nurse, and allow nobody to make a vaginal examination except a physician.

Clinical Department.

SKIN-GRAFTING AND CORN-HUSK PROTECTIVE DRESSING.

By FRANK OVERTON, M.D.,

PATCHOGUE, N. Y.,
LATE HOUSE SURGEON AT CITY HOSPITAL, NEW YORK.

THE following case gives a good comparison between Reverdin's method of skin-grafting and the method of grafting from a blister as described by Dr. Lusk in the MEDICAL RECORD, December 7, 1895.

The patient was a very nervous girl, seventeen years of age. Just above the left angle of the jaw there was an ulcer two inches in diameter, the result of curetting a suppurating wen on January 3, 1896. On January 10th the granulations looked perfectly healthy. A cantharides blister was applied to her arm, and two pieces of the raised epithelium, each of the size of the thumb nail, were cut off and applied to the anterior part of the wound. The Lister protective being damaged, an iodoform gauze dressing was applied directly to the wound. On the 16th this was removed and with it one of the grafts. Another area the size of the first was blistered and the epidermis applied just posterior to the first grafts. In place of the Lister protective, thin corn husks were used to cover the grafts, and an iodoform gauze dressing was applied as usual. On the 24th the area of the first graft seemed to be covered with epithelium, but the cells were too thin and too transparent for me to be sure of their presence. The posterior area seemed slightly shiny in appearance, but it was doubtful if it was due to live epithelium. On the same day the lower posterior part of the wound was grafted according to Reverdin's method with four or five pieces of skin taken from the mother.

On January 29th both areas of the blister grafts looked healthy, but three of the grafts taken from the mother looked as healthy and vigorous as those from the blister, although the latter had been growing three times as long as the former.

On February 1st all the areas of grafting looked healthy and had nearly covered the ulcer, but those from the mother were growing far more rapidly than

those from the blister. The conditions were the same for all the grafts. They were applied directly to the granulations and there was no curettage or other preparation of the ulcer. Judging from this one case, grafts raised by a cantharides blister will grow, but they have poor vitality as compared with grafts cut from normal skin.

Very thin corn husks were selected to be used in place of the Lister protective. They were sterilized in 1 to 40 carbolic acid. Just before using they were washed in plain sterilized water and oiled with sterilized oil. They proved satisfactory in every way. They did not adhere to the granulations, as it was feared they would from their porous character. Their strength is amply sufficient to stand as rough usage as the wound is likely to be subjected to by the dressing. They have the great advantage that if they do adhere they can be removed by tearing off successive strips as narrow as one-sixteenth inch each. A narrow strip can be torn down the middle of a piece of dressing in order to examine the parts beneath without disturbing the whole dressing.

MARGINAL PLACENTA PRÆVIA — ANTEPARTUM HEMORRHAGE, WHICH DIMINISHED IN INTENSITY AS PREGNANCY ADVANCED—FATTY DEGENERATION OF DEPENDENT PART OF PLACENTA—SPONTANEOUS DELIVERY PREMATURE—SHOULDER PRESENTATION.

By J. F. SHELLEY, M.D.,

ELMDALE, KAN.

PATIENT aged thirty-eight, well built and well nourished, called at my office February 18, 1895, to consult me about hemorrhages from the uterus. She stated she had menstruated regularly until September, 1894, when she menstruated the last time until the latter part of January, 1895. She described a sudden hemorrhage at this time more profuse than menstrual flow but lasting for only a short time.

Family history as to any specific or tuberculous trouble was entirely negative, but there was some tendency to rheumatism in family, otherwise nothing of note. Previous history, always in fairly good health. Had had six children, all natural birth except at the third delivery when there was shoulder presentation.

The hemorrhage of the end of January was repeated about the middle of February with the same characteristics, only the flow was more profuse, and the repetition of these singular phenomena brought her to me for advice.

Examination revealed nothing out of the ordinary condition of the pregnant uterus at this stage, and the pelvis was roomy and seemingly had no irregularities. Patient was feeling well at time of examination.

A diagnosis of probable placenta prævia was made and instructions were given for procedure in case of subsequent hemorrhages, and frequent reports were requested. These reports were made at irregular intervals and they were to the effect that the hemorrhages were rapidly diminishing in frequency and intensity. On April 27th they brought me some masses of tissue which had undergone fatty degeneration. Such matter, they explained, had frequently been expelled from the uterus for some six weeks immediately preceding this time. At times, in fact generally, the expulsion was accompanied with some bearing down and pain. The largest mass they brought me weighed about ten grams. The expulsion of the matter was also sometimes accompanied by slight loss of blood.

May 11th, I was called to find the woman in labor.

The os uteri on my arrival was dilated sufficiently to admit two fingers. The membranes could be felt intact, but a mass of detritus with a semi-granular feel, having no special odor, could also be detected. Part of this lay loose in the lower section of the uterus, but could be felt in mass to the left of the median line. The first thought was that I had septic decomposition of some structure, and yet movement of the foetus made life certain, though I could elicit no foetal heart sound. The granular mass to the left was unlike the placenta, but with previous history and present condition in view I concluded it must be that body, and in fear of hemorrhage I watched the case closely while I sent for an assistant in the person of Dr. Johnson. To my satisfaction hemorrhage did not appear. As the os dilated the child was felt high up in the uterus, and when examination, which was very painful, could be sufficiently made it revealed a shoulder presentation.

Dr. Johnson having arrived, it was determined to anæsthetize and deliver. Membranes were ruptured, podalic version affected, and a two and one-half pound babe delivered, asphyxiated but later resuscitated. Hemorrhage was not sufficient to attract especial attention. The placenta was delivered and showed circumscribed fatty degeneration of one side.

The uterus was not irrigated after delivery, and yet no rise of temperature above normal occurred at any time after delivery. The mother made speedy recovery and the child did well from the start.

The case is of special interest in again illustrating the tendency of placenta prævia to cause shoulder or transverse presentations, and in the means seemingly used by nature against hemorrhage and obstructed labor from placenta prævia. The fatty degeneration was probably instrumental in producing premature labor by presenting a foreign body to cause irritation of the os uteri, and the wonder would seem to be that it had not produced it sooner.

ABSCESS OF THE LUNG TREATED BY INCISION AND DRAINAGE.

By G. K. SIMS, M.D.,

DEPARTMENT OF SURGERY AND GENITO-URINARY DISEASES, FREE DISPENSARY,
UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

ABOUT the middle of October, 1895, L. L.—, aged twenty-five, received a pistol wound of the chest on the right side between the second and third ribs, in the axillary line. It bled freely externally and there was some expectoration of blood. The wound was cleansed and dressed antiseptically, and a hypodermic injection of morphine and atropine was given. The expectoration of blood-stained mucus continued for about a week, followed by a cough and temperature of 101° to 102° F. for two weeks longer, then gradually declined. The external wound healed and he seemed nearly well, when the temperature began to rise again with symptoms of secondary pneumonia. In the course of about two weeks he began to have severe sweats and other symptoms of pyæmic intoxication. Later on the subcutaneous tissues over that whole side became very cedematous and physical signs showed consolidation of the whole right lung. Repeated aspirations failed to get any pus, but as he was rapidly growing worse it was decided to make an incision and find the abscess. This incision was made between the third and fourth ribs, and soon after piercing the pleura there was a gush of very offensive pus, about two quarts being discharged. The cavity was washed out with sterilized water, a drainage tube was inserted, and the wound was dressed with iodoform gauze and absorbent cotton. Though very weak, the patient rallied from the operation very well and began to

improve; the fever, cough, and sweats declined and the appetite returned. The cavity was washed out daily with a 1 to 5,000 bichloride solution followed by sterilized water. The cavity gradually became smaller and the pus diminished until now there is a very small cavity and he is nearly well. Some peculiar points in this case are the long time before abscess formation, the absence of rigors, profuse sweats, the pitting œdema of the side, and intense nausea and vomiting. The medical treatment was mainly symptomatic and sustaining—iron, quinine, strychnine, whiskey, and concentrated liquid food—buttermilk being the only thing he could relish.

Surgery of the lungs is yet to be developed. Possibly the cure of pulmonary tuberculosis will be achieved in this direction in the near future, unless some more potent medical remedy is found.

621 EAST FRANKLIN STREET.

FATALITY OF MEASLES POSSIBLY DUE TO DIPHTHERIA.

By CARL D. S. FRÜH, M.D.,

PHILADELPHIA.

THE writer was consulted by the mother of a boy five years of age for a remedy to ease a persistent cough of some days' standing. She described it as a barking cough.

The following day, being called to see the child, I found it had a typical attack of measles, some swelling of the glands of the neck, a fever of 101° F., and the peculiar cough described by the mother.

The throat was reddened but no patches indicating diphtheritic membrane were observable, nor was there any offensive odor of the breath. As the fever continued for several days after the eruption, a culture was made and referred to the bacteriological department of the Philadelphia Board of Health.

His case proved to be one of true diphtheria.

Antitoxin was injected into the buttocks (after freezing with chloride of ethyl) at intervals of twelve hours. Before the second injection was introduced a marked change had taken place in the child, the cough having decidedly lessened in intensity and the temperature becoming normal.

This case has impressed me greatly as one of many that possibly occur during the prevalence of measles and diphtheria.

IMPERSONATION OF A WOMAN.

By V. S. BIRD, M.D.,

TAMPA, FLA.

THE following are the details of the most remarkable instance of passive pederasty of which I have any knowledge.

For nine years before his death an individual known as "Big Six" was notoriously prominent in this part of the State as a prostitute. During a part of 1894 he lived in this town. His nickname was suggested by his unusual size and strength, especially as he was supposed to be a woman. During these nine years his sex was never suspected. He would never submit to an examination. There is in this town a man who was formally married to him, living with him as man with wife for six months. I understand from an intimate acquaintance of this man that he says positively that "Big Six" was a woman.

After a short illness it was remarked that his beard was noticeable for a woman, but no deduction was drawn from it.

In regard to the illness preceding his death, which occurred about December 20, 1894, I can learn but

little. Dr. J. F. Cronin with another physician visited him during the day before his death, and has kindly given me the following facts:

At the time of their visit he was unconscious and apparently moribund. While the physicians were in the room several fecal discharges occurred, the odor of which was so disagreeable that they retired as soon as possible. He was much emaciated and was said to have had a diarrhoea during a month or more before his death. Two days before his death his sex was discovered. Dr. Cronin examined him, and says that the penis, testicles, and scrotum were well developed. He mentions no anomaly, which he undoubtedly would have done if any had been noticed. I have no record of an autopsy. The remains of a rubber appliance were found in his room, which is supposed to have been used by him while personating a prostitute.

The case is interesting to me because it is the only one of the kind I know of.

THE ANTISEPTIC VAGINAL DOUCHE AFTER DELIVERY.

By W. E. McCONVILLE, M.D.,

DEMONSTRATOR OF ANATOMY, UNIVERSITY OF VIRGINIA.

THE antiseptic vaginal douche after delivery has important physiological actions and is as necessary as many other duties performed by the accoucheur. It is often omitted through preference, as there are those who claim it is unnecessary and some go so far as to say it is harmful.

It seems, however, that with our present knowledge of the condition of the blood and tissues during pregnancy and their condition after delivery, combined with our knowledge of pathological processes, septic infection and its prevention, it is necessary for the safety and comfort of the patient regardless of how carefully the attendants and patient are cleansed before and during labor, for it is well known how easily a little septic material can gain access to the genitals and under favorable conditions cause serious and perhaps fatal trouble. It has been shown that the vaginal and cervical secretions are normally antagonistic to the growth of pathological germs, but after delivery the tissues generally have their powers of resistance diminished.

The condition of the tissues during pregnancy is too well known to require discussion, and it is only necessary to state that it is one of great hypertrophy. The blood shows a relative decrease in corpuscular elements with a corresponding relative increase in fluids and fibrin factors; thus the powers of resistance of both blood and tissues to infection are lessened.

After delivery the tissues naturally endeavor to resume their normal condition and to accomplish this undergo rapid oxidation, the products of which must be eliminated. To accomplish this open the veins and remove these products as rapidly as possible, but if the coagula and other debris are left to be even partially disposed of by the overtaxed tissues and vascular system, even if they be aseptic, their absorption would increase fibrin factors and might give rise to fermentation fever or thrombosis and embolism. The debris also offers suitable conditions for the location and propagation of pathogenic bacteria.

The douche removes the effete products, thus lessening the work of the impoverished blood, and it also destroys any bacteria that may have previously been present or have been accidentally introduced into the vagina during labor, thus directly lessening in two ways the chances of infection. If used sufficiently hot, as it should be, it also stimulates the blood-vessels and uterus to contract, in this way indirectly lessening

the danger of infection, the number and severity of the after-pains, and the chances of secondary post-partum hemorrhage. The heat also acts as a sedative on the peripheral nerve terminals and by its local and reflex action it produces a sense of comfort, and the patient will often drop to sleep and obtain a much-needed rest.

To summarize, then, the benefits of a douche are a rapid and pleasant convalescence and, as nearly as can be obtained in obstetrical practice, the conditions necessary for the primary repair of the tissues, which are asepsis, hæmostasis, and rest.

A LARGE DOSE OF MORPHINE NOT FOLLOWED BY SYMPTOMS OF POISONING.

By HERMANN BOEKER, M.D.,

NEW YORK.

Miss D—, nineteen years of age, Irish, presented herself at my office in the evening of February 11, 1896, for treatment, showing the well-pronounced symptoms of acute catarrhal jaundice. I ordered rest in bed, a regulated diet, one dozen quarter-grain calomel tablet triturates, vichy water, and a compound rhubarb, soda, gentian, and nux-vomica mixture.

According to my directions she was to take three tablets immediately after receiving them from the drug store and one every hour following until the bowels had moved, after which she was to take the rhubarb-and-soda mixture in one-half tablespoonful doses. The next morning at 9 A.M. the druggist who dispensed the tablets and medicine rushed into my office and informed me that he had discovered that he had given quarter-grain morphine tablets instead of quarter-grain calomel tablets. I hurried to the patient's home and was somewhat surprised to see her opening the door. Upon inquiry she told me that she had taken seven of those tablets according to my ordination, but that "they had not moved her a bit." She had been quite restless all night and had imbibed almost the entire contents of one siphon of vichy water. I emptied her stomach at once by an emetic, by which she lost about one and a half pints of an almost clear alkaline fluid, and then administered a few ounces of a permanganate-of-potash solution, which was also vomited again after a few minutes, perfectly decolorized.

As the patient did not show the slightest effect from the drug, after a while I made her take real calomel tablets in quarter-grain doses, hoping to start the secretions and peristalsis of the intestinal tract, as I had intended originally. After seven hours, however, the calomel did not show the slightest effect and so I ordered a rectal injection of soapsuds and turpentine, with the desired result. The girl passed a large chamberful of fæces, the latter one-third of which had the clay-colored appearance of jaundiced patients. After she had taken a few more calomel tablets, I put the patient on the above-mentioned mixture of soda, rhubarb, gentian, nux vomica, etc., under the influence of which she felt quite comfortable.

During my call at her house the next morning she assured me that "she never felt better in her life" and her appearance seemed to corroborate her statement, although the integument and conjunctivæ were jaundiced. She had not the remotest idea of the danger in which she had been, as I had told her that her druggist had given her tablets which had just the opposite effect from the one I desired and that for this reason I desired her to take the emetic.

In order to make sure that the tablets in question were really quarter-grain morphine tablets, I took the remaining five back to the druggist, a man of intelligence and conscientiousness, who convinced himself

soon by his taste and some chemical reactions that his mistake might have easily proven fatal.

The fortunate course of this accident, however, seems to indicate again that in acute catarrhal jaundice the secretions of the glands along the alimentary tract are almost at a standstill, that the ability of absorption through the stomach is greatly impaired, especially in the presence of a larger amount of an alkaline fluid.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE LECTURE SEASON—LETTSONIAN, MILROY, GOULSTONIAN, CROONIAN LECTURES—MEDICO-CHIRURGICAL SOCIETY—DINNER OF THE MEDICAL SOCIETY—FOTHERGILLIAN PRIZE—TUBERCULOSIS REPORT—SIR R. REYNOLDS—THE LATE T. W. THOMPSON.

LONDON, March 13, 1896.

WE are in the midst of the lecture season. Mr. Cheyne has given the Lettsonian lectures before the Medical Society, which he devoted to the "Objects and Limits of Operations for Cancer." Where operation is in his view advisable, he holds that it should be extensive; if possible he would remove all diseased tissue. On the other hand when it is impossible to eradicate the disease, and in cases when early return is almost certain and experience shows that the patient would be no better off than if left to the ordinary course of the disease, he is disposed so to leave him and not expose him to the additional risk of operation.

The Milroy lectures at the College of Physicians have also been delivered. Dr. Seaton was the lecturer this year and his subject "The Value of Isolation and its Difficulties." He treated it with the hand of a master, sketching the beginnings of isolation in this country from a modern point of view and then passing on to the problems of the present moment. He dwelt at great length on small-pox, much greater than it deserved if we look only at its death rate compared with those of other zymotic diseases, but none too great regarded from the point of its importance as a proof of the value of such preventive measures as are at the present day practicable. This was insisted on as the point of view for our sanitary administration. Still the lecturer suggested that the behavior of variola under different conditions which have been closely studied may not only throw light on epidemiological questions but enable us to extend preventive treatment to other diseases.

The Goulstonian lectures are not yet concluded. They were entrusted to Dr. Patrick Manson, who is devoting them to the malaria germ, respecting which his authority is well known.

The Croonian lecture of the Royal Society was delivered on Thursday by Dr. Waller, lecturer on physiology at St. Mary's Hospital, who devoted it to observations on isolated nerve. He described the method of testing the effects of substances of various kinds on nerve and then turned to anæsthetics. He found carbon dioxide more anæsthetic and less toxic to isolated nerve than either ether or chloroform, which last was the most toxic of the three. Ether was more anæsthetic than toxic, while chloroform was just the reverse.

The new president of the Royal Medico-Chirurgical Society, Dr. W. H. Dickinson, began his work on Tuesday with a suitable acknowledgment of the honor conferred upon him and an assurance that he would grudge no time or labor in promoting the welfare of the society. He gave no formal address,

but made the suggestion that the society should put itself into the position of a sort of court of appeal on medical science. Good work had been done by the committees appointed from time to time and he thought that it would be well if such committees were permanent, though of course the members might change.

The society then settled down to ordinary business. Mr. Mayo Robson read a paper on excision of a portion of the liver for tumor of the gall bladder. The tumor was removed with a portion of the liver. The patient is now quite well.

Mr. Ballance related a case of cyst of the brain, which was evacuated. Subsequently a tumor was removed weighing three ounces, and the patient left the hospital apparently well, but was readmitted three months later moribund. On post-mortem examination an enormous tumor was found in the left hemisphere.

The annual dinner of the Medical Society took place on Saturday. The president, Sir Crichton Browne, was in the chair and in an eloquent speech dwelt on the work of Prof. Victor Horsley on the thyroid gland, and then presented that gentleman with the Fothergillian medal of the society. In his reply Mr. Horsley said he had only completed the investigations of Schiff, Ord, Gall, and Murray by supplying experimental proof of the truth of their clinical deductions.

On Monday at the ordinary meeting of the same society Mr. Horsley gave a lecture on the "Physiology and Pathology of the Thyroid Gland," in which he gave a concise account of our knowledge of the subject from the time when Schiff first directed attention to the importance of the gland down to the present day. The lecture, which was illustrated by photographs on the screen, was listened to with great attention and a hearty vote of thanks was accorded to Mr. Horsley.

The report of the royal commission on tuberculosis forms a heavy blue book, but one that will doubtless play an important part. Witnesses were called whose experience gives special value to their opinions and the researches carried out by the assistant commissioners go far to settle certain important questions. It is obvious that our food supply is a source of great danger and that legislation is urgently called for to prevent the sale of tuberculous meat and milk, the more so as the sterilization of meat or milk in the process of cooking is shown to be unreliable. The danger of smearing the surface of joints by the butcher's knife or hands with bacilli from another part of the carcase is an ever present one; the presence of tuberculous glands in some joints is another source of infection. Considering these points, the fact brought out by the experimental inquiry that the bacilli, though destroyed on the surface of the joint by cooking, may resist the heat in the interior is of the highest importance. Nothing short of a vigorous attempt to stamp out tuberculous cattle seems to promise safety, and as the breeders and dealers cannot bear the whole loss that would be incurred, some scheme of compensation is called for. If the people once realize the danger to which they are exposed, they will scarcely grudge the expense of reducing the risk to a minimum and possibly removing it altogether.

The presidency of the Royal College of Physicians will be vacant on the 30th inst. and Sir Russell Reynolds declines to be re-elected. He has given great satisfaction and many would have liked to see him accept a second term. But he is well entitled to some repose.

The funeral of Mr. Thomas William Thompson, one of the inspectors of the Local Government Board,

took place on Saturday last and was attended by colleagues and sympathetic friends. He died on the 25th ult. quite unexpectedly, while engaged in Wales on an important sanitary survey. Mr. Thompson's intellect was of a very high order and the sanitary service of the country has lost in him one of its most able members. His reports to the Local Government Board reached the highest standard of the medical department, which has always availed itself of the best scientific work. He wrote the article on the "Natural History of Infectious Diseases" in Stevenson and Murphy's "encyclopedic" work on hygiene, and that is a piece of work of which any one might be proud. Mr. Thompson's experience was exceptionally wide before he entered the service of the Local Government Board. He had been a general practitioner and had previously had the training of both civil and military hospitals. Afterward he became medical officer of health for the Middlesex and Hertfordshire combined districts, and it was probably his excellent work in this capacity that attracted the attention of the central board and so secured his services for the country in the wider sphere. He seems to have been highly esteemed and even loved in all the positions he filled in his useful and full, if too short, life. He was only forty-four years of age at his death.

OUR PARIS LETTER.

(From our Special Correspondent.)

PHOTOGRAPHY OF A FŒTUS IN UTERO BY THE "X" RAYS OF ROENTGEN—INTERESTING MEETING OF THE ACADEMY OF MEDICINE.

PARIS, March 15, 1896.

The Rays of Roentgen.—The rays of Roentgen have made such a stir in the world that an illustrated newspaper is representing a husband conducting his wife to the doctor in order to have the sex of the expected child determined by means of photography through the abdominal walls. The author of this intended absurd joke little dreamed that there was some foundation of truth in it after all, as we shall now see.

The last meeting of the Academy of Medicine, held on the 10th inst., was particularly interesting, the more so as this very question of intrauterine photography was discussed. Professor Pinard, the eminent director of the lying-in hospital Baudeloque, read a communication in the names of his associates Varnier and Chappuis, from which it results that it is possible to photograph by the "X" rays a fœtus in a uterus which has been kept for a long time in alcohol.

The piece used in the experiment was a gravid uterus of three and one-half months, extirpated in 1894 from the cadaver of a woman who had died of pernicious *anæmia*. It measured six centimetres, about two and one-quarter inches, in its greatest general thickness, which the "X" rays traversed. The photograph presented four capital points: 1, the silhouette of the body of the uterus with its annexes; 2, the muscular wall; 3, light, in the dark frame, the uterine cavity; 4th, the silhouette of the fœtus glued to the uterine wall in the superior right-hand portion of the cavity.

It should not be forgotten, moreover, that the "X" rays went through not only the double uterine walls of a gravid uterus hardened by alcohol, but also through the bladder, placenta, rectum, etc.

There is, then, reason to hope that the uterine cavity, fresh and still full of blood, may be as easily traversed as the uterine walls hardened and densified by alcohol, and that the "X" rays may eventually realize all that is demanded of them by medicine, surgery, and obstetrics alike.

Appendicitis, a Designation to Embrace all Affections of a Typhlitic or Perityphlitic Nature.—Pro-

fessor Dieulafoy at the same meeting presented a paper demonstrating that the pathological notion of typhlitis and perityphlitis ought to be replaced by that of appendicitis, which should enter into medical nomenclature as an unique expression for all affections of the ileo-cæcal region and of typhlitic nature. There exist at times lesions of the cæcum—for instance, a tuberculous ulceration or an ulceration of other origin—but nothing can supersede pathologically the established fact that stercoral typhlitis is appendicitis and appendicitis alone is the cause. The pathogeny of appendicitis is identical with that of peritonitis consecutive to ligation of a loop of intestine, and, as Klecki has shown, due to the virulence of the microbes contained in the normal intestine, and which becomes much intensified in the loop or fold obliterated. It must then be admitted that in all cases of appendicitis there is obliteration of the appendicular canal. The professor, in closing his paper, insisted upon the necessity of substituting in the future for medical treatment surgical intervention as early as possible.

Professional Contagion of Cancer.—M. Guérmonprez called the attention of the academy to two cases that seemed to prove the possibility of the transmission of cancer by hetero-inoculation. The first was that of a physician who had a small wart in the temporal region. In consequence of scratchings on and about the wart, it began to ulcerate and became cancerous, as was demonstrated by histological examination. It is quite reasonable to suppose, in this case, that the physician, who frequently operated upon cancerous cases and who was himself entirely free from any hereditary taint, inoculated himself with the cancerous germs. The second case was personal to the speaker. After a slight subungual trauma in the course of an operation for cancer of the tongue, M. Guérmonprez had a small papilloma, which was destroyed by caustics. Although no histological examination was made, it was probably of cancerous nature.

The Prophylaxis of Malaria.—According to Professor Laborde the preventive action of quinine can no longer be doubted, as can be that of other similar substances, vegetable or mineral, such as curare, strychnine, arsenic, etc. He adds that if the preventive action of quinine has been contested by some authors, it is because that substance had been administered in too small doses (five grains generally) or too far apart, and insists upon advantages offered by the muriate of quinine in preference to the sulphate usually employed. It should be borne in mind that the word dose in France refers to the quantity given in twenty-four hours or to the whole quantity given to attain any special therapeutic result. The military statistics have proven effectually that quinine, even if given daily in small doses, is powerless to prevent an access of malarial fever. Even the employment of quinine at proper times and in doses sufficiently high gives but a deceptive security to doctor and patient alike, if other prophylactic and hygienic precautions are not observed at the same time, and notably that of avoiding as much as possible malarious regions in general and shortening to the utmost the stay of people or troops in them.

In the army medical service the muriate of quinine is exhibited in place of the sulphate, as the former is more soluble.

Treatment of Certain Tumors of the Mouth by Chlorate of Potash.—M. Dumontpallier presented three cases of tumors of the gums and tongue, tumors of doubtful growth and appearance as regards malignancy, in which the chlorate of potash long continued by local application as well as by the mouth in doses of four grams or a drachm a day, had a most happy effect upon these bucco-lingual affections. This treat-

ment ought to be continued for about three months and should only be begun after assurance of the functional regularity of the kidneys, which, with the salivary glands, are the principal organs of elimination of chlorate of potash.

M. Reclus said in conclusion that he had experimented with chlorate of potash for several years past and had obtained good results in cutaneous cancrs; on the contrary, the ameliorations obtained in cases of cancr of mucous membranes were always followed by relapse.

The academy then adjourned.

AMATEUR SURGERY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: As a young man with surgical aspirations I am distressed by a letter of Dr. Robert Abbe published in your issue of March 21st instant.

I am bewildered by the rhetoric, but that concerns me only as a matter of taste.

Dr. Delavan has to see what he thinks of himself with Littré's "derogative" definition of amateur which Dr. Abbe has shown he had in his mind and has brought to his attention.

My thirst for fame and incidentally my substantial interests are prompting me to hope for "grave operations" in my career as a surgeon, but this plain tale has put me down. "No man," quoth he, "of mediocre talent or training should attempt operations involving great risk to human life and obviously beyond his depth."

This was said to Dr. Delavan and not to me, so I do not resent it, but am thrown into a state of great concern by questions of mediocrity of talent. How shall I decide if these things be too great for me?

May I ask Dr. Abbe how he reached a state of assurance in similar condition of incipency and finally qualified for his first grave operation?

I had hoped for the experience of a grave operation and the price of it, but the ethical argument that I now hold with myself puts this in abeyance until my right is established or my undoing fixed by disabling mediocrity.

I overheard an operating-room full of surgeons some years since discuss the rash act of a young Boston physician who committed suicide because of his conviction that he had omitted some possible remedy in treatment of a patient who had died.

Dr. Abbe's whilom preceptor remarked jocosely that if such a precedent were established there would be a rapid thinning of the ranks of the profession. "The squirming" of mediocre persons who listened to Dr. Abbe's recent paper and the congratulations of non-mediocre persons offered on the occasion show that there is some touch by which a man knows his classification. Now, this may be the "training" of which the letter speaks, and if this be so and it is not a divine afflatus, I shall sue my late preceptor for malpractice.

I hope I do not squirm when papers are read, as that seems an indication of mediocrity that is not modest but does grave operations. I may, after I have performed the functions unworthily, squirm and have a conviction while squirming, but that is all too late.

I must insist upon some of the elect giving me the crucial test that I may know how, with no chance of hospital service unless I am of a college faculty and little chance of private practice because the hospitals and dispensaries treat the middle class gratuitously and the rich will none of me for my lack of hospital experience, I can bear the consciousness of mental endowment, do grave operations, and reap the sheaves.

DISCOURAGED.

March 22, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 28, 1896:

	Cases.	Deaths.
Tuberculosis.....	247	128
Typhoid fever.....	8	3
Scarlet fever.....	123	8
Cerebro-spinal meningitis.....	3	8
Measles.....	573	35
Diphtheria.....	228	31
Small-pox.....	0	0

Amenorrhœa.—The general causes are: Exhausted state of the system due to phthisis, anæmia, malaria, syphilis, or nervous prostration; poor food, bad hygiene, or overwork; mental emotion, as joy, sorrow, or fear of pregnancy; physical shock, obesity, plethora, change of residence. The local causes are: Occlusion of the genital canal, the result of traumatism during labor or adhesions resulting from operative procedures or caustic applications; superinvolution of the uterus following labor; the second stage of chronic areolar hyperplasia; sudden suppression from cold; removal of the uterus or its appendages.—**ASHTON.**

Test for Sugar.—When percentage is very small and there is a doubt that the reduction of Fehling's solution has resulted from uric acid or from creatinin, filter the urine first three times through animal charcoal. If Pavy's ammoniated cupric test is used instead of Fehling's, a larger quantity must be employed and the urine added to the depth of two inches in the tube. Boil the upper portion of the mixture, which loses its blue color if sugar be present.—**ROBERTS.**

Non-Tuberculous Ulcers in Tuberculous Patients.—Claude reports two cases of ulcerous condition of the tongue in consumptives, neither of which were produced directly by the Koch bacillus. One was a granulated process and the other was caused by secondary micro-organisms in the mouth of a cachectic.—*Gaz. Méd. de Paris*, February 1st.

Lectures of Benjamin Rush.—Rush Medical College, Chicago, has recently come into possession of a volume of notes in the handwriting of a medical student who attended the lectures of Dr. Benjamin Rush in 1784. The volume, quite antique and dilapidated in appearance, contains two hundred and seventy-eight pages written in a clear hand and presents a brief outline of the symptoms of disease with the modes of treatment as conducted by the distinguished lecturer. Scribbled on several of the pages are opinions, quotations, and considerable matter irrelevant to the subjects of the lectures. Advice to students as regards character, behavior, dignity, and avoidance of quackery, seems to have been as needful a century ago as now. A lecture is devoted to this subject. This interesting volume was for many years early in the century the property of Dr. John K. Briggs, of Dedham, Mass., and was presented to Rush Medical College through Charles C. Hyde, Esq., by Dr. F. M. Briggs, of Boston.—*Journal of the American Medical Association.*

Doctors' Dress.—L. R. C. P., writing to the *Medical Times and Gazette*, thinks doctors should have a uniform by which they would be known in public. The *Utica Daily Press*, commenting upon the stand recently taken by the MEDICAL RECORD, agrees with us that physicians have no general desire to label themselves by any badge or uniform.

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Original Lectures.

MIDDLETON-GOLDSMITH LECTURES¹—ON THE RELATIONSHIP BETWEEN INFLAMMATION AND SUNDRY FORMS OF FIBROSIS.

By J. GEORGE ADAMI, M.A., M.D. CAMB.,

PROFESSOR OF PATHOLOGY, M'GILL UNIVERSITY, MONTREAL.

Lecture II.—Conclusion.

PASSING now to the arteries, we find that just as the muscular walls and pericardium of the heart are nourished by the coronary vessels, so the media and adventitia of the arteries are nourished by the vasa vasorum, whereas in health the intima appears to be non-vascular. Indeed, where it is well developed, the internal elastic lamina appears to constitute a boundary line between the vascular and non-vascular areas of the arteries. We are forced, I hold, to regard the intima as nourished from the blood circulating within the arteries.

The diseases to which the arterial walls are subject are closely comparable with those of the heart. There can, for example, be undoubted inflammation; we may even have collections of pus cells separating the intima from the media, although this is very rare and is always secondary to a purulent mesarteritis, the pus cells wandering into the intima from the vessels of the media. Even in cases of septic embolism or thrombosis, necrosis is the first noticeable change in the intima, and the invasion of leucocytes appears to be associated with the later inflammation of the media and adventitia. Rather more frequent is an acute productive inflammation, seen especially in the first portion of the aorta. This appears to be secondary to similar verrucose, subacute, and ulcerous inflammation of the aortic valvules. It is characterized by the development of almost papillomatous or warty processes projecting into the lumen of the aorta, and these are richly cellular and also vascularized from the vasa vasorum. They are often covered by a layer of coagulum.

But these obviously inflammatory conditions are relatively rare. The most common form of arterial disease in the larger arteries is that termed by Virchow endarteritis chronica nodosa sive deformans, the arterio-sclerosis of Lobstein, or atheroma. I need not here enter into statistics concerning its frequency, or take up your time by details concerning the forms that it may assume. I will accept Dr. Councilman's classification,² simply modifying his terminology to indicate my doubts as to the endarteritic or inflammatory nature of the conditions. With him, therefore, I would distinguish (a) a nodular arterio-sclerosis, (b) senile arterio-sclerosis, and (c) diffuse arterio-sclerosis; and would with him acknowledge that these three forms merge one into the other. For our purpose, as throw-

ing light upon the nature of the condition, the nodular form, the true endarteritis nodosa of Virchow, is that to which I would more especially call your attention.

The process begins by the development of semi-transparent, almost gelatinous, plaques here and there upon the walls of the aorta and larger vessels, most often in the neighborhood of and around the orifice of some side branch. Where the process is older the plaques are found firm, dense, and of almost cartilaginous hardness, and with this stage the deeper regions of the plaques exhibit manifest degenerative changes, passing on to the deposit of calcareous salts in the necrobiotic substance.

If we examine these plaques we are struck by the following peculiarities: (1) The endothelium over the plaque is continuous and apparently unaffected; (2) the new tissue is laid down regularly in layers parallel to the endothelium; (3) the connective tissue of the intima in the immediate neighborhood of the plaque passes imperceptibly into the hypertrophied connective tissue forming the plaque; there is no boundary line to be made out; (4) the oldest layers of the plaque are evidently those nearest to the elastic lamina, the most recent are beneath the endothelium and farthest away from the vasa vasorum of the media; and (5) the plaque is devoid of vessels save and except in those cases in which there is an evident attempt at the removal of the necrosed atheromatous material, and vessels penetrate into the atheromatous mass from the media in a manner comparable with their passage into a thrombus. Such passage, it will be recognized, is of purely secondary nature—the fibrous tissue has developed and undergone degeneration before it takes place.

The picture presented is not one usually associated with inflammation. The picture is rather what we should expect to find in an orderly connective-tissue hypertrophy, while the degeneration appearing in the deeper layers is what might be expected to occur in a non-vascular area in which layer after layer of connective tissue cut off these deeper parts from their ordinary source of nutrition. Indeed, the sharp definition of the necrosed and calcareous tissue at the internal elastic lamina is often very remarkable and would appear not only to afford a proof of the correctness of the view that the intima is nourished from the interior of the artery, but also would suggest that the internal elastic lamina performs a very definite function in separating two vascular areas.

This, however, is not the whole picture. Constantly accompanying and indeed preceding the changes in the intima, there is to be recognized an injury or degeneration of the outer coats, whether of specific, inflammatory causation (as in cases recorded by Thoma and Peabody), or whether due to more obscure alterations in nutrition associated with disturbances of the vasa vasorum. In many cases these small vessels are congested and present either an infiltration of small round cells in their immediate neighborhood or the development of surrounding fibrous tissue. The muscle fibres of the media frequently exhibit hyaline and other degenerative changes, and there may be some replacement fibrosis,

¹ Delivered before the New York Pathological Society.

² Councilman: "On the Relations between Arterial Disease and Tissue Changes." Trans. Association American Physicians, vi., 1891, p. 179.

or again evidences of more extensive failure of nutrition and of necrobiosis in the shape of small areas of calcareous deposit. That is to say, the media is very definitely affected and, as Thoma's experiments have fully proved, each plaque of overgrowth of the intima corresponds to a localized giving way of the arterial wall, to a localized slight bulging of the same; for by injecting affected arteries with paraffin under a pressure of one hundred and sixty millimetres of mercury, Thoma obtained a smooth cylindrical mould

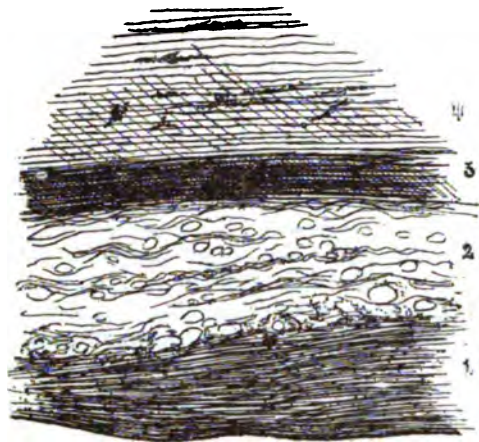


FIG. 1.—Section of the Aorta from a Case of Nodose Arterio-sclerosis. 1, Thick layer of hyperplastic connective tissue lying immediately beneath the endothelium; 2, hyaline and fatty degeneration of the lower layers of the intima; 3, internal layers of the media, staining poorly and having a hyaloid appearance; 4, outer layers of the media—cellular infiltration around the vasa vasorum.¹

showing no signs of depressions corresponding to any projecting plaques; the hypertrophied intima fills and obliterates the slight bulgings or pouches of the outer coats. However produced, there can be no question that we have here to deal with a compensatory hypertrophy of the intima.

In the diffuse form also Thoma has demonstrated that the growth of connective tissue in the intima has a similar compensatory nature.

Is this process to be denominated an inflammation?

Thoma and his pupils have shown that a thickening of the intima which they regard as strictly analogous is to be met with in the arteries of amputated limbs, in the portion of the aorta between the ductus Botalli and the offset of the umbilical arteries immediately following upon birth, in the uterine arteries after menstruation has set in, and still more clearly after childbirth; so to a less extent in the splenic arteries. All these latter cases must surely be classed among physiological rather than pathological reactions. Surely it is impossible to class a normal constant change, such as the overgrowth of the aortic intima following upon birth, as an inflammation. Nevertheless Thoma refers—or referred—to all these as conditions of compensatory endarteritis. But if he is right—and I do not see that he is not—in grouping all these cases, physiological and pathological, into one common class and ascribing to all a common causation, then not one ought strictly to be regarded as of inflammatory origin.

Thoma would explain his compensatory endarteritis according to the following law, namely, that the condition is to be ascribed to a slowing of the blood current. If this slowing be not arrested by a contraction of the media and consequent narrowing of the artery, leading to more rapid flow, then there occurs a new growth in the intima which leads to the same end—causing the lumen to become narrowed and the current to be restored to its normal rate.

¹ For this specimen and that from which Fig. 2 has been made I am indebted to Dr. G. H. Mathewson, who is studying the cases of arterio-sclerosis occurring at the Royal Victoria Hospital, Montreal.

He thus holds, and in this we must agree with him, that the primary lesion in arterio-sclerosis is a defect, a giving way, of the media, due to loss of elasticity however produced—and the only factor that he judges capable of explaining both the physiological and the pathological cases of connective-tissue overgrowth in the intima, and which is common to all cases, is relative slowing of the blood current. It is difficult to follow his explanation of the mechanism whereby such slowing induces the hyperplasia of the fibrous tissue. Even if this slowing leads, as he indicates, to functional disturbance of the vasa vasorum, I cannot see how these vessels influence the nutrition of the intima. As I have said, I cannot find evidence that in healthy arteries or in the earlier stages of arterio-sclerosis any branches of these vessels pass into the intima. The process within the "bandelette" (as French histologists term the internal elastic lamina) appears to be at first sharply cut off from that occurring outside the same, and to be of a different nature—the new growth does not appear to develop from the neighborhood of the "bandelette" and in the proximity of branches of the vasa vasorum entering the intima, did they exist (save, as I have already stated, secondarily to degenerative changes), but occurs at a region farthest away from such branches. At most a thin and in general hyaline degenerated layer may frequently be found lying between the calcified atheromatous mass in the overgrown intima and the internal elastic lamina. This would indicate that a small amount of nutrition is derived from the media. On the other hand, the examination of numerous sections would indicate that after the degeneration of the lower layers of the intima and the deposit there of a dense calcareous mass, growth still occurs actively and new layers become formed immediately beneath the endothelium. Were the main nutrition from the vasa vasorum of the media this would not be possible, and malnutrition in consequence of disturbances in these vessels would lead to the production of wedges of degeneration extending toward the lumen, rather than to plaques of degeneration lying deep down in the thickened intima close to the internal elastic lamina.

Thus I cannot but conclude that disturbances in the vasa vasorum are incapable of immediately originating the changes that occur in the intima. There may be fibroid, hyaline, and necrotic changes in all the coats of an artery, but the sequence of changes in the intima does not maintain a strict dependence upon



FIG. 2.—Section of the Aorta from a Case of Nodose Arterio-sclerosis, to show the bulging and thinning of the media, prepared by Dr. Mathewson; magnified 8 diameters. The section shows also the hyaline degeneration of the deeper layers of the overgrown intima, and the persistence of a fine layer of less altered intima tissue immediately beneath the media. The media in this case showed evidences of calcareous degeneration in patches, with some hyaline change.

and direct association with the sequence in the media and adventitia.

Alterations in the vasa vasorum failing to explain the new growth, I am compelled to fall back upon altered tension as a factor to be adduced in partial explanation of these cases of increased growth. With Thoma we may possibly also call in the agency of the sensory and trophic nerves as governing the growth, but here we enter further upon speculative ground. They may play—they probably play—an active part, but we have no direct evidence that they do.

The most that we can safely urge is that with relative expansion of an artery or portion of an artery there must be an altered tension acting upon the cells of the intima of the affected region—that accepting the view

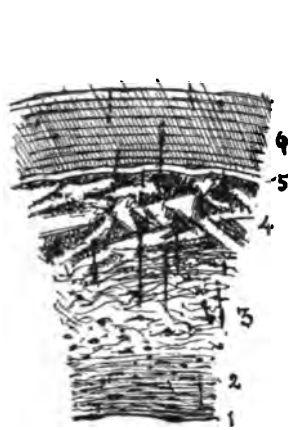


FIG. 3.—Section of an Artery of Medium Size, from the collection at McGill University. [This had been employed as a test specimen for the class and its label removed so that its exact origin cannot be stated.] 1, Intact endothelium; 2, layers of fibrous hyperplasia; 3, hyaline degeneration of the fibrous tissue; 4, layer of calcareous degeneration lying in immediate proximity to 5, the internal elastic lamina, somewhat swollen; 6, media presenting no distinct evidences of disease.



FIG. 4.—Section of Coronary Artery from a Case of general Arterio-sclerosis, to show the persistence of a layer of but slightly altered connective tissue between the internal elastic lamina and the layer of calcareous degeneration. In this artery there had evidently been, as indicated at 4, two successive periods of sclerotic thickening of the intima, corresponding to a giving way of the media in two places.

that the intima is nourished from within the lumen, anything which will lead to increased passage of the blood plasma into the subendothelial layers of the intima may at the same time lead to an increased strain upon the connective-tissue cells of the intima, and so to increased proliferation of the same.

If this be so, we may have another ground than the histological appearance for regarding the condition as non-inflammatory; we have to deal with a stimulus rather than injury to the cells of the intima, and may see in the fibrous hyperplasia a response to a physiological stimulus rather than a reaction to injury. In any case with our present knowledge, limited as it is, I would urge that the non-committal term of arterio-sclerosis is preferable to that of chronic endarteritis. Than this latter the term chronic arteritis is more acceptable, for in connection with the artery as a whole as distinguished from the intima there is in the giving way and thinning of the media evidence of injury, and in the intima as well as in the media, and it may be in the adventitia also, evidence of repair—of the artery as a whole, not of the intima; an arteritis, not an endarteritis.

The distinction I admit is fine drawn, yet I am compelled to acknowledge that it exists. I cannot acknowledge a physiological inflammation, and if, as Thoma points out, the initial process is identical in physiological overgrowth of the intima and that occurring in arterio-sclerosis, then the latter process must be regarded as functional. Were some irritant discovered capable of directly inducing the hyperplasia of the intima, the case might present a different facies. That such an irritant exists is, it seems to me, highly improbable. The peculiar contrast between the pulmonary and the systemic arteries in their liability to arterio-sclerotic changes is strongly suggestive of the action of differences in the circulation as explaining the contrast and not of the action of any irritative component of the blood.

I do but suggest this, and suggest it most tentatively. I shall feel rewarded if the suggestion leads to increased study into the phenomena underlying some

of the commonest and most important forms of connective-tissue overgrowth. We are so woefully ignorant of the causation of such common conditions as chronic valve disease and arterio-sclerosis that I feel that, even if the views here enunciated originate strong and successful opposition, the stimulus they may have given to further investigation will be an ample reward.

The whole matter, as it appears to me, resolves itself into this: "Can we regard fibrous connective tissue as following the same laws as the higher tissues and so as undergoing hypertrophy in consequence of increased work or increased strain brought to bear upon it?" If we can, then it would seem that we can divide off an important series of fibroses from the huge class of inflammatory fibroses. If we cannot, then we must continue to regard all fibroses save the neoplastic as chronic "itides."

Provisionally, therefore, I would divide the various forms of fibrosis as shown in the diagram, namely:

A. Of inflammatory origin:

1. Replacement.
2. Productive.
3. Combined productive and replacement.
4. Neoplastic.

B. Neoplastic, of undetermined causation:

1. True fibromata.

C. Of functional origin:

1. Lymphatic.
2. Venous.
3. Arterial.

There are very many individual cases of fibroid change that I have not discussed in these two lectures. To have done so would have consumed too much time and would have carried us still farther into conjectural



FIG. 5.—From a Section of the left Ventricle of a Patient dying from aortic stenosis with general arterio-sclerosis, to show mixed dystrophic (a) and periarterial fibrosis (d).

regions. But the cases that I have brought before you represent, I believe, the main types of fibrosis; and those not here taken into consideration will, I believe, fall into one or other of the main classes here indicated.

In conclusion I beg, Mr. President, to thank you and all the members for your great courtesy in enduring so patiently the long discourse that I have inflicted upon you, and once again to thank you for the honor you have conferred upon me in inviting me to deliver these lectures.

Original Articles.

THE CUTANEOUS MANIFESTATIONS OF DIABETES.¹

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WHATEVER may be the theory of the formation of sugar in the economy, the phenomena of diabetes are essentially those of disordered nutrition. The continued presence of sugar in the blood changes its chemical qualities and modifies its vital properties in such a way as to render it inapt for the normal nutrition of the tissues. Of all the organs of the body the skin is perhaps the most conspicuously influenced by this impaired nutrition. As a result of the trophic disturbance its capacity of resistance becomes enfeebled, it acquires a special vulnerability to irritant influences, and it is peculiarly prone to inflammation, suppuration, and gangrene. In addition to functional and sensory disorders, almost every form and degree of inflammatory reaction, from a simple erythema to the highest grade of dermatitis may be met with in the course of diabetes.

These changes in the skin are more or less intimately related to glycosuria as a determining cause. According to the closeness of this etiological connection and the frequency with which they develop, they may be divided into two classes.

The first class comprises affections which are impressed with certain special characters which reveal their diabetic origin and nature; they are sufficiently common to entitle them to a definite place in the symptomatology of diabetes. Of these may be mentioned certain functional and structural lesions of the skin, pruritus, diabetic erythema, eczema, balano posthitis, phimosis, furuncles, carbuncles, and gangrene, to which may be added a comparatively recently recognized dermatosis, xanthoma diabeticorum.

In the second class may be placed affections which occur incidentally and with comparative infrequency. Their association with diabetes cannot, however, be regarded as a coincidence merely; they exhibit certain peculiarities in their clinical behavior, especially in their tendency to recovery or retrogression according to the fluctuation in the amount of sugar present, which clearly indicates some etiological connection. Among the most important may be mentioned acne cachecticorum, chronic papular urticaria, impetiginous and lichenoid eruptions, psoriasis, dermatitis herpetiformis, herpes zoster, mal perforans, erysipelas, and dermatitis diabetica papillomatosa.

So common and characteristic are affections of the first class that they are recognized by French authors as a separate group under the designation of *diabétides*, on the ground that they bear the same relation to the constitutional disorder as do the syphilides and scrofulides to their respective diatheses. By other writers they are identified as dermatoses diabeticae—a name sufficiently specific to indicate their origin.

Perhaps the most characteristic expression of diabetic disorders of the skin is found in the genital region, from the anatomical disposition of the parts which expose them to contact with the saccharine urine. The urine rapidly undergoes fermentation and favors the production of a growth of cryptogamic vegetation, which appears as white deposits on the surface or between the epithelial cells. These deposits are formed of rounded or oval spores and a mycelium made up of short or long branches, sometimes articulated. They are especially apt to occur beneath the

prepuce of the clitoris and in the sulcus between the labia majora and minora in the female, and along the sides of the frenum, and the glando-preputial sulcus in the male. They are considered pathognomonic of glycosuria. P. Ernst found in addition to the saccharomyces all possible forms of spores, among the micrococci, the staphylococcus aureus, and bacilli of the group of the bacillus coli, etc.

Apart from their clinical interest the diabetic dermatoses are most important from a diagnostic point of view. Many of them are so typical as to enable the practised observer to identify the etiological factor from the objective characters of the lesions.

Lasègue, a distinguished French physician, has said: "A singular thing is that the general practitioner rarely discovers diabetes. Most often it is ferreted out by the skilled specialist *à propos* of some special symptom. The patient consults an ophthalmologist for a commencing amblyopia, a neurologist for painful neuralgias, a dentist for an expulsive gingivitis, a dermatologist for a genital eczema or carbuncle, or a syphilographer for a balano-posthitis or a phimosis." Personally, I may say that I have diagnosticated diabetes in at least half a dozen cases, four men and two women, from the optical characters of their cutaneous lesions. These persons were unconscious diabetics, and came to consult me for their local trouble without the slightest suspicion of the existence of a constitutional disorder.

Asteatosis and Anidrosis.—One of the earliest cutaneous manifestations of diabetes is functional disorder of the sebaceous and sweat glands. In the majority of cases asteatosis and anidrosis, more or less complete, are observed. The diminution in the quantity of the sweat is sometimes most marked, the total amount being reduced to one-half or one-fourth of the normal quantity. There may be not only a quantitative but also a qualitative change in the secretion from the elimination of glucose, which has been observed in the form of a white powder on the skin (Vogel). Exceptionally the glandular disorder may be expressed in the opposite condition of hyperidrosis. In one of my patients the perspiration was so profuse as to necessitate changing of the underwear two or three times a day. Many cases of localized hyperidrosis and unilateral sweating have also been recorded. These latter phenomena are doubtless the result of a vasomotor disturbance due to an impression upon the nerve centres or upon the peripheral nerves in the skin. These functional disorders are commonly attended with trophic changes. The skin loses its soft, supple feel and becomes dry, harsh, and rough and the seat of furfuraceous desquamation. Sometimes exfoliation of the epidermis occurs in large flakes, and is so abundant as to simulate dermatitis exfoliativa. H. H. Horden¹ reports a typical case of universal pityriasis rubra with alopecia. A pint and a half of scales were exfoliated per diem. There was no gout, rheumatism, or evidences of other constitutional disorder than the diabetes.

Paræsthesia.—Another habitual expression of diabetes is sensory disorder. Paræsthesias and perversions of sensation, usually characterized by the most intense pruritus, may be present at an early stage. That distressing condition, pruritus vulvæ, is frequently associated with structural changes, and will be considered in connection with genital eczema. The sensory disturbance is not limited to the genital sphere, but may be manifest in remote parts, as on various portions of the trunk and lower limbs. It is sometimes so pronounced as to render the pressure or friction of the clothing insupportable. Pétér cites cases in which itching over the whole surface of the body was intolerable. As a result of the scratching there

¹ Read before the New York Academy of Medicine, April 2.¹ London Lancet, 1893, p. 1,056.

were numerous excoriations with papules of prurigo upon an erythematous base.

Defluvium Capillorum.—Trophic disorders of the sebaceous and hair follicles are seen in thinning and loss of the hair. It has been often observed that the hairs of the scalp as well as of the general surface became dry, fragile, and loose, yielding to the slightest traction. Numerous cases are cited by Grauffon,¹ Lapiere,² and others in which alopecia more or less complete was observed in the course of diabetes. In August, 1894, I was consulted by a patient for syphilis, on whose scalp and body there was not a vestige of hair. The universality of its loss excluded syphilitic alopecia. Moreover, it was found that the alopecia began before the inception of syphilis. The discovery of five per cent. of sugar in the urine with the patient's statement that he had known of the existence of sugar in his urine for at least five years rendered it probable that the alopecia was due to the diabetes.

Paronychia Diabetica—Falling of the Nails.—Trophic disorder may also be manifest in loosening and falling of the nails or atrophy of these organs. The process commonly begins in the matrix of the nail or in the periungual fold as an indolent subacute inflammation, with slight redness and tumefaction. Suppuration sets in with a discharge between the skin and the nail—the proximal border of the nail is uplifted and separated from its bed from behind forward and the nail finally detached. Follet has reported a case in which the nails of a diabetic woman fell out without inflammation. In some cases the nail is reproduced but is rudimentary, with a rough rugous surface. In advanced cases the nail bed may become the seat of gangrene. Falling of the nails, like that of the teeth, may occur at an early stage. Verneuil and others have reported numerous cases. In three cases described by Auché³ he says, "the vasomotor and nutritive troubles were characterized by œdema, a smooth and glossy state of the skin, mal perforant, glandular and ungual dystrophies, spontaneous fall of nails, and cutaneous gangrene." According to Kaposi paronychia diabetica is more apt to affect the great and little toes, sometimes the middle toes. In his cases gangrene did not follow the fall of the nails.

Eruptive Disorders.—Among the eruptive diabetic disorders, erythema and eczema, affecting more especially the genital and perigenital regions, frequently occur. In all cases sensory disorders, such as pruritus, heat, burning, etc., precede the development of the eruptive phenomena. In many cases, doubtless, the lesions are traumatic, the result of rubbing and scratching the parts to relieve the atrocious itching, which may be constant or paroxysmal in character. The dermatitis is usually ascribed to the irritating contact of the urine. In many cases, however, it appears on surfaces which are not exposed to such irritation. Hardy says that he has frequently seen erythema occupy regions of the body to which the urine could not possibly have reached, as the mammary region and suprapubic folds of fat females. Fritz⁴ reports cases of fugitive erythema occurring in patches over different parts of the body.

Pruritus is usually more intense in females, from their nervous temperament and the greater extent of the surfaces involved. It may constitute the only symptom of the diabetic disorder. Usually, however, it is attended with congestion and redness of the vulva and neighboring parts. This erythematous condition may mark the acme of the inflammatory process, or it may take on the more active symptoms of eczema with exudation.

Eczema Vulvæ is characterized by an intense redness with tumefaction of the labia. The surfaces are often excoriated by scratching, and discharge a thin gluey secretion. The inflammation not infrequently involves the mucous membrane of the vagina. Whitish deposits or thin crusts consisting of parasitic growths with desquamated epithelial cells may often be found on the flat surfaces and between the labia.

In his classic description of the genital diabetides Fournier describes a chronic form ordinarily succeeding the acute. The inflammation is not limited to the vulva, but involves the perineal and anal region, the inner sides of the thighs, and may extend upon the abdomen. The skin is of a brownish-red, almost livid color, the surface secreting and desquamating, the tissues thickened by a hyperplastic infiltration resulting from the incessant scratching. There results a hypertrophic vulvitis, and the labia become swollen and thickened to two or three times their normal volume. The vagina is of a vinous-red color and the introitus so narrowed by the infiltration as to render the introduction of the speculum difficult.

In addition Winckel describes furuncles of the vulva and phlegmonous vulvitis.

While diabetic eczema of the female genitals presents many features in common with ordinary eczema, it may be differentiated by certain peculiarities. The hyperplastic infiltration is more marked, the color is of a sombre red, the secretion is less abundant, the surface often presents a dry, glazed appearance with a continual desquamation of thin whitish crusts of sebaceous matter and parasitic growths. The subjective sensations are more intense.

Diabetic Disorders of the Male Genitals are usually expressed in the form of balanitis or of balanoposthitis. In the majority of cases pruritus constitutes the first symptom. The eruption usually begins as an erythema of the meatus urinarius and spreads upward over the glans.

Balanitis.—In a patient under my observation this erythematous redness, involving the anterior three-fourths of the glans with an occasional outcropping of erythematous patches on the corona and sulcus, persisted for several months as the sole objective symptom. In this case the glans was habitually uncovered. Isolated balanitis is, however, rare and is seen only in circumcised subjects and men with short prepuces.

Balano-Posthitis.—In the majority of cases the inflammation extends over the glans and involves the preputial mucous membrane, constituting balano-posthitis. A long narrow prepuce and lack of cleanliness favor this complication. The surface of the glans and inner prepuce become inflamed and tumefied and the seat of desquamation. As a result of the continued irritation the swollen mucous membrane becomes cracked and fissured, the linear clefts corresponding to the long axis of the organ. The progressive thickening of the prepuce and its loss of elasticity finally determine phimosis. The typical features of diabetic phimosis were shown in a patient, aged forty, who came under my observation in July, 1892. The preputial orifice was contracted to such a degree as to prevent the free passage of the urine. The prepuce was infiltrated, inelastic, and felt like a cartilaginous case, showing at its orifice the beginning of fissures and clefts radiating backward. Even after the induration had subsided an attempt to retract the prepuce opened up the fissures, causing them to bleed. The irritation had been so long continued as to cause implication of the lymphatics, which could be felt as hard cords along the dorsum. Two of the glands in the left inguinal region became inflamed and suppurated. These were aspirated and finally opened by a free incision. Some months later this patient contracted a chancre of the prepuce followed by a severe type of syphilis. It is

¹ Thèse de Bordeaux, 1881.

² Thèse de Paris, 1879.

³ Arch. de Méd. Exper., 1890.

⁴ Gazette des Hôpitaux, 1862.

worthy of note that the diabetic condition markedly improved under specific treatment.

Genital Eczema.—The inflammation, instead of being limited to the glans and prepuce, may extend to the neighboring parts and assume the characters of a chronic eczema, as in the following case: An old gentleman was referred to me in May, 1890, by the late Dr. Fordyce Barker. He had an erythematous eczema of the glans and preputium accompanied by intense itching, which was recognized as diabetic. His foreskin was short, leaving the glans entirely uncovered. Under the influence of appropriate treatment the local trouble disappeared. There was a slight re-development in March, 1893, but of short duration. In the spring of 1894, when he presented himself again, the local affection was more extensive, involving the skin of the penis and scrotum. His urine was found to contain six per cent. of sugar. Under the influence of codeine, a strict diet, and local treatment, the amount of sugar was reduced to less than one per cent., and the local trouble was practically cured. When he went to the country in June he abandoned his diet and treatment. He returned the latter part of August with a marked aggravation of his general and local trouble, with the addition of new eruptive phenomena in the shape of a number of large papular lesions distributed over the abdomen, the buttocks, and the lower extremities. All of these underwent involution in the course of two or three weeks, with the exception of a few lesions on the thigh, buttocks, and over the ankles. In two places, on the thigh and buttocks, the absorption of the papular elements was followed by a superficial gangrene. Those over the ankles were converted into deep ecthymatous ulcers, which became gangrenous and were two or three months in healing. There was also a profuse eruption of lichenoid papules in both genito-crural folds, extending down the inner sides of the thighs. The eczema involved the glans, the prepuce, the skin of the penis, the scrotum, perineum, and anus. The glans was swollen, with marked induration and thickening of the integument of the penis and scrotum. The prepuce, which was abnormally short, was thickened, inelastic, and could not be drawn forward. The surface of the glans and reflected prepuce was covered with a parchment-like membrane which was continually reformed. This thin white pellicle could be detached without leaving bleeding points and was analogous to that already described in connection with eczema of the vulvæ. In this case the eczema continued for several months with but slight modification. Its persistence was doubtless due to the age of the patient, eighty-three, and his loss of control over the bladder. After the act of urination was completed there was dribbling of urine, which kept the dressings continually soiled. The use of a rubber dressing aggravated the eczema. A dressing recently brought to my attention would have answered admirably in this case. It is made by McKesson and Robbins, and consists of muslin or gauze impregnated with stearate of zinc in combination with an antiseptic substance. I have kept it immersed in water for several hours without its imbibing the least moisture.

Diabetic eczema of the male genitals may be readily distinguished from ordinary eczema. In the latter the inflammation is more acute, the surface of a brighter red, often exulcerated, the weeping and discharge are much more profuse and often of a seropurulent character. Besides, an ordinary eczema rarely begins on the glans penis and is still more rarely limited to the glans and prepuce.

Diabetic balano-posthitis and phimosis have a physiognomy so special that one who has observed a typical case can scarcely fail to recognize them at a glance. In the diabetic form there is an absence of

the excoriated patches and the profuse, often creamy discharge seen in ordinary balanitis. The inflammatory process is subacute; there is a dry, glazed, often cracked condition of the surface, with scanty secretion; a progressive thickening of the integument, ending in a local sclerema, inelasticity, and atresia of the preputial orifice. It is to be noted that cases of sloughing and gangrene of the penis with extensive mutilation and extending up on the abdomen have been observed.

Many writers describe a herpetiform eruption closely simulating herpes, which consists of numerous small pin-head to pea-sized superficial erosions, of rounded or oval form, which desquamate and heal readily but manifest a tendency to repeated recurrence. Furuncular lesions, affecting more especially the integument of the penis and scrotum, have been observed in diabetics. Vegetations have also been noted upon the glans, the sulcus, the sides of the frenum, sometimes extending into the urethral canal. According to Aime Martin, these vegetations are distinguished from the ordinary condylomata by their greater vascularity, their brighter red color, and their tendency to bleed easily. A rare affection mentioned by Abeille is psoriasis in the form of large white plaques seated upon the indurated thickened tissues. The thickening was sufficient to cause phimosis. The psoriatic patches disappeared under improvement of the diabetic state (Leroux).

Furuncles and Carbuncles.—Of all the diabetic manifestations on the general surface of the integument furuncles are the most common and may occur at an early stage. Carbuncles and phlegmons are less frequent and usually occur at a more advanced stage of the disease.

The statement of Prout that these lesions are always of diabetic origin is too sweeping. More approximately correct is that of Marchal (de Calvi), who says "that diabetes is the etiological origin of furuncles in one-third of all cases." As regards their absolute frequency a careful writer, Von Noorden,¹ estimates "that they occur on an average in from one-tenth to one-fourth of all cases of diabetes."

Furuncles usually develop upon the neck, the back of the shoulders, or the buttocks; they may occur upon any part of the body. They are usually multiple and come out in successive crops. As many as seventy-nine have been observed in one patient. They are distinguished from ordinary boils by their multiplicity, their succession, their sanious suppuration, and their tendency to excessive sloughing and gangrene.

Carbuncles, which may be regarded as confluent furuncles, have the same seats of predilection. They are distinguished by their cribriform or honeycombed appearance, the depth of their destructive action, and their tendency to extend at the periphery and become gangrenous. They determine a more profound constitutional disturbance, an adynamic condition marked by great feebleness and prostration, which often ends fatally.

While it is generally recognized that the staphylococcus pyogenes aureus is the active pathogenetic agent in the production of furuncular lesions, the diabetic skin, from its impaired vitality, opposes a feeble resistance to the entrance of this and other pyogenic microbes, while the pathological state of the blood and tissue juices furnishes favorable conditions for their germination and growth.

Gangrene.—Diabetes creates a special predisposition to gangrene. It may be primitive and spontaneous, or it may be consecutive to slight wounds, abrasions, contusions, or some anterior lesion, as a furuncle, carbuncle, or phlegmon. It may be single or mul-

¹ "The Twentieth Century Practice."

tipple, superficial or profound, limited in area or extend over a large surface. It may appear upon any portion of the body, but it more frequently occurs upon the lower limbs, from their greater exposure to traumas and the character of the circulation.

Diabetic gangrene is usually of the moist variety, frequently attended with swelling and œdema of the tissues and rapid necrosis. When the gangrene is primitive it begins as a small black patch or numerous patches disseminated here and there and is usually limited to the integument. Sometimes they are preceded by the formation of bullæ. The sphacelation may not be limited to the integument, but affect the subcutaneous tissues and produce the same results as diffuse phlegmon. Usually there is persistence of sensibility and no marked alteration of temperature. Post-mortem examination has demonstrated the permeability of the vessels. Dickinson says that degeneration of the arteries is remarkably rare in diabetic gangrene. In old persons who suffer from atheromatous changes there may be obliteration of the arterial vessels and all the phenomena of dry gangrene, such as condensation and mummification of the tissues. Exceptionally diabetic gangrene may exhibit all the characters of senile gangrene or those of Raynaud's disease. Diabetic gangrene is said never to occur in children; the youngest patient recorded in the statistics of Marchal (de Calvi) was twenty-eight years old. It is most liable to occur in fat persons, and its frequency increases with the age of the patient. Alcohol and obesity favor its development. Alcoholic diabetics are peculiarly prone to gangrene. The comparative exemption of women from this accident is largely due to their non-bibulous habits.

Kaposi has described, under the name of *gangrena diabetica bullosa serpiginosa*, an eruption of disseminate bullæ on an inflamed base, beneath which the skin mortified. The process was propagated in a serpiginous manner by the elevation of the epidermis and eschar formation at the periphery and cicatrization of the centre. This was continued until the patient died.

Xanthoma Diabeticorum, as its name implies, is an affection peculiar to diabetes. Of the twenty-one cases reported, eleven of which have been recorded within the past five years, glycosuria was traced as the etiological factor in all but three. Its causal connection is, moreover, shown by the involution of the eruption when the sugar is suppressed and its redevelopment with the increase of the sugar. The eruption consists of small pea-sized tumors of a rounded or conical form, discrete or confluent, some of them surmounted by a yellowish apex, which gives them a deceptive resemblance to pustules. They are of solid consistence and firm to the feel. They are essentially inflammatory, and subjective sensations of heat, burning, and itching are almost invariably present. Their most common seats are the forearms, buttocks, and knees, from which they may gradually extend over the extensor surfaces, the scalp, face, trunk and abdomen. In some cases the eruption is universal. The eruption may remain stationary for months or years, and then undergo rapid involution, leaving no trace. It may redevelop two or three times. This affection is differentiated from xanthoma by the rapidity of its development, the character of the papules, which are firm, hard, and inflammatory; by their seats of predilection, sparing the eyelids; by its invariable presence in the form of circumscribed papules, never occurring in striæ or plaques; by the subjective sensations; by the facility of its retrogression, which may be spontaneous or the result of the correction of the glycosuria.

The consideration of what may properly be termed the diabetic dermatoses has already extended this pa-

per beyond its proposed limits, so that only the briefest mention will be made of the second class of affections. Scattered through the literature of the subject will be found references to a large number of skin affections met with in the course of diabetes. Almost all of them were remarkable for their prolonged duration, the inefficiency of local treatment, and their tendency to rapid improvement when the constitutional disorder was corrected.

Chronic Papular Urticaria, the prurigo of older writers, is mentioned by numerous observers as occurring in connection with diabetes. The lesions in many cases are, doubtless, developed as the result of injuries caused by scratching to relieve the distressing pruritus. In a number of cases under Kaposi's observation, the patients were emaciated, having lost several pounds.

Eczematous, Impetiginous, and Lichenoid Eruptions are frequently cited among the concomitant symptoms of diabetes (Graffion, Neuman and Van Stosch, Leoty, and others). Braxton Hicks' reports cases of generalized eczema which were refractory to all treatment until an antidiabetic medication was instituted. These eruptions are sometimes complicated with ecthyma and gangrene.

Bullous and Pemphigoid Lesions are sometimes seen upon the lower limbs; the gangrene is often preceded by the formation of bullæ which sometimes dry up into white eschars. Guntz mentions miliaria with vesicles and bullæ of the skin in a diabetic case.

Psoriasis has been often observed in connection with diabetes. The frequent coexistence of the two affections has been noted by Graffion, Abielle, Leroux, Nielsen and Gebhardt, Poblekenoff, and others. Grube¹ has reported four cases of psoriasis associated with diabetes. If the theory of the parasitic nature of psoriasis be accepted, we can understand this frequent connection, as the diabetic skin furnishes a favorable ground for the development of parasites.

Acne Cachecticorum is classed by Kaposi among the diabetic dermatoses. In his cases the lesions were chiefly situated on the buttocks and the extensor surfaces of the extremities.

Dermatitis Herpetiformis.—Four cases of this affection occurring in diabetics have recently been reported by Winfield.² In a case of xanthoma diabeticorum reported by Johnston the patient was formerly the subject of dermatitis herpetiformis. Doubtless the connection of these two diseases would be found much more frequent if evidences of sugar were sought for in all cases.

Herpes Zoster, presenting the characters of ordinary zona, but distinguished by its severity, its scarring, and the persistent neuralgias succeeding the involution of the lesions, has been observed by Vergely,³ who reports two cases coming under his observation, and cites one case by Barbier, two cases by Fabry, one by Pleu-yette, and two by Jules and Cyr, of Vichy.

Mal Perforant.—Two cases of perforating ulcer of the foot are reported by Clement,⁴ presenting the unusual features of conservation of the sensibility, abundant hemorrhage, and formation of gangrene. Auché refers to three cases.

Purpura Hemorrhagica.—Dujardin-Beaumetz observed in his service a diabetic who had successive crops of purpura hemorrhagica. The eruption was confluent upon the lower limbs, forming in places large palm-sized placards.

Erysipelas would seem to be a comparatively rare complication of diabetes. Cases are cited by Leoty,

¹ London Lancet, 1877, p. 456.

² Trans. London Clin. Society, 1893.

³ Jour. Cut. and G.-U. D., Nov., 1893.

⁴ Prog. Médical, 1891.

⁵ Thèse de Paris, 1881.

Tardieu, Teissier, and others. In one case there were four successive attacks, the last proving fatal.

Dermatitis Diabetica Papillomatosa.—Under this title Kaposi describes an inflammation of the skin occurring in glycosuria, characterized by the development on an inflamed base of nodular excrescences in patches which partly disintegrate into ulcers with undetermined borders.

Finally may be mentioned **bronzed skin**. In a recent number of the *Wiener Medicinische Blätter*, 1896, p. 101, v. Harndt describes a bronzing of the skin peculiar to diabetes, which he claims is differentiated from Addison's disease by the immunity of the mucous membranes from pigmentation. The melanoderma is most pronounced on the face, lips, and genitals.

THE EARLY MANAGEMENT OF CONGENITAL CLUBFOOT.¹

By LEWIS A. SAYRE, M.D.,

NEW YORK.

WITHOUT occupying your time in discussing the various theories as to the etiology and pathology of clubfoot, I will simply state what I have found by practical experience to be the best course to pursue in all cases of this unfortunate deformity, no matter what the variety may be.

Whether the case be one of varus or valgus, calcaneus or equinus, or plantaris, or any of their various combinations, the same general principles of treatment are applicable. And the time to commence their application is immediately after the birth of the child. If you are not present at the birth, then commence the treatment as soon after as you are called to see the case.

There is a prevalent idea among the profession that the treatment of clubfoot must not be commenced "until the child is old enough to stand it." This false teaching has produced such an effect upon the laity at large that they do not bring their children with crooked feet to the orthopædic surgeon for treatment until some months after birth. Now I wish to enter my most solemn protest against this false teaching and to urge the profession at large to attempt the rectification of these deformed feet immediately after birth, or if they have not the time or inclination to qualify themselves to treat the case properly they should at once advise that the child be placed under the care of some one who will treat it properly. And this treatment should be commenced before the child is forty-eight hours old, and twenty-four is better still.

The method of procedure is for the operator to take the foot in his two hands and gradually but very gently press it around toward the normal position. As this is done you will observe the toes and front part of the foot to become blanched as white as snow and apparently perfectly bloodless. If retained in this position too long, of course sloughing would necessarily follow this obstruction to the circulation. Therefore, after holding the foot in this improved position for a few seconds only, you relax your hold upon the foot, when it will immediately recede toward its former deformed position, and as it does so you will observe the gradual return of the pink color and the natural circulation to the foot and toes.

If both feet are deformed (as is generally the case), you can take the other foot and treat it in the same manner as you did the other, while the first is being restored to its previously deformed condition.

Repeat these various manœuvres a number of times and carefully instruct the nurse how to do the same, and see that she does it properly every few hours day and night.

¹ Read before the Medical Society of the County of New York, March 23, 1896.

In addition to the improvement gained by frequent manipulation of the foot or feet, great advantage may be gained by covering the foot and leg with a very soft flannel bandage (leaving the toes exposed for observation), and then applying a strip of adhesive plaster partly around the foot and drawing it as far in the right direction as can be borne without interfering with the circulation, which can be judged by watching the color of the toes, and then securing the plaster by a snugly applied roller bandage. This plan is to be followed up day by day, until the foot can be retained in the normal position without interference with its circulation.

To retain it in this improved position frequently requires artificial aid, and the best that can be adopted is the plaster-of-Paris bandage over a snugly fitting flannel roller bandage. It fits with perfect accuracy and therefore there is no danger of galling or chafing, and the child cannot kick it off, as it will any kind of a shoe that has ever been invented (even my own, which I have now abandoned for five years or more). If the feet are very much inverted and the gastrocnemius much contracted, then the plaster-of-Paris bandages may be continued above the knee, flexing it a little to shorten the gastrocnemius, and strongly evverting the foot or feet just before the plaster sets.

In the majority of cases, by adopting the plan here suggested, the child will have his foot facing the floor by the time he is old enough to stand and then he will cure himself by exercise, sometimes, of course, requiring the slight aid of an elastic to invert or evert the toes, as the case may be.

In some cases, however, there is a structural shortening or contracture of the tissues. In such cases the contracted tissues must be subcutaneously divided and the foot immediately restored to its normal position, the wound hermetically sealed, and the parts retained absolutely immovable by a plaster-of-Paris bandage for from fourteen to sixteen days, when the wound will have healed and the exudate between the severed ends of the tendon will have become firmly united and of sufficient strength to be of practical utility in moving the foot.

What I wish to emphasize is: 1st, The necessity of commencing treatment at birth; 2d, that there is no instrument that can be compared with the human hand in rectifying the deformity; and 3d, that there is no means of retaining the parts in position equal to plaster of Paris properly applied.

If the profession at large will recognize these facts, there will be very few cases of hideously deformed clubfoot requiring tarsectomy, cuneiform osteotomy, or any of the other serious operations now in vogue.

Methyl Green has been employed by Dr. Crouch, of Denver, as a stain for the microscopical diagnosis of diphtheria. The bacilli of cultures vary in size and besides them are certain round or oval bodies which may be made apparent. They seem to have a peculiar affinity for methyl green, with which they enter into a chemical combination changing in color from green to red. A double stain may be obtained. Dahlia has been found most useful. One part of a one-per-cent. solution in water and five parts of a one-per-cent. solution of methyl green are added to four parts of water. These bodies, though they resemble spores, are not thought to have any connection with spores. They are most abundant in young, freshly growing cultures. The writer calls them nucleoid bodies, attributing to them a nuclear nature, and believes them to possess great practical importance in the microscopical diagnosis of diphtheria. — *The American Microscopical Journal*, February, 1896.

DIPHThERITIC PALSIes AND THE USE OF ANTITOXIN.¹

By CHARLES L. DANA, M.D.,

NEW YORK.

WHILE the treatment of diphtheria by antitoxin is a method that has been approved in all parts of the world, and is upheld by a volume of statistics whose brute force is almost overwhelming, yet there is still some degree of skepticism about its real value. Most of this skepticism is the result of profound and banal ignorance, coupled, perhaps, with some hysterical obsession in the lines of zoophilism and antivivisection. There are, however, some conservative physicians whose character and attainments we respect who still hold a position of reserve, if not of disbelief, as to the value of the method, and they advance some very ingenious explanations of the way in which the statistics that so apparently favor antitoxin are gotten up. In a recent number of *The Contemporary Review*, a gentleman by the name of Boulger has published an article in which he recites his own personal experience with diphtheria. He states that he was attacked with a malignant form of this disease, was taken to a hospital, and there injected with antitoxin of double strength. He was injected again on the second day, the course of the disease was not changed by it, and he finally got well, owing, as he believes, to the assiduous use of brandy and iron and gargles. Going home at the end of the month, he was seized rather suddenly with a very pretty type of multiple neuritis involving all the extremities. From this also he recovered. His deep conviction, however, is that the multiple neuritis was due to the injections of antitoxin, and this idea is set forth with great emphasis and eloquence in his article. The fact that this article is likely to be widely quoted by antivivisectionists and opponents of the use of antitoxin, and is likely to make some impression on the lay mind, led me to think it worth while to look up the matter. I was then further induced to do so because I had just seen a case of post-diphtheritic paralysis in a young man who had been treated with antitoxin at the Willard Parker Hospital. At the same time I learned of other cases, and particularly of one in which death occurred in a child aged four years within two days of the injections. I wrote to Dr. W. H. Park, asking his experience in this matter. His letter is given here:

"From time to time cases of general paralysis have followed diphtheria treated with antitoxin. Thus, in the last three months there have been two cases. One, an adult, had general weakness due to partial paralysis in all voluntary muscles, so that she could not walk for nearly three months; the other, a child, which developed paralysis in some of the muscles of the lower limbs. In a third case paralysis of the muscles of the eye occurred. In quite a few paralysis of muscles of palate or pharynx develops after the separation of the membrane. I think that rather more paralysis occurs now than formerly, but I believe this is due to the fact that a class of patients recovers now which formerly died. In my judgment patients who would recover without antitoxin will show less paralysis with antitoxin than without it.

"WILLIAM HALLOCK PARK."

I also wrote to Dr. Northrop, and he kindly answered that it was difficult to make a specific statement, for the reason that more patients lived to be afflicted with paralysis than formerly, but he thought that the one set of cells which was least able to avail itself of the protective influence of antitoxin was the

nerve cells. Dr. Northrop said, however, that he had seen very little post-diphtheritic paralysis this year.

The history of my own case is as follows:

Roy R—, male, aged sixteen, mulatto; occupation, porter; single; family history negative. He has had a sore throat every winter for the last few years.

On January 30, 1896, the patient was taken to the Willard Parker Hospital suffering from diphtheria. While in the hospital he complained of intense pain in the back of his head on lying down. While at the hospital he suffered from a mild type of faucial diphtheria and was treated with antitoxin in the usual way. After he had been in the hospital with the disease a few days he noticed some weakness in the legs, but he had no abnormal sensations or pains in them. Two weeks after his admission he was discharged cured and left to go to work. On the same day while running upstairs his legs began to grow weak and he was compelled to catch hold of an object to support himself. A few days later he found that he had very little strength in his legs and was unable to walk without frequently stopping and resting. The next day he was admitted to Bellevue Hospital in the service of Dr. Alexander Lambert. On February 17th, the third day after he left the Willard Parker and after the beginning of his paralysis, he was examined by me. There was no lesion of the heart, lungs, liver, spleen, or kidneys, and he complained of no pains. His arms and hands were normal. He complained chiefly of weakness in the legs and hips, more particularly on the right side. His gait was slightly unsteady on account of this weakness of the legs, but he was able to stand and to walk. He could not, however, step upon a stool. The knee jerks were absent in both legs. There was no evidence of muscular atrophy. Testing the movements of the legs showed that the anterior crural muscles and the flexors and extensors of the legs were the groups most affected, especially those on the right side. There was no anæsthesia or ataxia, but deep pressure upon the muscles caused pain. Electrical examinations showed an exaggeration of irritability to the galvanic current and an exquisite increase of the electric sensibility, a point of much importance, in my opinion, in the diagnosis of multiple neuritis in the early stages. Even mild currents which could easily be borne upon the arm or even upon the face caused great pain when applied to the affected groups of muscles in the legs. There was no paralysis of the muscles of the throat or of the ocular muscles; in fact, it was only these muscular groups mentioned that were affected. There was no involvement of the sphincters of the bladder or rectum and had not been. The patient improved very rapidly, and in a week from the time of the beginning of the disease he was apparently almost well and was discharged.

This patient illustrates very well the extremely mild type of post-diphtheritic paralysis when that affection is not located in the throat or eyes.

The Proportion of Paralysis Following Diphtheria under any form of treatment previous to the use of antitoxin varies very much. In 937 cases collected or observed by Cadet de Gassicourt paralysis occurred in 128, or about 13 per cent. In Roger's statistics the proportion was 16.6 per cent.; in those of Sanne it was 11 per cent. Lennox Brown in a series of 100 cases found it to be 14 per cent.; Goodall in 136 cases found it 14.7 per cent. German observers give figures ranging from 4 to 30 per cent.: Unterholzner, from 4 to 17 per cent.; Johannessen, from 12 to 30 per cent.; Hoppe-Seyler,¹ 27 per cent. The range of percentages, therefore, is from 5 to 30.

¹ Mr. Lennox Brown found the percentage in 3,848 cases to be 14 per cent. "Diphtheria," p. 260.

¹ Read before the Practitioners' Society, March 6, 1896.

The figures, however, of all large series of statistics show that the percentage is between 10 and 20. Thus, taking the figures of de Gassecourt, Roger, Sanne, Johannessen, Goodall, and Brown, we would have over one thousand cases with a percentage of palsies amounting to about one-sixth.

These figures, however, give an imperfect idea of the actual condition of things, for, in the first place, a large number of diphtheritic palsies occur two or three weeks after the termination of the disease, and after the patients have been discharged from hospitals; hence the hospital records in part are not to be depended upon. In the next place, diphtheritic paralysis occurs with greater frequency as patients get older; therefore, the ages of the patients would modify immensely the normal percentages of the palsies. According to the statistics quoted by Dr. Lewis Smith in Keating's "Cyclopedia of Children's Diseases," fifteen per cent. of cases of diphtheria occur in children under the age of nine, while, on the other hand, of sixty-eight cases of diphtheritic paralysis collected by Landouzy, seventy-five per cent. occurred after that age.

If these figures represent the clinical history of diphtheria generally, it follows that older children and adults supply the vast majority of cases of diphtheritic paralysis, and in order to get a just conception of the relative frequency of diphtheritic palsies one must have histories of the ages of the patients. I have not been able to find any satisfactory literature bearing upon this subject. However, with what has been so far observed I conclude that in ordinary epidemics of diphtheria not treated with antitoxin the proportion of observed palsies is about fifteen per cent., and that this fifteen per cent. is made up very largely of children over the age of four years.

Paralyses after the Use of Antitoxin.—Next I take up the question of the number of paralyses that follow diphtheria, when the patient has been treated with antitoxin. In regard to this subject facts are accumulating, but there are few yet that are satisfactory as regards the points of age and form of paralysis. Lennox Brown published two series of one hundred cases each of diphtheria. In the first series antitoxin was used, in the second it was not. The proportion of mortality and of diphtheritic paralyses was the same in each series, being for the mortality 27 per cent., for the palsies 14 per cent. Dr. Fürth in 100 cases had a mortality of 12 per cent. and only 4 per cent. of palsies. Dr. E. W. Goodall found that in 136 cases not treated with antitoxin there was only 14 per cent. of palsies, three cases of palsy being fatal, while in 105 cases treated with antitoxin there was 17.1 per cent. of palsies with 4 cases fatal. His statistics, which were read at the meeting of the British Medical Association in London, taken with those of Mr. Lennox Brown, form the severest indictment of the antitoxin treatment that I have seen published, and do not agree with those reached by other authors.

The most complete study as regards the palsies is that of Professor Soltmann, of Leipsic.¹ Dr. Soltmann found that in one hundred and eighteen cases treated by serum-therapy there were eighteen cases of paralysis, giving a percentage of ten. He further classifies his palsies and shows that in all cases the soft palate was affected; that in five there was paralysis of the muscles of deglutition, in three a general multiple neuritis producing ataxia. Dr. Soltmann concludes that the antitoxin does not modify the post-diphtheritic paralysis.

The statistics that I have collected as a whole regarding post-diphtheritic paralysis in cases treated by antitoxin are presented here:

Reporter.	Paralyses.	No. of Cases.
Huebner	7.9 per cent.	162
Soltmann	10 "	181
L. Brown	14 "	100
Blatt	18 "	
D'Espine	3½ or 4 "	
Fürth	4 "	
Goodall	17.1 "	100
Engel	8 "	39
Gerloczy	15 "	55
Kossel	18 "	104

In addition to these statistical facts we should take into consideration the personal opinions of writers. For example, Dr. A. Johnston, who took part in the discussion on diphtheria at the meeting of the British Medical Association, expressed the opinion, though he gave no statistics, that the antitoxin treatment did not affect either the mortality or the paralyses. Dr. N. T. Gamaleia, after reporting his cases,¹ states that while the remedy is effective against the diphtheria, it is less efficacious against polyneuritis. Escherich, also, after reporting fifty-one cases, states that antitoxin does not prevent paralysis, but does perhaps lighten it. Baginsky expresses the opinion, however, that if treatment be begun early it does prevent palsies, and reduces them to four or five per cent.

Taking the statistics as a whole, the percentage of palsies following diphtheria treated by antitoxin is somewhat lower than that which prevailed formerly. But there are some striking exceptions to this, and, apart from the figures, the general opinion is that the use of antitoxin does not lessen the frequency of these palsies. It is further stated in explanation of the occasional frequency of paralysis after antitoxin that a larger percentage of cases gets well, and hence there are more persons who are susceptible to the disease. The fact is assumed also that the severer the diphtheria the more likely one is to have a paralysis, and since more severe cases recover there are more patients especially susceptible to paralysis. This statement is made by Goodall, but it has not been the previous opinion of writers or observers generally and it is directly opposite to the statements made by Gower and also in Sachs' recent work on "Nervous Diseases of Children." One would think, on the other hand, that the proportion of cases that has recovered under antitoxin and that is susceptible to paralysis would be considerably lessened because a larger number of the younger children are saved, and these children are not so susceptible to palsy as the older ones. The percentage of diphtheritic palsies after use of antitoxin ought to be less, because the young are saved. Older children never did have a great death rate.

While it is shown by the figures so far collected that diphtheritic palsies are not increased by the use of antitoxin, the fact that they are not very much affected or not stopped shows that the antitoxin, however effective as a whole, is not given in sufficient doses to prevent the specific effect of the diphtheria on the nervous system. The absolute and final test of the specific character of the diphtheritic bacillus, according to Dr. Sydney Martin, is that it has the power to produce a poison which causes degeneration of the nerves and nerve cells. He asserts that injections of either the diphtheritic albumose or of the toxin obtained from the membrane will cause these degenerative changes when injected into animals. He asserts, furthermore, that the injection of the antitoxin does not cause these changes, and, third, he asserts that when animals have received injections of diphtheritic toxins and then of antitoxin, the nerves are not affected. The fact, therefore, that persons who suffer from diphtheria and who receive antitoxin injections

¹ "Ueber Diphtherie," etc., 1895.

¹ Vratsh.

still develop post-diphtheritic paralysis shows at least that the antidotal action of antitoxin is not complete. It would not be fair to say anything more, and it may well be said that though this antidotal action is not complete, so far as the nerve centres are concerned, it is sufficient in a large number of cases to prevent serious destruction of the organism.

PULMONARY TUBERCULOSIS TREATED WITH MARAGLIANO SERUM.

BY FRANCESCO CARLUCCI, M.D.,

NEW YORK.

THE serum therapy has given rise to many fears of a possibility of doing harm to the human organism, and nowadays there are theorists who would like to have it cast out from practice altogether. But these fears are exaggerated, because, by the clinical and experimental researches made by Zagari on healthy men and on patients in different stages of chronic nephritis, it has been demonstrated that the plain serum or the serum plus antitoxins in therapeutic doses is absolutely harmless to the kidneys. These observations have also been confirmed by Mya, Ranke, Seitz, and Kahaden. The serum therapy after its brilliant success in diphtheria has greatly widened the horizon to the clinician and pathologist.

Behring, Tizzoni, Nocard, Roux, Vaillard have applied the serum therapy in tetanus; Foà in pneumonia; Pleiffer and Ransom in cholera; Babes in hydrophobia; Zimmerman, Emmerich, and Roux in cancer; Marmorek in puerperal infection and scarlet fever with results more or less encouraging. After the failure of experiments with antitubercle serum made by Richet, Hericourt, and others, Maragliano succeeded in preparing a serum which has nothing in common with Koch's lymph. It is a transparent liquid of an amber-yellow color and of the density of the ordinary serum. We do not yet know the formula of its preparation; all we know is that the method of vaccination pursued by him is entirely different from that of others. He has used all the soluble toxic products of a virulent culture of human tuberculosis—that is to say, substances which are destroyed by heat, called protein, and substances resistant to heat, called toxin. The vaccine thus prepared is inoculated into dogs, asses, horses, in gradually increased doses till it reaches the highest proportion. From these animals the serum is drawn. We do not know the true action of the antitubercle serum any more than we know the action of the diphtheritic antitoxin. The serum neutralizes the toxic products (Maragliano), or exalts the natural means of defence (Bouchard), or acts by modifying the protoplasm of the cells. Whatever may be its action there is the essential fact that the serum neutralizes the action of the tuberculin. It is well known that an injection of three milligrams of tuberculin causes a reaction in a patient suffering from tuberculosis with no fever; now if the same patient be given first an injection of one cubic centimetre of serum and one of three milligrams of tuberculin afterward, the reaction is stopped. Evidently this fact shows that the Maragliano serum contains defensive substances.

Maragliano claims that in sixty per cent. of cases treated with antitubercle serum the results are good. When we think of the great death rate of tuberculosis, almost one-seventh of the human race succumbing, his statistics must be considered as very encouraging. I have tried the serum in five cases of pulmonary tuberculosis in which the examination of the sputum and the analysis of the urine were made by Dr. Giantureo, to whom I am greatly indebted.

CASE I.—N. N.—, woman, aged thirty-four, mar-

ried, has no children. Her mother died at the age of thirty years of pulmonary disease; her father, brother, and sister are alive and in good health. Two years ago she contracted a cold from which she never recovered. Physical examination, made on November 1, 1895, revealed a circumscribed chronic broncho-pneumonic focus with a small cavity and abundant râles at right apex. There were a few small râles at left apex. Temperature was 102° F., pulse 120, respiration 26 in the evening. The cough was so frequent that it caused pains all over the chest. There were night sweats, dyspepsia, and great debility. The expectoration was very abundant and of muco-purulent character, showing countless tubercle bacilli under the microscope. Her weight was one hundred and thirteen pounds. After ten injections of one cubic centimetre of serum made on alternate days the temperature fell to 101° F.; the pulse was 96 and respiration 22. After thirty-two injections the fever in the evening reached 99° F., pulse 84, and respiration 22. The cough became less frequent, so that the pain in the chest ceased entirely. The digestion was so improved that the patient could eat with appetite; thus she felt better physically and morally. On physical examination it was found that the râles had disappeared from the left apex and that there was no modification in the right. In the urine there was nothing noteworthy.

This amelioration brought about by the serum could not be obtained by a previous treatment with creosote during five months.

CASE II.—C. R.—, man, aged twenty-five, fruit pedler. His mother died of tuberculosis, his father is alive. He had always been well till last October, when he became ill with a pleurisy on the left side. On November 5th he was admitted to the Italian Hospital in very bad condition. His temperature was 102° F., pulse 130, and respiration 34. Cough was frequent and expectoration abundant. Physical examination showed a pleurisy with a small effusion on the base of left lung and a broncho-pneumonic focus with a cavity on the apex of the same side, with exaggerated breathing on the right side. The sputum showed numerous bacilli with some microbic association. After fifty cubic centimetres of serum had been injected the temperature became normal in the morning, but toward evening it reached 100° F.; pulse 102, respiration 22. The condition of the patient was greatly improved, the cough was diminished, the expectoration was not so abundant and showed less bacilli. Night sweats were diminished also. His weight was one hundred and twenty pounds, he having gained two pounds. The physical examination of the lungs improved somewhat, showing the disappearance of the effusion and a diminution of the râles. When the patient left the hospital his temperature was 99° F., pulse 88, respiration 22, and he felt so strong as to undertake a trip to Italy.

CASE III.—G. W.—, man, aged twenty-four, married, has one child. His father and mother are alive and in good health; an uncle died of tuberculosis. He had always been well up to three years ago, when he had an hæmoptysis which lasted three days. After that he began to lose flesh. On November 18, 1895, he was admitted to the hospital. The patient appeared very much emaciated and pale; his weight was 116 pounds. His temperature was 101° F., pulse 120, respiration 20. He coughed at long intervals, raising a scanty white expectoration. The physical examination of the lungs revealed a circumscribed broncho-pneumonia at the right apex. The sputum showed numerous Koch bacilli under the microscope. After ten injections of one cubic centimetre of serum the temperature was lowered to 99° F.; pulse 98, respiration 18. After other thirty-four injections the temperature became normal,

pulse 84, respiration 18. He coughed only a few times daily; the night sweats ceased completely; his appetite improved and his weight increased three pounds, so that, feeling himself comparatively strong he left the hospital. The expectoration ceased entirely, so it was impossible to obtain any quantity for examination. The râles disappeared from the right apex.

CASE IV.—K. C.—, woman, aged thirty-five, has been married twice. She has had seven children, four being alive. Her father died of tuberculosis and a brother of pneumonia; her mother is alive and well. On February 18, 1895, she had an attack of bronchitis; her physician treated her with creosote and cod-liver oil, but not having improved with this treatment she applied for the serum on November 30, 1895. The physical examination of the chest revealed a circumscribed broncho-pneumonia at the right apex and only a few small râles on the left. Nothing of any importance was found in examining the other organs. Her weight was one hundred and twelve pounds. On December 6, 1895, she was given the first injection of one cubic centimetre of serum. Her temperature was 100° F., pulse 116, respiration 24. After forty injections of one cubic centimetre each, the maximum temperature recorded in the evening was 99° F., pulse 88, respiration 22. The sputum showed scarcely any bacilli, which before treatment were quite numerous. Râles on the left apex disappeared and respiration on the same side became normal, while on the right side only few râles were heard compared with what were manifest before. Her weight increased two pounds. She felt better than she ever had before.

CASE V.—M. S.—, man, forty-four years old, merchant. There was nothing noteworthy in the history of his family. Four months before he had begun to cough and to lose appetite and strength. The examination of the lungs revealed small râles at the left apex. The temperature was normal, pulse 100, and respiration 24; his weight 203 pounds. The sputum showed the presence of Koch bacilli. The patient received thirty injections of one cubic centimetre of serum. The temperature was always normal; the pulse became stronger, 85, and the respiration diminished to 22. His weight increased to two hundred and fifteen pounds. Fewer bacilli were found in the sputum, which became very scanty. Only a few small râles were heard at the left apex.

In the first three cases I noticed that the temperature after twenty cubic centimetres of serum had been injected went up to 103° F., while it had always been lowered by the first five or ten injections. This rising of temperature ceased, however, by discontinuing the injections for a week. In all these cases the urine never showed either albumin or hæmoglobin or peptone.

In conclusion it can be said that

- (a) The serum is innocuous.
- (b) The serum causes the drying up of broncho-pneumonic foci.
- (c) The serum improves the appetite and increases the weight, so that the general return of physical force is felt.

(d) The effect of the serum is gradual.

If for a moment we make a comparison between the results of the antitubercle serum therapy and those of the ordinary methods of treatment (creosote, guaiacol, iodoform, etc.), I think the serum must nowadays be considered as the best curative means at our disposal.

In Italy more than three hundred cases have been treated with the serum with very satisfactory results. The same results have been obtained by Gerhard in Berlin and by Babes in Paris.

Dr. Vidal, after having tried the Maragliano serum, says that he is perfectly satisfied with its action. It must be maintained that because of the harmlessness

of the serum we are justified in attempting to help the consumptive by this inoffensive treatment, which certainly is destined to give in the near future results which the most rational pharmaceutical treatment has never given.¹

233 EAST FOURTEENTH STREET.

Progress of Medical Science.

Some New Observations on Trichinosis.—The views of Leuckart on trichinosis have been generally accepted by the profession. It will be remembered that according to him the young trichinæ are born in the intestinal tract and later on pierce the walls of the bowel before migrating to the muscles. Dr. Askanazy has recently pointed out that nobody has ever actually observed the migration of the embryonic trichinæ through the walls of the intestines. Nor has any satisfactory explanation ever been offered for the curious circumstance that the trichinæ find their final lodgment only in the muscles. Dr. Askanazy has lately completed an experimental study of trichinosis, the results of which are published in the *Deutsche Medicinal-Zeitung*, February 24, 1896. The animals experimented on were rabbits. He claims that the adult female trichinæ find their way into the mucous membrane of the intestine and there deposit their embryos. The lymph channels are specially selected for the deposition of the embryos. The young trichinæ are then carried to distant parts through the agency of the fluid circulating in the lymphatic vessels. This would explain why several days after feeding trichinæ to an animal the males so largely preponderate over the females within the intestinal tract. It would also explain why it is sometimes impossible to discover trichinæ at all within the lumen of the bowel. The practical observation has also been made by the author that aperients are quite useless in the later stages of trichinosis. The author also regards the presence of trichinæ in various organs in the light of embolic infarction rather than as due to active migration. He is unable to assign any particular reason for the special predilection shown by the young trichinæ for striped muscle.

Typhoid Fever in Children.—Dr. John Lovett Morse (*Boston Medical and Surgical Journal*), in an interesting and instructive article on typhoid fever in children, offers the following conclusions: "Typhoid is a common disease in childhood but rare under two years. It occurs about as frequently in children between five and ten as in those between ten and fifteen. The mortality, in cases under fifteen, is about six per cent., or half that in adults. The rate of mortality increases directly with the age. The course is shorter and less severe than in adults, this, as well as the low mortality, being due to the slight intensity of the intestinal lesions. The severity increases directly with the age. The onset is acute in about one-third of the cases in the second five years and in about one-fifth of those in the third five years. Nose-bleed occurs in about fifty per cent. of all cases and is often severe. The average duration of the fever is a little less than three weeks, being somewhat shorter in younger than in older children. The proportion of cases in which the duration is not more than ten days is twice as great in children under ten as in those over ten. The temperature curve is less typical than in adults. The remittent second stage is absent in more than fifty per cent. of the cases under ten and in forty per cent. of those between ten and fifteen. Relapses are nearly as frequent in children as in adults and follow the same

¹ See *Nouveau Montpellier Médical*, February 3, 1896, "À propos du serum antituberculeux du Professeur Maragliano."

course. The tongue is rarely as dry as in adults. Vomiting is a common initial symptom and is not very infrequent during the course of the disease. It is not an unfavorable symptom. Constipation is more common than diarrhoea, especially in younger children. Distention is present in from fifty to seventy per cent. of all cases, and is more common in younger children. It is not infrequently extreme. Tenderness is present in about half of the cases, but is rarely very marked. Hemorrhage is very rare under ten years and much less common above that age than in adult life. It is fatal in about half of the cases. Perforation is extremely uncommon. Rose spots are present in from sixty per cent. to seventy per cent. of all cases. The spleen can be demonstrated clinically to be enlarged in from eighty per cent. to ninety per cent. of all cases. This enlargement is usually moderate but may be extreme, more commonly in young children. Capillary bronchitis occurs in about forty per cent. of all cases. In some cases it may mask the abdominal symptoms, especially in younger children. Other pulmonary complications are rare. Headache is complained of in about seventy-five per cent. of all cases, but is rarely severe. Marked nervous symptoms occur in at least twenty-five per cent. and are equally common at all ages. The condition is one of stupor in from fifteen per cent. to twenty-five per cent., and of delirium in the remainder. The delirium is more commonly active. Crying out at night is common, especially in young children. Meningeal symptoms are not infrequent and are more common in young subjects. Neuritis occurs, probably more often than is supposed. Albuminuria is common and occurs with equal frequency at all ages. Serious renal complications are rare, especially in young children.

Hæmostatics in Hæmophilics.—Dr. H. C. Howard, of Champaign, Ill. (*American Jour. of Surg. and Gyn.*), has for twenty years used hypodermic injection of a saturated solution of tannic acid around the seat of bleeding. Dissolve the acid by aid of heat. Make from three to six injections around the seat of the injury, using a saturated solution as hot as can be stood. Also inject hypodermically one-twentieth of a grain of strychnine and repeat every two hours if needed. Strychnine by its influence upon the vasomotor nerves usually checks bleeding in a short time, but when the amount of blood lost is considerable it is best to adopt the above method of local treatment.

Umbilical Hernia in Infants.—Dr. Cahier has studied this subject and reaches the following conclusions: 1. In the children of either the rich or poor the radical cure of umbilical hernia must be tried up to the age of eighteen months or two years, unless there be certain exceptional contraindications. 2. In these young patients the use of the conical pad and the elastic spring are to be avoided. A hemispherical hard-rubber pad supported on a metal plate and held in place by a bandage is the best appliance. The apparatus should be changed every eight or ten days. 3. In children two to seven years of age belonging to well-to-do families, who are carefully looked after, an attempt may still be made to cure the hernia by bandage. 4. Children of the same age, whose parents are poor and consequently unable to give the necessary care to the child, or if they are negligent or ignorant, should not be subjected to this treatment if there is any tendency for the hernia to increase or to give trouble. 5. The umbilical hernias which persist after the seventh year, in spite of the careful use of the bandage, may be treated by other measures. The author favors surgical interference under the following circumstances: 1. Umbilical hernias of the newborn if strangulation occurs or if persistent gastro-intestinal troubles are

induced which seem to be dependent upon the hernia. 2. The hernias in children of from two to seven years present analogous indications. 3. Children of this age belonging to poor families, who do not receive proper attention, if at the end of a year or eighteen months the hernia is still of the same size. 4. Hernias that persist after the seventh year, that are rebellious to treatment, and tend to increase in size. 5. If the skin covering the hernia is inflamed or ulcerated. 6. If the hernia interferes with the occupation that the person has selected. 7. Umbilical hernias with a large ring. 8. Those that are subject to strangulation or inflammatory accidents. 9. Those that cause pain and gastro-intestinal disorders, and consequently interfere with the development of the child.—*Revue de Chirurgie*.

Practical Disinfection of Rooms.—The frequency with which second and third cases of scarlet fever appear in houses that have been disinfected by the inspectors of sanitary authorities, says *The Lancet*, causes grave doubts as to the efficiency of the procedure usually adopted, despite its official sanction. Stripping the walls, lime washing walls and ceilings, and scrubbing woodwork and floor boards with soap and water are indeed effectual enough, and to these when thoroughly done we are disposed to ascribe any successful results rather than to the more technical process of so-called disinfection by sulphur fumes, which is little better than a superstitious rite or incantation shorn of the religious character it had in the mind of Ulysses when he "fumigated" the halls desecrated by the massacre of his wife's suitors after removing the corpses and washing away the blood with a promptness that precluded all thought of other than moral pollution. But in the light of bacteriological experiments dry sulphurous acid fumes, whether generated by burning sulphur or carbonic sulphide, or, as has of late become the fashion, by opening cylinders of the compressed gas, are for all practical purposes useless. The gas would act as a fairly powerful germicide on articles or fabrics previously saturated with water, but its bleaching action precludes its employment in this way with colored materials, carpets, or curtains, and it is as what is called an "aerial disinfectant" that it holds its ground in popular esteem. But aerial disinfection is an absurdity; no one wants to purify the foul air, which is easily enough removed by simple ventilation. In disinfecting a room the true aim is to kill the germs contained in the dust on ledges or in the crevices between the boards, or adhering to the walls and other surfaces, and the dry gas is powerless for this, which is best attained by a sublimate solution of the strength of 1 part in 1,000, or by lime (not white) washing, provided the lime be fresh burnt and caustic; the carbonate or chalk used in whitewashing under the name of whiting, and into which lime is converted by long exposure to the air, being inert. The series of experiments on the infection and disinfection by various means of wall papers, distempers, and other wall surfaces conducted by Dr. Cronberg, under the direction of the late Professor Uffelmann at Rostock, showed that subsequent scrapings were invariably and almost instantaneously sterilized by washing or spraying with the sublimate solution, and equally so by lime wash after the lapse of twelve to twenty-four hours. The danger of corrosive sublimate is, we believe, exaggerated, for the smallest fatal dose for an adult being probably three to five grains—equal to at least a quarter of a pint of the solution—accidental poisoning with the solution is practically not probable, and as a further safeguard it might be colored with indigo or "laundry blue." Carbolic acid, which is sold without restraint and is in universal use, is more dangerous on that account, and is, indeed, fre-

quently employed with suicidal intent and with fatal effects. In France, Germany, and Italy sublimate has nearly superseded all other disinfectants and its neglect in this country is inexplicable. As to carpets, curtains, bedding, and clothing, all that is capable of being washed should be plunged in a copper of boiling water for a quarter of an hour and such articles as would be spoiled by this treatment should be disinfected by steam.

A New Styptic.—Roswell Park (*Medical News*) finds a spray of five-per-cent. solution of antipyrin made up in sterilized water a useful styptic in surgical operations, especially in parenchymatous oozing. He considers a combination of antipyrin and tannic acid still more useful, as it precipitates a thick, gummy, cohesive substance which is an ideal styptic for certain purposes. An alcoholic solution of tannic acid may also be taken and antipyrin added until it forms a precipitate of the required consistency. This is useful in hemorrhage from bone, as in operations upon the cranium. The only difficulty connected with it is the difficulty of detaching it. Sometimes it is necessary to wait for the formation of granulations and separation by natural methods.

Pseudo-Puerperal Infection from Constipation.—Dr. L. Dulrisay mentions (*American Medico-Surgical Bulletin*) the fact that constipation after confinement may give rise to many of the symptoms of puerperal infection. He cites a case in which there was no movement for four days. The temperature reached 103° F., pulse 120, tongue coated, breath fetid, and abdomen swollen and tender. The symptoms all disappeared after active purgation.

The Passing of Hypnotism.—Hypnotism as a therapeutic agent is now having its day in regular medicine, but it is a day that is probably well past its meridian, says an editorial writer in the *Journal of the American Medical Association*. The belief that it has its dangers and that these overbalance its possible benefits has grown within the past few years, and the number of regular physicians who use it in their practice is probably very markedly on the decrease. It is legitimate to utilize pathologic conditions and even to produce them in therapeutics, but it must be demonstrated as of utility on reasonable *a priori* grounds, or, at least, have the best of clinical and experimental evidence in its favor to make it expedient or justifiable. When, with a better knowledge or theory of the condition the *a priori* deductions tend to its disfavor as a healing agency, only the most decided clinical proofs of its value, applying not only to immediate but also to remote results, should be required before its use in the treatment of disease is countenanced to any extent. The revival within the past sixteen years of interest in hypnotism, the claims of the Nancy school, and published accounts of the experiences and practice of numerous physicians and scientific men of repute, such as Forel, Voisin, Benswanger, Bramwell, and others, have given it a certain status in legitimate therapeutics considerably beyond what it possessed in its former period of cultivation some fifty years ago. It is probably not known to the general medical public of to-day, or if known is forgotten, that at that time it had its popular pseudo-scientific standing and was investigated by men of science, who came to very much the same conclusions as those of the present day. This fact has been well shown by Dr. Kiernan, who states that the earlier alienists of this country recognized the dangers of hypnotism, its psychologic basis, and the element of morbidity that is required to predispose to susceptibility. The outcome of the whole at that time was to relegate it back among the pathologic curiosities of little practical value, and it slumbered, in a

medical point of view, for over thirty years. It seems probable that we are to see history repeat itself, and that before many years the medical profession will drop hypnotism as a therapeutic agent; at least, that will be the general if not the universal rule, and its use will be mostly confined, as it was during the years between 1848 and 1880, to the irregulars outside of the recognized schools of medicine. That is its tendency at the present time, and while some unquestionably able men are still experimenting with it, a too great credulity as to its value and powers has seriously injured some high scientific reputations—that of Luys, of Paris, for example, among others. We need not, says the *Journal*, particularize here on what may be rightly called the thoroughly disreputable therapeutics of hypnotism as applied by certain prominent German physicians. The dangers of hypnotism are already indicated when we consider its close relationship to hysteria and to hysterical conditions, which has been shown by Charcot, Gilles de la Tourette, and others in France, Germany, and elsewhere. Of all pathologic conditions hysteria would seem to be one of the least likely to be therapeutically useful, and the utilizing of hysteroid anesthetics and other disturbances of consciousness, going so far, even, as to the production of what may perhaps be properly called epileptoid conditions of double consciousness and amnesia, without regard to the after-effects of such disordered cortical functioning, is not a procedure that ought, it would seem, to be countenanced as a legitimate method of treatment of any condition; a condition, moreover, in which the will is in abeyance is not a normal one and its tendency must be to weaken the inhibitory power of the brain and change its functions, possibly even to the extent, in some cases, of producing serious mental disorder. As Hack Tuke mentioned, some thirty years ago, hypnotic conditions have in a fashion something of the character of an induced temporary insanity, and their too frequent repetition may make the derangement a permanent one. Such has undoubtedly been the case in not a few instances, to say nothing of the aggravations of hysteria and even the production of epilepsy in some cases. The dangers of hypnotism are real, and the fact that the majority of the victims escape the worst of them, does not in any way excuse the reckless experimentation that is sometimes carried on for ostensible therapeutic ends. If the major hypnotism, or that which commonly goes under the name and is attended with marked disturbances of consciousness, has even any utility in treatment, it must be a very limited one and the chances of its doing mischief greatly outweigh its advantages. It may be asserted that the interest in the subject has been to the advantage of the profession, by calling attention to the therapeutic value of suggestion, and, to a certain extent, this claim may be allowed. It has not, however, increased our practical knowledge in this direction; it has only led to a possible wider recognition by the regular profession of the advantages of suggestion. The legitimate use of suggestion is, however, quite as different from hypnotism, as the latter is generally understood and practised, as it is from its illegitimate use, which leads directly to quackery.

The Fœtus as a Patient.—The risks to which the fœtus is subjected in parturition have been engaging the attention of Dr. Demelin. In referring to his studies editorially, the *New York Medical Journal* says that it may be readily understood that the child is often endangered during labor, for a large number of diseases affecting the mother lead to jeopardy of the fœtus—such as the various infectious diseases, febrile or not; such as variola, syphilis, etc., in course of evolution; certain visceral diseases, such as the affections of the heart in the asystolic stage, renal lesions with uri-

nary toxæmia, etc.—in fact, all grave conditions which begin ordinarily before labor, and, moreover, are capable of provoking premature birth. The size of the child should also be taken into consideration, for if it is very small it offers a feeble resistance to injury. Protracted labor, premature rupture of the membranes, premature detachment of the placenta with the hemorrhage it causes, compression of the cord and especially its prolapse, are the principal causes of danger to the child, and they should always be considered as possible or probable. All this, however, says the writer, is mere supposition, and more convincing proofs of actual danger to the child are required. Two kinds of symptoms lead us to infer that the child is in peril:

1. Modifications of the foetal heart sounds.
2. Changes in the amniotic liquid.

With regard to the first symptom, says Dr. Demelin, in a normal condition the foetal heart beats regularly and rapidly in the interval of the uterine contractions; the pulsations are from 120 to 160, sometimes less, but always more than a hundred if the foetus is healthy. The beatings are powerful, distinctly perceptible, with an intensity which renders them unmistakable, and there is no synchronous souffle. But a uterine contraction supervenes, and the cardiac rhythm becomes modified, especially if the period of expulsion has begun and if the membranes of the ovum are already ruptured. On auscultation when the uterine wall hardens, we find that the foetal heart beats, after a very transitory acceleration, diminish in intensity and in rapidity. At the height of the pain they become very slow and occasionally they cannot be perceived, but when the contraction begins to subside they gradually regain their force and rapidity. Slowing of the heart's action, says Dr. Demelin, should not cause any uneasiness if it is observed during a contraction, but the case is quite different if the cardiac rhythm changes during an interval between the contractions; then it may be said that the child is in peril if the heart beats become blowing, if they fall below 100 a minute, if they are irregular or very feeble, and, finally, if they become extremely rapid after having been previously slackened, for instance, more than 160 a minute. When the heart beats fall below 20 a minute, death is near. It is not always easy to practise auscultation, says the author, on account of the movements of the patient, and if the uterine contractions follow each other without intermission it is impossible to obtain stethoscopic information. Besides, the child may really be in danger, although the rhythm of the heart beats appears normal during the intervals. This contingency, which, without doubt, says the author, is exceptional, is nevertheless proved by the sequence of events and particularly by the modifications presented by the amniotic liquid. With regard to changes in this liquid, says Dr. Demelin, the alteration of the cardiac rhythm gives information as well before as after the rupture of the membranes, and it is in this that the importance of this symptom lies. The amniotic liquid which is discharged at the moment of the artificial or spontaneous rupture of the membranes should be transparent, yellowish in color, with a peculiar odor, but not fetid. When these characteristics are retained the child is not in danger. If the liquid, however, becomes of a greenish color, more or less dark, we should be alarmed, and if it becomes thick, like a thick soup, there is still greater reason for alarm, especially when there is a peculiar fetid odor noticed. At the very time when the amniotic liquid is infected the heart beats may appear to be normal, and the situation is all the more alarming because the danger is insidious, for it is not perceived until a discharge of amniotic liquid occurs. Often it is then too late to save the child; it may be extracted living, but death nearly always follows from infection. When the foetus presents by the breech a green color

of the amniotic liquid, due to the meconium, is of no grave significance. The uterine contractions then compress the abdomen and expel the meconium, which is found in similar circumstances in rather large clots instead of being liquid. In other presentations the presence of meconium in the amniotic liquid is always an alarming sign as regards the child; if the liquid is very thin the danger is greater than when there are masses of meconium, and the maximum of gravity is reached when there is much foetor and when at the same time there are profound modifications in the rhythm of the heart beat. On the whole, says the author, a green color of the amniotic liquid always indicates a serious danger for the child, and perhaps it has a greater prognostic importance than abnormal action of the foetal heart. With regard to the treatment in such cases, says Dr. Demelin, nothing is simpler, theoretically at least. Labor must be terminated as soon as possible, and it is important to work rapidly, but without violence or precipitation, for although the child may be able to resist asphyxia, it is very susceptible to traumatism, and resuscitation is more easily and surely accomplished after a slow operation than after a rapid and violent intervention.

Syphilis of the Placenta.—Dr. Schwab (*La Presse Médicale*, December 14, 1895) has made a histological study of placenta syphilis, from which he concludes that lesions are to be observed in these cases, which belong with the recognized manifestations of the disease. They are characterized especially by signs of endo-periarteritis, so well marked that they may be looked upon as specific changes. The author thinks one can henceforth describe a syphilitic placenta just as we speak of a syphilitic liver.

Fundus Height during Labor.—Fothergill (*Edinburgh Medical Journal*) has taken measurements during various stages of labor. The fundus rises three-tenths of an inch before labor ends, while the measurement from the fundus to the pubes lessens one inch before birth. The length of the parturient canal is not shortened before delivery. The womb grows narrow as the child passes through the uterus into the vagina. As labor advances the uterus contracts antero-posteriorly. The fundus does not sink before the birth of the head.

Poisoning with Nitric Acid.—Dr. Moser has reported the post-mortem findings in a case of poisoning with nitric acid (*Brooklyn Medical Journal*). The mucous membrane of the mouth was yellow, that of the œsophagus softened. In the latter the longitudinal folds were abnormally prominent, and covered throughout their entire length by yellowish streaks. The mucous membrane between these folds was a little reddened and soft, but not stained. The mucous membrane of the stomach, from its cardiac to its pyloric extremity, was converted into a thick, greenish-black slough. The mucosa was thrown into prominent folds. There was no perforation. The mucosa of the duodenum was softened and yellow. The small intestine was but slightly affected, and contained a black fluid. The intestinal discharges were of a bloody character. The heart, the blood, and the spleen presented no change. The kidneys and liver showed parenchymatous alterations. The pancreas was the seat of parenchymatous inflammation with punctate hemorrhages.

Diphtheria of the Skin.—We are told by the Berlin correspondent of *The Lancet* that Dr. Flesch, of Frankfort, has observed this case: A girl, aged two and one-half years, was scalded with boiling water on August 3d, nearly the whole left side from the lips to the umbilicus being involved. On the places where the clothes had retained the hot water the effect was very severe, while it was superficial on the face and neck. The whole of the injured surface was covered

with two-per-cent. salicyl vaseline and cotton wool, the dressing being changed daily. The child on the first evening had a temperature of 39.6° C., but felt quite well the next day. On the seventh day the superficial scalds of the neck and face were covered with fresh epidermis, so that the dressing was no longer necessary there, and the mother, overjoyed at this improvement, kissed the girl's neck just on the limit where the deep wound was beginning to granulate. On the following day the mother suddenly complained of pains in the throat, and in the evening an obviously diphtheritic inflammation of the tonsils was visible. She and the child's aunt, who was seized with the same disease, were therefore isolated, and the child's father, who felt ill the following day, had apparently a slight sore throat, the nature of which was very probably diphtheritic. Both ladies were treated with injections of Behring's antitoxin and subsequently developed hemorrhagic nephritis, but quickly recovered. On August 13th the spot where the child had been kissed showed a very remarkable alteration. The skin was covered by a gray mass and was much swollen, the œdema extending as far as the eye, while the edge of the spot was irritated and somewhat elevated. The child was, therefore, treated with Behring's antitoxin, and on bacteriological examination of the gray mass Dr. Benario found an abundance of Loeffler's bacilli and cultivated them on agar. On the third day the gray mass disappeared, together with the œdema, but was replaced by an ulceration, which healed after a short time. Some time afterward a slight paresis of the palate appeared, but there was no other complication, the throat of the child being unaffected. Professor Flesch states that diphtheria of the skin usually occurs only in the neighborhood of tracheotomy wounds, and is very rarely found in other parts. As the diphtheria attacked the new epidermis but spared the granulations, he concludes that the moist granulations hindered the disease from spreading over the whole surface of the body, but that newly formed epidermis is favorable to the growth of Loeffler's bacilli.

Double Penis.—At a recent meeting of the Clinical Society of London, a report of which appears in *The Lancet*, Mr. John H. Morgan showed an infant eighteen months old who presented the following abnormalities of the external genitals. On each side there was a large and well-formed mass of scrotal tissue containing well-formed testes, with spermatic cord and vas deferens. These were separated from each other at their upper extremity by two well-formed penes, which measured about three-fourths of an inch in length, the left being rather longer than the right. In each the frænum was absent, and the corona was but slightly marked. There was no urinary meatus in either. Each was attached to the ramus on either side, the pubic rami and symphysis being apparently normal. Below the root of these two organs was another prominent mass of tissue about three-fourths of an inch in length, consisting of a pouch of skin and subcutaneous tissue, in the centre of which was a firm and more fibrous body which was attached immediately below the two penes, lying midway between the two scrotal prominences, there being a deep sulcus on each side between it and these. Posteriorly to this finger-like process was a mass of skin and subcutaneous tissue covered by epithelium resembling that of skin except upon its posterior surface, where it was more like mucous membrane. This projected forward about half an inch and looked like a small mamma, on which was a prominent bluish nipple. The left part of it was a small pedunculated body which stuck out like a small pea and was attached to the finger-like body. Below this, lying in the middle of the perineum and in front of the anus, was a prominent mass of mucous mem-

brane measuring about one and one-fourth inches from before backward, and three and three-fourths inches from side to side. This was very red and vascular, and protruded when the child cried. Along its right attachment was a slit about half an inch long, which admitted a probe into a long narrow cavity passing vertically upward for about two inches, in which the probe could not be moved laterally. This was evidently the mucous membrane of the bladder, as the urine drained from this surface when the child was at rest, and when it cried was driven in jets from the orifices of the ureters, which could then be seen. Behind this protruding mucous membrane lay the anus, which easily admitted the little finger, but no abnormality could be detected in the rectum. The child presented no other abnormality except that at the upper part of the lobule of each ear there was a small fibrous prominence. Nothing abnormal could be discovered on auscultation of the heart, but the limbs became much cyanosed when it cried.

The Absorption and Elimination of Lime Salts.—Some years ago Rudel published a study wherein he showed that when rachitic infants are fed in the same manner as healthy ones their urine contains the same, or very nearly the same, quantity of calcium, and that in the two classes the elimination of lime salts increases equally under the administration of pharmaceutical preparations of lime. From this, says the *American Journal of the Medical Sciences*, Rudel concluded that the absorption of lime salts from the intestine was accomplished in the same way in both rachitic and non-rachitic subjects, and that rachitis should not be attributed to an insufficient absorption of the lime salts of the food. In another series of experiments Rudel showed that the administration of acids capable of dissolving lime salts (e.g., HCl) increased the elimination and consequently the absorption of lime salts, and, *per contra*, that elimination and absorption are diminished by the administration of substances which possess the property of precipitating the lime salts (phosphate of sodium); and, finally, that absorption of lime salts is increased when the intestinal peristalsis is retarded (opium), and diminished when the contractions are increased (diarrhoea). Finally, Rudel showed that the proportion of lime salts is the same in the fæces of rachitics and non-rachitics when the two are submitted to the same diet or the same medication. This work has been recently reinvestigated by Rey (*Deutsche med. Wochenschrift*, 1895, No. 35, p. 569), who confirms the conclusions already drawn by Rudel. In the first series of experiments he shows that there exists a direct connection between the proportion of lime salts in the urine and those in the fæces, so that a knowledge of the quantity of lime salts in the urine gives evidence of the absorption and elimination of these salts by the organism. In another series of experiments made with rachitics he demonstrated that the administration of a lime salt (acid acetate of lime) is followed for several days by an increase in the proportion of calcium in the urine. In a third series of experiments the author studied the influence of phosphorated cod-liver oil, simple cod-liver oil, and phosphorus alone, upon the absorption and elimination of lime salts in rachitics. The researches based upon analyses of the urine showed that the phosphorated oil decidedly increases both absorption and elimination, even more notably than the plain oil. On the other hand, phosphorus alone seemed not to exercise any influence upon either process.

Creosote in Lupus.—Gérénine recommends the beechwood product, pure in compresses, or a ten to thirty per cent. solution in oil or glycerin. The treatment is slow, but produces a minimum of scarring.—*Semaine Médicale*, 1895.

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ASEPTIC SURGERY IN GERMANY.

THE student who was asked to give the mathematical definition of a straight line, and who merely answered that any fool could draw one, was in the same position as is the average medical man when questioned on asepsis as he may understand it. The answer is equally direct and expressive when the real meaning of absolute cleanliness of instruments, wound dressings, and operator are clearly appreciated. The principles are acknowledged, but the details of their evolution are mostly at fault. In commenting on the latter point an admirable text is given in an article by Mr. Gabriel W. S. Farmer in the *London Medical Magazine* for March, on "Aseptic Surgery in Germany." We are safe in premising that aseptic surgery is carried to greater perfection in that country, except perhaps with those who follow German methods here, than anywhere else in the world. According to Mr. Farmer's own statements, in London surgeons are far from being careful, proving that Lister, their own townsman, is too near to affect them by his example and is thus without the usual honor, in a scriptural sense at least, in his own home.

"It is no rare thing," says he, "to see surgeons in England operating in old coats put aside for the purpose, comparable to the old coats which we keep in the dissecting-room. In England I have seen surgeons using nail brushes which lie about anywhere, which are used for washing away pus or even fæces from one's hands, which are supposed to render one's nails and fingers aseptic, and which are rarely if ever sterilized. . . . One sees blankets brought straight from the bed of the patient to the operating-table, remaining there throughout the operation."

As an offset to these surgical misdemeanors the operator dips his hands into a solution of carbolic acid or of bichloride of mercury, washes out the wound with some chemical, and applies non-sterile but fancy dressings. All this in the very home of the prophet!

It is very properly admitted that we have made great progress since Lister first enunciated his principles, a fact due almost entirely to the patient and exhaustive studies of the German bacteriologists, and quite naturally we look to them as the enunciators of the advanced doctrine of asepsis. It is with such a view that we are impelled to give the impressions of the

aforementioned writer on some of the essentials of proper wound treatment. He makes three divisions of his subject: 1, the preparation of the patient; 2, the preparation of the surgeon and assistants; 3, the operation itself.

Everything turns upon absolute cleanliness before and during the operation rather than afterward. It is asepsis pure and simple against antiseptics always imperfect and always difficult. The patient is usually scrubbed thoroughly with soap and water just previous to the operation, and also the day before if possible. Each time he is either wrapped in sterilized sheets or sterilized pajamas are used. All hair in the neighborhood of the field of operation is shaven, and the prospective wound area is again thoroughly washed with soap, water, and sterilized nail brush while the patient is on the operating-table. The parts are dried with sterilized towels or gauze, and finally washed with alcohol, ether, and sublimate solution, 1 to 1,000. Next sterilized towels are spread around the body, leaving only the field of operation exposed.

The preparations for the operator are equally thorough and elaborate. The coats are laid aside in a room apart from the patient, where a preliminary washing of hands and arms, and cutting and cleansing of nails take place. The surgeon and assistants then put on long, freshly sterilized linen gowns with short sleeves. The final washing of hands and forearms takes place in the operating-room, first with soap, water, and nail brush; then with eighty-per-cent. alcohol, and in some instances with ether besides; and lastly with a sublimate solution, 1 to 2,000, the hands being immersed for a minute or more in the latter. The nail brushes and nail cleansers are kept in separate dishes immersed in sublimate solution, 1 to 1,000, and are boiled after each operation.

As to the operation itself, all instruments are boiled for five minutes in a dilute solution of soda, and after immersion in cold sterilized water for cooling purposes are placed upon a sterilized-gauze tray. Sterilized gauze is used instead of sponges. From the beginning to the end of the operation no antiseptic touches the wound. The dressings are simply composed of dried sterilized gauze and are kept in place by sterilized bandages. In a considerable number of cases the dressing is iodoform gauze covered with collodion. Drainage is mainly carried on by strips of sterilized iodoform gauze, rubber tubes being rarely used. Kocher uses sterilized glass tubes. Infected wounds are packed and when healthy granulations appear are united by secondary suture, a method specially advocated by v. Bergmann.

In reference to wound irrigation the following significant statement is made: "The germ-killing influence of antiseptic wound irrigation does not rest upon experimental evidence for its truth." As to the possibility of destroying pus germs by such means grave doubt exists; indeed, it is boldly claimed and with good reason that aside from lessening the number of pathogenic bacteria, no other influence is noted; in fact, that surgeons who do not use irrigation have equally good results with those who do. Here comes

the real difference between asepsis and antiseptis, the former being the scientific and the latter the empiric method of wound treatment. Asepsis prevents infection, but antiseptis cannot effectually kill all the morbid germs in a wound already infected.

While giving the technique of the German methods, we are pleased to state that American surgeons are in all essential respects up to date, are firm endorsers of the German practice, and are staunch believers in the principles of absolute cleanliness, thus preventing the possibility of mischief rather than making vain attempts to remedy it after inviting it.

THE MECHANICAL TREATMENT OF HEART DISEASE.

THE employment of systematic and carefully regulated muscular exercise in the treatment of cardiac disorders is of comparatively recent origin. While the method may never become universally applicable in the routine of general practice, there is, nevertheless, enough in it to merit serious attention.

Dr. Robert Saundby, of Birmingham, England, has published in the *British Medical Journal*, No. 1,818, 1895, some remarks on this system of treatment under the title of the "Schott [or Nauheim] Treatment of Heart Disease." Saundby's remarks bear impartial testimony to the value of this method of practical therapy. The author tells us that the beneficial effects of Nauheim baths in the treatment of chronic cardiac disease were first proclaimed by the late Professor Bencke, about 1872, before which time there existed an unfounded dread of employing them in these cases. A few years afterward his teaching was reinforced by monographs from the pens of Drs. August and Theodor Schott, and the Nauheim bath treatment for heart disease gained considerable repute in Germany. The success obtained by the Zander movement cure induced Dr. A. Schott to devise a system of mild gymnastics or drill for the treatment of neurasthenic and hysterical patients, of whom a considerable number come annually to Nauheim. Some of these patients had rapid weak hearts, and it was discovered with some surprise that the exercises, instead of quickening the heart's action, slowed and steadied it; further experience showed them that this result followed also in organic disease of the heart, so that a method originally devised for steadying and strengthening the nervous system proved to be a valuable adjunct to the bath treatment of cardiac disease.

As to the method or system followed at Nauheim, we are informed that it consists of medicinal baths and muscular exercises, supplemented if necessary by graduated mountain climbing.

Dr. Saundby is disposed to agree with Schott in the opinion that the system is of special value in all cases of chronic heart disease except those in which there is advanced degeneration of the myocardium, or aneurism of the heart or great vessels, or advanced arteriosclerosis. It has proved of great service in all forms of valvular disease, in congenital cardiac defects, in simple dilated hearts without valvular disease, in the

functional cardiac debility of anæmia, however induced, in nervous irritable hearts, in simple tachycardia, and in the rapid heart of Graves' disease.

In regard to the exercises we learn that they are called "Widerstands-Gymnastik," or resistance gymnastics, and consist of slow movements executed by the patient and resisted by the physician or operator. A short interval is allowed after each movement, during which the patient sits down. The exertion employed must be very small, and should cause no increase in respiratory movements, flushing, or pallor. The patient should be loosely and lightly clothed, and instructed to breathe quietly. The resistance made should be of such a kind that the patient may always feel himself easily the master. The operator must not grasp or in any way constrict the limb, but should oppose by the hand held flatly. The movements are nineteen in number:

1. Arms extended in front of body on a level with shoulder, hands meeting; arms carried out until in line, and brought back to original position.
2. Arms hanging at sides, palms forward; arm flexed at elbow until tips of fingers touch shoulder, back to original position; one arm only moved at a time.
3. Arms down, palms forward; arms carried outward and upward until thumbs meet over head; back to original position.
4. Hands in front of abdomen, fingers flexed so that second phalanges touch those of opposite hand; arms raised until hands rest on top of head; back to original position.
5. Arms down, palms against thighs; arms raised in parallel planes as high as possible; back to original position.
6. Trunk flexed on hips; return to original position.
7. Trunk rotated to left, to right; return to original position.
8. Trunk flexed laterally.
9. As No. 1, but fists clenched.
10. As No. 2, but fists clenched.
11. Arms down, palms against thighs; each in turn raised forward and upward until arm is alongside of ear, then turned outward, and arm descends backward.
12. Arms down, palms to thighs; both together moved backward in parallel planes as far as possible without bending the trunk forward.
13. Thighs in turn flexed on trunk, opposite hand resting on chair.
14. Lower extremities in turn extended fully, and bent on trunk forward and backward to extreme limits of movement, opposite hand resting on chair.
15. Legs in turn flexed on thigh, both hands on chair.
16. Feet together; lower extremities in turn abducted as far as possible, and brought back to original position, opposite hand resting on chair.
17. The arms, extended horizontally outward, are rotated from the shoulder-joint to the extreme limits forward and backward.
18. The hands in turn are extended and flexed on the forearm to extreme limits, and brought back in line with arm.

19. The feet in turn are flexed and extended to extreme limits, and then brought back to their natural position.

Dr. Saundby says that these exercises are easily learned, and that nurses make very good operators, as they do not resist too much.

In conclusion the author holds that a system like Dr. Schott's, which has been slowly evolved and perfected by years of careful clinical work, comes to us claiming attention chiefly from its practical results and is, in Saundby's opinion, in no way discredited by any differences or doubts as to the proper theory upon which it is based. The latter only becomes important when new developments of the system are started, based on doubtful theories and lacking the support of his long experience.

And, finally, Dr. Saundby expresses his strong sense of the danger there is of checking the fair trial of this promising method by the hasty extension of it to cases forbidden by Dr. Schott and against which he especially warns us. Worked carefully and conscientiously on the lines laid down by its originator, it seems capable of being usefully introduced into our hospitals, into private practice, and especially into the practice of physicians at watering-places, where many cardiac patients go annually for the treatment of their rheumatic and gouty ailments.

WEATHER NEUROSES.

It is a well-known fact that some neurotic affections are more or less influenced, as regards both their origin and their intensity, by climatic conditions.

The lancinating pains of locomotor ataxia are commonly made worse by the appearance of cold and wet weather. In multiple neuritis, in many forms of myelitis, even in ordinary neuralgias, similar changes are often observed. The state of the weather perceptibly affects most cases of neurasthenia. There are neuroses, however, according to Dr. Loewenfeld,¹ of Munich, that depend almost exclusively upon certain conditions of the weather. The author classifies these disturbances under the suggestive name of weather neuroses. The symptoms are divided by him into two groups, the first of which comprise the sensory and the second the motor sphere. Pain and paræsthesia belong to the former and different degrees of weakness to the latter. The pains complained of by patients afflicted with "weather neuroses" are generally lancinating in character. The attacks may last from a few hours to several days. Weather neuroses may appear as independent affections or arise as complications of other nervous troubles. Dr. Loewenfeld believes that in most cases only peripheral nerves are affected, although he admits that central disorders are not necessarily excluded.

So far as is known the weather neuroses are functional, not organic, affections. Abrupt changes of temperature, barometrical variations, the sudden alterations from dry to wet weather, or *vice versa*, are

chiefly responsible for the rather obscure symptoms of this group of disturbances.

The prognosis is relatively favorable, especially in young people. In regard to treatment, the author has no particular remedies to suggest. Galvanism, massage, hydrotherapy, and similar measures often afford relief. Tonic treatment is generally indicated. Over-treatment is apt to be harmful.

BOGUS AUCTIONEERS AND BOGUS DOCTORS.

MANY years ago New York City contained a greater proportion of mock auctioneers and quack doctors than it does to-day. Legislation has been invoked and secured for the protection of the public on the one hand and that of the legitimate trader and practitioner on the other. That there still exists an abundance of charlatanism is only too well known to every honest physician, and it is keenly felt by every young medical man struggling to secure a foothold in this great metropolis by honorable means and hard work.

Business men have united in an association for the suppression of fraudulent auctions, and during the past week legal proceedings have been instituted against two firms accused of conducting a fraudulent business.

The injury done the community by fraudulent auctions is ludicrously small in comparison with that daily inflicted by the many pretenders in medicine. It seems almost a wonder that, even if physicians will not make an effort to maintain their rights, the public does not take up the matter and demand that one who advertises to cure an incurable disease and who takes your money without giving an equivalent is as much a pretender as he who imposes upon you a modern rug at an antique price.

News of the Week.

Leprosy in a Railway Employee.—Dr. Sibley recently exhibited to the Harveian Society of London a boy, sixteen years old, who was suffering from anæsthetic leprosy. He was born in India of English parents, and had lived in England for four years, working in the employ of a railway company.

The Medical Staff of the Italian Red Cross Society in Abyssinia consists of a chief surgeon and five assistants. The society has recently sent eight mountain ambulances to the seat of war and proposes to forward immediately a portable hospital with one hundred beds.

Professor Marie P. C. Sappey died in Paris on March 14th at the ripe age of eighty-six years. He was born at Bourg-en-Bresse, and received his degree in Paris in 1843. He studied and wrote much on anatomy and comparative anatomy, his best work being on the lymphatics of man and other mammals, as well as of fishes.

¹ Therapeutische Wochenschrift, February 23, 1896,

College of Physicians of Philadelphia.—At the meeting of the College of Physicians of Philadelphia, held on April 1st, Dr. Wharton Sinkler reported an interesting case of suppression of urine for more than nine days in a woman of sixty years, with an absence of symptoms of uræmia. Upon examination after death, some time subsequently, one kidney was found to be quite healthy, while the other was sarcomatous and had its ureter partially occluded by a calculus. In the discussion Dr. F. P. Henry pointed out that uræmic symptoms are prone to develop only when the urinary suppression is dependent upon serious damage to the structure of the kidneys, and not when the anuria is dependent upon the occlusion of the pelvis or ureter of otherwise healthy organs. Dr. C. B. Penrose reported the case of a woman who had been operated upon for the removal of a fibroid tumor of the uterus and in whom, without known infection or other complication, the temperature progressively rose until shortly after cessation of the heart beat it reached 109.5° F. Dr. J. M. DaCosta reported gratifying results from the hypodermic use, in aggravated cases of anæmia, of iron and manganese citrate in doses of three grains daily in a twenty-per-cent. solution.

Practical Skiagraphy.—Professor Cox, of McGill University, Montreal, recently demonstrated again the practical value of skiagraphy in surgical diagnosis. A girl was complaining of a needle which she said was lodged somewhere near her wrist but which could not be located by the most careful examination. The hand was then exposed to the X-rays for thirty minutes, and in the skiagraph thus obtained the needle was plainly to be seen.

The Prevalent Disease in Kansas.—Kansas is a prohibition State, and the drug store is consequently the only resort of the thirsty. Purchasers of liquor are obliged to make an affidavit that it is for medicinal purposes, stating at the same time the disease for which a cure is sought. An examination of the drug-store returns of Topeka for January discloses a prevalence of colds, over one-half of the affidavits on which liquor was sold being for "the disease of cold." Officers of the Temperance Union found one obstinate case of this complaint, that of a prominent business man, whose name was found in the application books of a drug store nine times in seventeen days, on each of which occasions he obtained a pint for the "disease of cold." Among the other maladies for which relief was sought in some form of alcohol were "the disease of old age," the "loss of an eye," and "cramp in the heel."

Jefferson Medical College.—Dr. Albert P. Brubaker has been elected adjunct professor of hygiene in Jefferson Medical College. Dr. Brubaker is well and favorably known as a clear and forcible lecturer and as an able and respected instructor. He has at different times been demonstrator of experimental physiology, demonstrator of experimental therapeutics, and instructor in materia medica, general therapeutics, and hygiene in Jefferson College. He is also professor of physiology in the Pennsylvania College of Dental Surgery.

Thyroid Gland for Lupus.—Dr. Herbert Marson reports in the *British Medical Journal* a case of lupus occurring in a young man, twenty years old, in which a complete disappearance of the disease followed the administration of thyroid gland extract. The treatment was continued for three months, and was combined with the administration of cod-liver oil.

Professor Behring has given the half of the Alberto Levi prize, recently awarded to him (\$5,000) to the Prussian government fund for the furtherance of research on serum treatment. The moneys received by the official control stations where the diphtheria antitoxin is tested before it is allowed to be sold will also be paid into this fund.

Death of Count Mattel.—Count Mattei, whose "remedies" for cancer and other ills became widely known a few years ago through being taken up and advertised by the English editor, Stead, died on April 7th in Bologna.

Against the Spitting Nuisance.—The Philadelphia Board of Health has undertaken to distribute as widely as possible the notice that "the habit of spitting carelessly and indiscriminately, as on the floor or ground, is a common means of spreading consumption. The expectoration of the consumptive becomes dried and mixed with dust, and then is easily carried into the air, and is breathed into the lungs. The habit, therefore, is not merely offensive but dangerous."

The City of Mexico has recently completed at great cost a new and elaborate system of sewers. Among other items this involved the building of a canal thirty miles long at an expense of \$15,000,000.

Obituary Notes.—DR. L. M. DE IESI, a graduate of Jefferson Medical College, died on March 16th at Zacatecas, Mexico. He was an Italian by birth and originally studied for the priesthood. Subsequently he changed his faith, and after his graduation was appointed a missionary to Mexico.—DR. SAMUEL R. KEELER died at his home at Goodville, Pa., on April 2d at the age of fifty-eight years. He was graduated from Jefferson Medical College in 1863.—DR. WILLIAM F. LACEY died in Danbury, Conn., on March 31st. He was seventy-three years old, and came of a family of physicians prominent in New England in the last century. He was an ex-mayor of Danbury. Forty years ago Dr. Lacey became famous by effecting a cure of tetanus.—THOMAS M. FRANKLIN, M.D., a graduate of the medical department of the University of New York City, class of 1847, died at his home, "Glenrear," Greenwich, Conn., on Sunday, March 22d. He was one of the physicians to the Eastern Dispensary from 1847 to 1851; a ward cholera physician in the early summer of 1849; resident assistant physician to Centre Street Cholera Hospital; assistant physician at the Government Hospital for the Insane, Washington, D. C., from 1865 to 1872; medical superintendent of the New York City Lunatic asylums, Blackwell's and Hart's Island, from 1878 to 1886. He went to Greenwich in 1887, where he led a quiet life. He leaves a wife and one son, Dr. Spencer Franklin, formerly of Greenwich.

Hospital for Contagious Diseases in Philadelphia.—A movement has been set on foot for the establishment in Philadelphia of a pay hospital for the treatment of contagious diseases, and committees have been appointed by the County Medical Society and the Women's Health Protective Association for the consideration of ways and means for effecting this end. A fund of \$2,300 has already been accumulated for such a purpose. The Municipal Hospital is at present the only institution in the city that will receive patients suffering with contagious diseases, but its accommodations are usually strained to the utmost and they are perhaps not exactly those that a fastidious patient would care to select. The need seems therefore urgent for some place to which visiting strangers and the well-to-do of the community may have access if stricken with a contagious affection and the movement under consideration is in every way to be commended and encouraged.

Death of Dr. Jacob M. Gemmell.—Dr. Jacob M. Gemmell died at his home at Philadelphia on March 21st at the age of eighty-six years. He was graduated from Jefferson Medical College in 1810. After practising medicine for a number of years in his native place, Alexandria, Va., Dr. Gemmell in 1859 became physician to the Pennsylvania Railroad and located at Altoona, Pa. Here he remained until 1876, when he removed to Philadelphia.

Women Physicians for the female insane are advocated by Dr. Louise Rabinovitch, formerly of the New York City Asylum for the Insane at Blackwell's Island, who addressed the meeting of the Women's Christian Temperance Union recently held in Brooklyn and made an appeal for the insane. She advocated the appointment of women on the State Board of Lunacy and as physicians for the treatment of insane of their sex.

The Metric System of Weights and Measures.—A bill has been favorably reported in the House of Representatives providing that in all departments of the federal government business requiring the use of weights and measures shall be conducted on the metric system after July 1, 1896, and extending this system to the commerce of the country on January 1, 1901. Persons favorable to the measure are urged by its backers to petition their congressmen to vote for it.

Tuberculin Redivivus.—It is reported from Berlin that Koch has recovered his spirits and his faith in tuberculin, and is soon going to publish the latest results of his experiments and practice with that remedial agent. He has largely modified tuberculin, both in composition and application in his private and public practice. He believes that his forthcoming book will contain enough facts to induce the profession to take the matter up once more.

Open-Air Treatment of Tuberculosis.—There are now six sanatoriums in Germany at which consumptives are treated by constant exposure to air at a low temperature. Currents of cold air are allowed to pass through the bedroom at night, and during the day as much of the time is spent in the open air as possible.

The Electrical Exposition to be held in this city next May will have among its attractions the collection of early books on electricity owned by Dr. Park Benjamin, which constitutes one of the finest libraries in the world on this subject.

The New York Homœopathic Medical College has received a gift of \$5,000 from ex-Governor Flower to endow five beds, and a Mrs. Kundhardt has given \$15,000 for a memorial ward.

Sir William MacCormac has received from the Prince of Wales the appointment of Medical Officer-in-Chief to the St. John Ambulance Brigade.

Rabies is said to be very prevalent in Portugal, owing to the great number of vagrant and ownerless dogs at large.

Guy's Hospital has "closed beds" for lack of funds. A determined effort is being made by the friends and alumni of this ancient and honorable institution to secure a sum which will make good the recent depreciation in its income securities.

Dr. Joseph Beals, a well-known dentist in Greenfield, Mass., and a prominent spiritualist, died at his home on March 27th, aged 74 years.

Refused Admittance.—The same unaccountable taste and tendency which leads him to run alongside of the hearse of funerals bound for Calvary Cemetery must have been at work in the person of Johnny Look-up, an eccentric, deformed boy, well known to the undertakers of the East side, when, on being injured the other day, he applied for treatment at the door of the Bellevue Morgue. "You are not yet quite ready for treatment here, Johnny," said Morgue-Keeper White, as he directed him around to the surgical waiting-room.

Association of American Physicians.—The next annual meeting will be held in Washington, D. C., April 30th, May 1st, and 2d.

National Confederation of State Medical Examining and Licensing Boards.—The sixth annual meeting of this organization will be held in room No. 1, Hotel Aragon, Atlanta, Ga. (which offers reduced rates), Monday, May 4, 1896, at 10 A.M. The objects of the confederation, though purely of an advisory nature, are to discuss questions that pertain to State licensure in medicine, with a view to a comparison and improvement of methods, a collection and dissemination of information on the subject, and to consider any and all propositions that have for their purpose the advancement of the standard of medical education in the United States. The officers of the confederation, therefore, beg to extend a cordial invitation to members of State examining boards and all ex-members of State boards, and especially to every physician and educator who is friendly to the objects sought, to attend the meeting and participate in the proceedings.

Albany Medical College Alumni.—The twenty-third annual meeting of the Association of the Alumni of the Albany Medical College will be held in Albany on Tuesday, April 14th.

The Medical-Practice Law of Kentucky.—The present law regulating the practice of medicine in Kentucky, says the *Journal of the Medical Sciences*, has resulted in driving out the quacks, with their placards, signs, and showbills, and has greatly lessened the revenue of many of the newspapers of that State. The law is all right and a great blessing to the unfortunate afflicted, who have heretofore been robbed by these ignorant pretenders, only upheld by their liberal advertising.

The Fourth Intercolonial Medical Congress of Australasia was held in Dunedin, New Zealand, February 3 to 10, 1896, under the presidency of Dr. F. C. Batchelor. The meeting was largely attended and many papers of practical interest were read and discussed. The next session of the congress will be held in Brisbane, Queensland, under the presidency of Dr. John Thomson.

The American Academy of Medicine, whose sessions are held in the same place as those of the American Medical Association, will meet this year on May 2d and 4th, at Atlanta. The provisional programme contains twenty-seven titles of papers to be read. The secretary of the academy is Dr. Charles McIntire, Easton, Pa.

The Roentgen Rays, in their medico-legal possibilities and their bearings upon medical and surgical diagnosis and practice, are to be discussed at length in the Section on Neurology and Medical Jurisprudence of the American Medical Association at the Atlanta meeting.

The Miscalled International Congress at Moscow promises to be a Franco-Russian love-feast to which a few Germans will be admitted on the condition of good behavior. The attendance from English-speaking countries, since the use of English is forbidden at the congress, will of course be very small. The loss to the stay-at-homes will not perhaps be very great. As the *Boston Medical and Surgical Journal* remarks: "There are only two strictly medical reasons for attending such congresses: One, that of making professional acquaintances and of absorbing information from the papers and discussions by foreigners—representatives of his own country one can hear often enough at home; the other, that of enjoying the satisfaction of hearing one's self elucidate original theories or relate interesting cases. From the first of these privileges the physician who understands only English is debarred and, if he is compelled to put his own paper into a language he does not understand, he is also cut off from the second. It would be just as well, and less expensive and fatiguing, to stay at home and read the proceedings of the congress when translated."

The Priestly Hydrotherapist, Kneipp, prescribes for his patients at the rate of three a minute. As the prescription is always the same, no matter what the disease, this is not such a remarkable feat after all.

The American Climatological Association will meet at Lakewood, N. J., on May 12 and 13, 1896.

Typhoid Fever in Western New York.—A typhoid-fever epidemic at Elmira has been reported with a somewhat startling death roll. It is asserted that the sewage of a number of towns and cities is poured into the Chemung River, which can have only one effect—namely, that of polluting and poisoning its water. Ice, too, is cut from that river and used at Elmira. It is a well-known fact that freezing does not destroy the poisonous germs of ice made from polluted water. We assume that here are ample causes for this outbreak of an infectious disease which is recognized as preventable. The prompt action of the health department in Buffalo has served to check a threatened epidemic through infected milk. A milk dealer was detected in delivering infected milk. He was prevented from further service to his customers and so the spreading of the disease was cut short. Had the health department of Elmira taken similar precautions, sickness and death to an alarming degree might have been prevented. These two lessons of cause and effect—of infection and prevention—teach their own moral.—*Buffalo Medical Journal*.

The Prevention of Criminals.—In a recent lecture before a teachers' association of Turin, Professor Lombroso dwelt upon the practical advantages of a knowledge of the science of criminal anthropology to those who have to do with the training of the young. The inclinations of the child, he said, are almost the same as those of the adult criminal, but usually disappear as age advances. In some instances, however, these characteristics continue and become more and more marked. In these cases there are associated physical peculiarities, and it is in the detection and pointing out of these possible criminals of the future that the speaker believed the teacher can do so much truly useful work.

The Jenner Centenary in Berlin.—A committee has been formed in Berlin for the celebration of the Jenner centenary on May 14th. Among the members are Professors Virchow, Koch, Leyden, Bergmann, Gerhard, Koenig, and others. The programme includes an exhibition of portraits, medals, old and new instruments, writings, etc., bearing upon Jenner's great discovery, and also a celebration on May 14th, intended not only to honor Jenner himself but also to protest against the anti-vaccination agitation.

Inoculation of Cancer.—Dr. Guernonprez, of Lille, reports a case of professional inoculation of cancer. A surgeon who was treating a number of patients with epithelioma of the uterus had an irritable spot of acne in the temporal region, which he often scratched. One day the eyelid was scratched. Subsequently a small tumor appeared on the spot and gradually extended to the temporal region. It was an epithelioma. Guernonprez himself, while operating to remove an epithelioma from the face, had his nail injured by a sudden movement of the patient. He quickly washed the part and removed the injured portion of the nail. Subsequently a small warty tumor appeared, which proved very rebellious to treatment, but finally disappeared after nineteen months of attention.

Hypnotic Exhibitions.—The travelling "professors" of hypnotism have recently added new attractions in the way of exhibitions of prolonged hypnotic slumbers. One of these men recently opened a week's engagement in an Indiana city, putting a young man to sleep at the first performance, with the declaration that he was not to be awakened until the final exhibition at the end of the week. At the instance of a number of physicians, the Humane Society had the man arrested on the charge of cruelty to a child, his subject being a minor. The performer expressed great anxiety concerning the consequences to his subject of being awakened too early, for he said he was under a six-day spell and would surely die if released before that time. A similar case of six-day slumber, of which this one was a poor imitation, has called forth some indignant protests in England. The exhibition was given at the Royal Aquarium in London. A man was hypnotized, and after being sealed up in a stout casket or coffin, was consigned to a grave nine feet deep before an interested audience. Seven or eight feet of earth were then shovelled upon the body, a shaft being left open in order that respiration might take place, and also to allow the public to see the man's face during the time he was entombed. After six days the man was dug up and awakened before a crowd of people. Here is an excellent opportunity for dime-museum proprietors, which they will doubtless embrace, unless they can be prevented by the police.

A Singular Escape.—An insane woman in this city a few days ago threw her young child out of a window of her room on the third floor and then jumped out herself. Neither she nor the child received any injury.

Miss G. T. Morrill, of Wolcott, N. Y., has just received the degree of doctor of philosophy cum honore from Heidelberg University. She had attended lectures in Berlin, Leipsic, and Zurich, but was not permitted to be enrolled as a candidate for graduation until she went to Heidelberg last autumn. Miss Morrill is the second woman to receive a degree from this university.

Russki Arkhiv, or the *Russian Archives of Pathology, Clinical Medicine, and Bacteriology*, is the title of a new monthly journal in the Russian language, published at St. Petersburg under the editorial charge of Professor Podvysotski, of Kieff. The first number contains articles on "The Question of the Identity of Malarial Infection in Man and Animals," by Professor Danilevski; "The Treatment of Empyema by the Replacing of the Purulent Effusion by an Indifferent Fluid," by Professor Devasheff; "Some Disputed Points in the Treatment of Diphtheria," by Professor Philatoff; "The Experimental Production of Amyloid Change in the Liver in Animals," by Dr. Maximoff; "The Preparation of Diphtheria Antitoxin in the Bacteriological Institute of Moscow," by Dr. Berestneff; and "The Charcot-Leyden Crystals in Bronchial Asthma," by Dr. Kishenski. There are also two critical reviews on "Orrhotherapy," by Professor Metchnikoff, and on "The Question of Parasitism in Cancer and

Other Neoplasms," by the editor. The third section is devoted to abstracts and reviews of new books. Short abstracts in French of the original articles are appended, so that the journal is not altogether a sealed book to the outside medical world, but we regret that a scientific review of such excellence should not be written entirely in a tongue known to educated men everywhere. The articles are illustrated with numerous colored plates and woodcuts in the text. The journal is one that must inevitably take a high rank in medical periodical literature, and furnishes another evidence of the scientific spirit that pervades Russia of the present day.

Isolation of Consumptives.—Southern California, which has been likened by the admirers of its climate to the Riviera, is in danger of growing too like the latter in another respect, namely, as the home of the tubercle bacillus. In many places along the Riviera the once sturdy natives have been nearly exterminated by tuberculosis, contracted by washing the linen of the visitors and in other ways. In the hope of preventing this the town council of Alameda has passed an ordinance requiring physicians to report patients ill with consumption, in order that they may be isolated. Room isolation is meant, the family being required to give the patient a room to himself, and to observe such rules regarding sanitation as will minimize the danger of communicating the disease to others. If this measure appears to work well it will doubtless be applied to the towns farther down the coast, where tuberculous patients are more wont to congregate.

Foreign Medical Diplomas of Women Recognized.—It is reported from Vienna that an order issued by the minister of public instruction has been published, admitting women who hold foreign medical diplomas to registration in Austria.

The Medical Staff of the British Army numbers six hundred and fourteen persons. The total cost of this department is about \$1,000,000 per annum.

The Druggists of Barcelona threaten to deal no more in patent medicines of American manufacture in case the United States Congress passes a resolution in favor of Cuban belligerency.

The Canadian Senate has a medical member in the person of Sir William Hingston, who was recently appointed to a seat in that body.

Death from Researches in a Bacteriological Laboratory.—A medical student named Mansvetoff, who had been engaged in researches on glanders in Professor Vorontsoff's laboratory in the Medico-Chirurgical College, St. Petersburg, contracted the disease in some unexplained manner and it rapidly proved fatal, the lungs being affected.

Dr. Rosmini, director of the Ophthalmic Institute in Milan, died recently at Nervi. He was born in Milan in 1835, and received his medical degree from the University of Pavia.

Dr. Brouardel, professor of medical jurisprudence at the University of Paris, has been appointed dean of the medical faculty for the ensuing three years.

The Cholera Epidemic in Russia is officially declared to be at an end, no cases having been reported since February 24th.

Small-Pox is reported to be increasing in the southwestern counties of England and in South Wales.

An International Commission in Insanity.—Notice has been given to the English Parliament of a resolution to the effect that, in the interests of the general welfare, it is desirable to provide for the meeting of an international commission to study the causes of insanity, which is said to be greatly on the increase in England.

The British Medical Register for the present year, which has just been issued, contains the names of 33,601 medical practitioners, of whom 27,392 are practising in Great Britain and Ireland.

Professor Leyden, of Berlin, is now von Leyden, having recently received from the German Emperor a patent of nobility.

The French Congress of Alienists and Neurologists will hold its annual meeting at Nancy on August 1st and the following days. The questions for discussion are: "The Pathogeny and Pathological Physiology of Hallucinations of Hearing," "The Symptomatology of Tremors," "The Confinement of Lunatics in Special Institutions," "The Treatment of Lunacy," and "Legislation for the Insane."

Anti-Tobacco Laws.—In New Hampshire it is forbidden for any one but a minor's parents or guardians to give him tobacco or cigarettes. In Missouri there is a cigarette local-option law, each town having the right to prohibit the sale of cigarettes to minors.

A Medical Centenarian.—On March 16th, Mr. William Salmon, of Pennlynn Court, Glamorganshire, who is a member of the medical profession, completed his one hundred and sixth year. Mr. Salmon, who is the son of a medical man, was born in Suffolk in 1790. He became a Member of the Royal College of Surgeons of England in 1809, the year Mr. Gladstone was born. In early life Mr. Salmon was an army medical officer, but, though it was then a stirring time for the British army, he seems not to have seen any active service. He afterward married an heiress, thus becoming the owner of Pennlynn Court and the Garth. He has been a magistrate for the county of Glamorgan for fifty years. Mr. Salmon is not only the oldest member of the medical profession in Great Britain, but is believed to be the oldest Freemason in the world. He has had eight children, only one of whom (a daughter) is now alive. According to an account in a local newspaper he sleeps well, rises at noon, and goes to bed at nine o'clock. He dines at six, and Sir Benjamin Ward Richardson may be interested to know that he takes two glasses of wine at his evening repast. He gave up smoking at the comparatively tender age of ninety. We are sure the whole profession will join us in the hope that Mr. Salmon's life may be prolonged for many years.—*British Medical Journal*.

The Typhoid Bacillus retains its vitality even when dried for a long period. According to some experiments of Uffelmann, it retains its virulence when kept in dry earth for twenty-one days; in street-sweepings, thirty days or more; in sand, eighty-two days; on wood, thirty-two days; and on linen, over sixty days. The microbes retain their power of growth still longer in moist media. Uffelmann asserts also that typhoid bacilli may be carried by the air as well as by the clothing, and that they are thus capable of infecting milk, water, and various foodstuffs, and that typhoid fever is therefore not solely a water-borne disease.

Professor Roentgen has been created by the Prince Regent of Bavaria a knight in one of the orders of that kingdom, and he is now in consequence Professor von Roentgen. The University of Würzburg has also conferred upon him the honorary title of doctor of medicine.

A Workingmen's Medical Aid Society.—The Rome correspondent of the *British Medical Journal* describes the aims and methods of a society which has lately been established in Milan for providing medical aid to artisans who may sustain injuries in their occupations. For this purpose the society will provide medical services, necessary apparatus, etc., in the factories, according to their importance and position. Special services will be instituted for the transport of the injured to the hospitals or to their own homes. Ambulance instruction will be given to the workers in the large factories, and dispensaries will be provided for the treatment of wounds. The society hopes to be able later on to build a convalescent hospital for those badly injured or to build a special hospital for their treatment.

Vital Statistics of Philadelphia.—For the week ending March 28th the number of deaths reported to the Philadelphia Board of Health was 525, of which 189 were of children under the age of five years. The most conspicuous causes were as follows: Pneumonia, 101; pulmonary tuberculosis, 54; diseases of the heart, 31; senility, 20; inanition, 18; carcinoma, 17; convulsions, 17; diphtheria (not including membranous croup, 8), 17; marasmus, 17. The numbers of cases of diphtheria, scarlet fever, and typhoid fever for the week were respectively 65, 21, and 35. According to the report of the Pennsylvania Society for the Prevention of Tuberculosis there has been a marked decrease in the number of deaths from pulmonary tuberculosis in the city of Philadelphia during recent years, as a result in part of improved methods of treatment and in part of efforts to prevent its spread by communication. In 1880 there were 342 deaths per 100,000 of population; now there are not more than 220 in the same number. It is believed that if satisfactory hospital accommodations were provided for tuberculous patients the death rate would be still further reduced.

Surgeon-Captain Hilliard, who happened to be in the Ashantee expedition and so prescribed for Prince Henry of Battenberg, has received from the Queen the decoration of the order of St. Michael and St. George.

Surgical Suggestions.

Glaucoma.—Furthermore, after enucleation ophthalmia, either in the course of or at the beginning of the disease, bacteriological examinations of the nerve or of the organ itself were negative. On the other hand, any stimulation whatever of the ciliary nerves of one eye was followed in the other eye by disturbances appreciable on microscopic examination.—GROENOUW AND DUFOUR.

Peritonitis.—I believe that the gonococcus in its virulent state, before it has been for any length of time in the pus of a pyosalpinx, is perfectly capable of infecting the peritoneum, and will, if opportunity is afforded, produce the most virulent peritonitis—peritonitis that leads to rapid death, with marked symptoms of profound septic infection.—FRANK.

Trichiasis.—Kenneth Scott (*Annales d'Oculistique*) says that he has obtained excellent results from the following simple operation: Make an incision of the tarsal cartilage in the conjunctival surface parallel to the palpebral border, but two millimetres removed from it. Let the incision include the entire extent of the lid and completely divide the tarsus, respecting only the skin. Turn the ciliary border outward and fix to the cutaneous surface of the lid at three points by means of silver wire sutures.

Infantile Intussusception.—Dr. Wiggin before the Academy of Medicine said that intussusception is really a form of strangulated hernia. The subacute variety is an irreducible hernia. If laparotomy is performed within forty-eight hours seventy-eight per cent. of the cases should recover.

Cervix Laceration.—Dr. Goldspohn, of Chicago, thinks that a certain amount of laceration of the cervix is attendant upon natural labor. If the tear does not extend more than midway between the external and internal os, it is not pathological and should be left alone; if it extends higher up, it leads to ectropion and often retroversion and demands operative measures.

Epistaxis.—Dr. T. A. Hall says the powder of fungus myces (F.), commonly known as "devil's snuff," has invariably stopped epistaxis when snuffed up the nostrils.—*Va. Med. Monthly*.

Constipation in Infants.—

R. Tinc. nuc. vom. ℥ss.
Tinc. belladonnæ ℥v.
Inf. sennæ ℥xx.
Inf. gentianæ co. ad 3 i.
M. ft. haustus. S. To be taken three times a day before meals by a child from eight to twelve months old.

—EUSTACE SMITH.

Vinegar as an Antidote to Carbolic Acid.—Dr. Carleton, in a note published in the *Deutsche Medizinische Zeitung*, February 17, 1896, advocates the use of common vinegar in carbolic-acid poisoning. He states that applied to the skin or mucous membranes vinegar promptly counteracts the toxic effects of carbolic acid. In internal poisoning he advises that vinegar and water in equal parts be freely imbibed and that following this the stomach be promptly emptied.

Lithæmia and Diseases of Women.—In an article by Dr. Mann, referred to by the *International Medical Magazine*, we are told that the urinary, alimentary, and genital organs situated in the female pelvis are intimately associated in function as well as in position. The relation of position may be demonstrated by the course of gonorrhœa, which may infect the urinary

tract, even as far as the kidneys, and the rectum, as well as the genital canal. This is also true of septic disease, though to a less degree. Through the nervous and vascular connections, the secretions of the different glands found in or connected with these organs may be more or less reciprocally affected. The victims of morbid conditions depending on the close interdependence of function and disease in the nearly associated pelvic organs complain of many symptoms, subjective and objective. They tell us of pains and aches in various places, many of which we call reflex. They complain of menstrual disturbances, vaginal discharges, backaches and frontaches, troubles with the bladder and rectum. They suffer from insomnia and dyspepsia; and, above all and before all, they tell us that they are nervous. Often the spirits are depressed and there is sometimes a fear of impending insanity; headaches, especially occipital, and intercostal neuralgia are common. A physical examination often shows no serious lesion of the pelvic organs. An examination of the urine will give much information; usually the quantity is below the normal, the reaction excessively acid, and uric acid is present in abnormally large quantities. At times the urine will be clear, limpid, and of low specific gravity. The blood also should be examined, for anæmia is one of the most important associates or causes of excessive uric-acid output. In cases presenting these combinations, the question to be decided is whether the trouble is primarily with the uterus and ovaries and all the rest reflex or secondary, or *vice versa*. It is possible to group such cases under the term lithæmic or under the term uric-acid diathesis; but the best plan is to consider them as cases of general disturbance of nutrition, and then we shall be forced to study each case to find out exactly the origin of the disturbance. The pelvic lesions may be the cause or they may be the result. We can get more help in understanding these cases by remembering the close relations which exist between the circulation of the pelvis and that of the liver; also by remembering the dependence of the kidneys upon the proper performance of the functions of the stomach and liver; and again by remembering the intimate nervous connection between the uterus and these other organs. If the trouble starts in the stomach from an error in diet, or from overwork or nervous strain, there result imperfect metabolism of the food products, the formation of poisonous substances, the imperfect action of the skin, kidneys, liver, and bowels, failure to excrete the toxins, and the production of an auto-intoxication resulting in nervous and functional disturbances. This train of events, slightly modified, may be due to an abnormal urine, to rectal disorder, or to primary uterine disorder. The special causes will be found in the climate, diet, social condition, the wear and tear, the hurry and rush, and the fatigues and strains of modern life.

Resection of the Knee.—Pack, of Liverpool, was the first to resect the knee on July 2, 1871. Before the days of antiseptics the mortality varied from twenty to fifty per cent. (Koenig). Ollier recommends leaving the lateral ligaments; Championnière advises removing them. To avoid injuring the popliteal artery George Fenwick, of Montreal, proposed in 1885 to make the section of the femur convex and that of the tibia concave. Jules Boeckel in 1889 showed the advantages of curettage of the medullary canal in cases of fungous arthritis. Gurdon Buck and Richet practised metallic suturing. Championnière formerly employed catgut, but now uses silver wire. Ollier employs either silver, platinum, or galvanized iron, while Boeckel has given up bone suture altogether.—BRODIER, *L'Indépendance Méd.*, December 25, 1895.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PARLIAMENT—SMALL-POX AT GLOUCESTER—THE ARMY MEDICAL DEPARTMENT—POOR-LAW BILL—WATER SUPPLY OF LONDON—COLLEGE-OF-SURGEONS REPRESENTATION—IRE OF PHARMACOLOGISTS—LYMPH SCROTUM—BRAIN TUMORS—PONTINE HEMORRHAGE—SO-CALLED LINGUAL VARIX.

LONDON, March 20, 1896.

IN the House of Commons last night the government to a question about the serious outbreak of small-pox at Gloucester replied that four hundred and ninety five cases have been notified, of which three hundred are still under treatment, and ninety-three have been fatal. It is well that this statement should have been made in Parliament, as it ensures that the object lesson which Gloucester has furnished to the country will be visible wherever a good newspaper circulates. Gloucester's folly in listening to the antivaccination fad is now seen to be dangerous. Some places in the neighborhood of Gloucester are much in fear of becoming infected.

On Monday the under secretary for war made a lengthy statement on the army, when the difficulty of keeping up the strength of the medical department could not be concealed. He admitted that the confidence of the profession was a necessity, and said the war office had endeavored to find out the cause of the growing unpopularity of the army medical service. He mentioned that several explanations had been submitted and that time was required to decide among them. Dr. Farquharson pointed out that the social status of army surgeons had actually been lowered, especially since the abolition of the regimental system. He suggested a partial return to that system. This would please a large number, but I fear would not, if indeed it were possible, prove a complete remedy. It is well that the authorities should feel that something must be done.

On Wednesday the Commons spent some three hours over the poor-law superannuation bill, which is regarded as an important one to the medical officers, as it will enable them to secure pensions in return for a small percentage of their salaries. The bill was read a second time and referred to one of the grand committees. In the mean time the question is to be considered whether it is desirable to extend it to Scotland and Ireland. There can be no doubt that its provisions would be equally beneficial to those countries and to Ireland especially so. Whether the Irish poor-law doctors, who did not take the trouble to vote for their greatest advocate at the election to the Medical Council, will exercise pressure now in favor of themselves seems almost doubtful.

The water supply of London continues to occupy attention. A curious revelation lately occurred. As the companies read their acts, they hold that consumers must lay their pipes below a certain level. But some companies had their mains above this point, and this has been the cause of much trouble. The report of an official inquiry, conducted by General Scott, is of a most damaging character, but the companies have survived worse dangers. If we could only feel confidence in the County Council, the water supply might be entrusted to that omnivorous body, but it has managed some matters so badly, and at such frightful cost, that the rate payers are afraid of it. Perhaps a special body will after all have to be created to discharge this first of municipal duties.

The council of the College of Surgeons has pronounced against the claim of members to seats at the

board. This is just as I expected. The council declares that they "represent the body corporate of this royal college, and consequently its members as well as its fellows. It is the opinion of this council that no further representation of the members is desirable." It is no doubt true that the council represents the members as a part of the body corporate. But the other part of this body corporate—the fellows—is the only part that elects the council. So, should the interests of the two parts clash, only one side is represented. But these interests should not clash—in fact there should be no interests in the matter save the good of the college. But entrance into the council implies honor, power, emoluments. All these the fellows have monopolized and are reluctant to share with members. There is nothing like a monopoly to make men selfish. The fact that fellows must first be members seems to be overlooked. A more important fact in this connection is that the fellows, as holders of an additional distinction of the highest academical value, are necessarily the most influential part of the body corporate and that individual fellows would have superior claims as candidates, so that the utmost extension of the franchise could fail to introduce into the council more than a very small minority of members who were not also fellows. And yet the fellows cannot see this, but, blinded by their possession, hug this precious privilege of electing the council as if it were the one distinction of the fellowship.

The College of Surgeons has accepted without demur the proposal of the sister college to omit pharmacology as a separate subject from the curriculum. The irate protests of a section of our pharmacologists have therefore been in vain, though it is curious to observe that they seem more concerned for the shadow of their favorite name than for the substance it should signify. One of these gentlemen predicts the speedy advent of a generation of legally qualified practitioners ignorant of therapeutics, unable to write the simplest prescription, and therefore compelled to fall back on some one's antisciatin for sciatica, antipilin for piles, and other like substances made in Germany, as the pharmacist's occupation will be gone. Another gentleman confesses his shame at the ignorance of the fellows of the College of Physicians of the advantage of a knowledge of therapeutics. And so on, and so on. Surely this sort of thing partakes of caricature. Pharmacology may smell as sweet under any other name, at any rate to all but a few pharmacologists. It has been taught before they assumed the title. How, indeed, did they themselves learn their subject, if, as they tell us, it is only to be learned from lectures? They will perhaps admit they attended lectures on therapeutics which included it—and they themselves but a few years since used the term therapeutics for what they now call pharmacology. All that passes under this name was, I know, taught at some of our chief colleges by the professors of materia medica and therapeutics five and twenty years ago—perhaps more. I can vouch for that date. So perhaps what has been will be, and we may live in hopes that the predictions of ignorance and ruin may not be fulfilled.

At the Clinical Society meeting on Friday last, Mr. Golding Bird brought forward cases of lymph scrotum and lymph varix. One was in an athletic young Londoner, who had never been abroad. Vesicles the size of millet seeds formed, burst, and discharged milky fluid. Nothing abnormal was detected in the blood. The right half of the scrotum was excised and leaking points of divided lymph vessels ligatured. A good recovery followed, the remainder of the scrotum being rather tightly stretched over the testes and but few lymph vessels being visible in the perineum. Another case was related and some published ones referred to.

A case of neoplasm cyst in the region of the angular gyrus, which had been operated on, was brought forward by Dr. Colman and Mr. Ballance. The history and post-mortem were succinctly related and the symptoms duly discussed.

Dr. Buzzard (President) had had this case under his care for a month, and had not regarded it as a very favorable one for operation. But, he said, the question of interference with these brain tumors was a difficult one. No doubt when the tumor could not be removed the operation might prolong life, but it was a formidable procedure, and he hoped we might find means to relieve tension without resorting to it. Still he admitted the amount of relief was well purchased at the price. When there were indications of the tumor being encapsuled he hailed the help of the surgeon, but these cases were not numerous. Dr. Starr said he had found on analyzing statistics that only seven per cent. of cases of cerebral tumor were removable. Mr. Ballance admitted that the operation was dreadful, but it was only undertaken for a very dreadful disease and he saw no way of relieving tension without operation until we could discover something antagonistic to malignant growth.

Dr. Lucas Benham related a case diagnosed as hemorrhage into the pons, which was treated by bleeding and recovered. Considerable difference of opinion was manifested as to the diagnosis, and more than one alternative was suggested, and the question whether the bleeding brought about recovery was also raised. The difficulties of diagnosis of such cases are generally recognized.

So-called "lingual varix" is the occasion of "a storm in a teapot" among the laryngologists. One of the younger ones questioned the existence of the varicose veins at the base of the tongue to which much significance had been attributed by others. Some of the latter replied in *The Lancet* and to these a rejoinder was issued signed by several. Of course the dispute could not rest here, and so we have a "very pretty quarrel going on." Some of the leading laryngologists have up to the present remained inactive, but who knows how soon they may rush into the fray? Those (if any) who do not may hereafter perhaps pronounce judgment on the case.

COCAINE IN SEASICKNESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the *MEDICAL RECORD* of January 25, 1896, I notice a communication from Dr. A. D. Rockwell, of New York, entitled "The Preventive Treatment of Seasickness." Having had some experience in treating this malady during a period of four years, while serving as an assistant surgeon in the United States navy, I should like to state what good results I obtained from the administration of muriate of cocaine.

A patient applied one morning at sick call a few days from port, after we had encountered very heavy weather, and when questioned as to the nature of his complaint he stated he was seasick. He was one of the band, played the alto horn. When asked if he was too sick to attend to duty, he answered as follows, being an Italian: "Yes, doctor, I 'fraid I spoil the instrumenta." He was admitted to the sick list.

His bowels were constipated, so I prescribed two cathartic pills at once. As soon as they had acted he was given five minims of a four-per-cent. solution of cocaine muriate per os, repeated hourly until three doses had been taken. He had eaten scarcely anything for two days, as his stomach rejected everything.

The patient speedily recovered; vomiting, which had been severe, entirely ceased after the first dose of

cocaine, and by the time he had taken the third dose all nausea had disappeared and he was sent to duty.

During the remaining thirteen days of the trip, which was a rough one, he had no nausea or vomiting and ate his three rations daily with relish.

One day before going to sea again I sent for this same musician, gave him two compound cathartic pills, although his bowels were open, and prescribed cocaine muriate in the doses as before, three times during the day at intervals of three hours.

As a result of this treatment he had no symptoms of seasickness during the passage, which was fully as rough as before, the duration being ten days.

There were a number of young apprentice boys aboard, their ages ranging between fourteen and eighteen years. The majority was always seasick the first days out and some sick enough to be admitted to the sick list. I treated them in a similar manner as the first case, and with equally good results.

From my experience, therefore, I believe that constipation, from whatever cause, has much to do with seasickness, by causing poor digestion and thereby an irritable stomach.

A person on terra firma if constipated usually has an "upset stomach," as patients express it, and probably some vertigo. Add to this, then, a movable surface upon which to walk, a small, usually poorly-ventilated stateroom (air ports frequently having to be kept closed), probably odors emanating from bilge water, and almost always the result is seasickness.

Fellow passengers with whom I have conversed have told me that to avoid seasickness they regularly take a brisk cathartic the day before sailing and frequently ward it off, or if it does occur it lasts but a day. But in the event of no medication and if constipated when sailing, they suffer from seasickness during the entire passage.

I have not tried bromidism, as Dr. Rockwell recommends, but can see wherein the benefits may lie.

ROBERT BOYD, M.D.

GRAND CAYMAN ISLAND, BRITISH WEST INDIES,
March, 1896.

SPECIAL MEDICAL ADVERTISING IN THE DAILY PRESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An editorial under the above caption in the *MEDICAL RECORD* for March 28, 1896, gives evidence that its author has not fairly tasted the sweets of newspaper advertising.

I have received enough newspaper attention to equip me pretty well for a narrative of personal experience in this matter, so kindly listen for a moment.

The only case that ever came to me directly or indirectly from newspaper sources was one in which I was threatened with a malpractice suit later.

In early days of inexperience I once cheerfully gave an interview to the reporters concerning an interesting hospital case. My superior, who was the principal in the case, refused in his brusque way to give them any information at all. I did not see reporters after that, but to reward me for my original kindness they gathered information daily from hallboys and attendants and mentioned me as the surgeon in the case, withholding the name of the principal. The result was very naturally an estrangement between the principal and myself which could not well be settled, as pride stood in the way of making any explanation.

Sometimes it has been impossible to avoid sharp reporters. One of them came to my office some time ago and presented the card of a lawyer, stating that he was attorney for one of my patients. I trusted him

and gave a full and explicit account of the case, which account promptly appeared as a whole column interview in the next Sunday's edition of a newspaper that has adopted the policy of obtaining news at any cost and by any means. The result was a divorce, an attempted suicide, and troublesome court work for me.

In an article which appeared in a Sunday newspaper about two years ago my name was associated with those of two or three men much more prominent than myself, in a half-page description of a disease which was greatly interesting the public at that time. The article, which purported to be an interview, was profusely illustrated with cuts of pathological specimens and instruments. I instantly recognized my part of it as the reproduction of one of my contributions to the MEDICAL RECORD, but it appeared as an original contribution to the newspaper. On making inquiries I learned from one of the staff of the paper that the article had been made up and presented by a reporter who was also a medical student and who had thus hoped to turn an honest penny.

I have never been ambitious for fame of any sort, because it interferes too much with personal comfort, but what little fame I have gained from plain daily labor has been pretty much wiped out by this so-called newspaper advertising.

One of my books was fully reviewed in a Sunday newspaper. The work was well and correctly done and the subject was interesting to the public. I do not doubt that the medical editor of the paper thought that he was doing me a kindness, but that review cost me many hundreds of dollars, because physicians who were about to refer cases to me thought that it would be just as well to send them elsewhere. I know that this is true because they told me so later. Of course no cases came from the newspaper notice, because cases do not come in that way, as any one of experience can testify.

Reporters have one trick that is very fetching for younger men who recognize the reasons why they should not give interviews on professional subjects. The reporter states that he has just come from the office of a very prominent man, who freely answered all of his questions.

On a par with newspaper advertising is the endorsement of proprietary medical preparations. I have given endorsement to only two such preparations, both of which are very useful in my work and both are nearly as standard as Squibb's chloroform. The effect of these two endorsements, however, has been to bring endless arguments from manufacturers who had preparations that were just as good, and I have been offered valuable stock as an inducement to transfer one of the endorsements. Manufacturers of other preparations have sometimes affixed my name without even asking if I would take stock in exchange for it. I discovered one such case by receiving letters from physicians in different parts of the country, thanking me for the receipt of a reprint pamphlet. No such pamphlet had been sent out by me, and on investigation it was found that an enterprising manufacturer had appended a note to one of my contributions on another subject and was using it for advertising purposes. On calling him to account he said that he thought I wouldn't mind, as I had told his representative that his preparation was a good thing.

Recently a physician of scientific attainments asked me to help him by making observations on the action of a new preparation, and stated that a very responsible firm had kindly offered him laboratory facilities. The subject was well worthy of attention, but after a great amount of painstaking experimentation I handed him in perfectly good faith a series of notes which showed that the material was likely to prove valuable

in some kinds of cases, that it was inert in others, and that it was definitely harmful in cases of malignant neoplasm, some ten or twelve cases of this sort having been excited to rapid development in fourteen days of experimentation. The one exception was a case of cancer of the uterus with ulceration of the vagina, in which the ulceration feature of the case had disappeared under treatment with the preparation in question. I had no suspicion that my notes were likely to be published, and in fact would not have thought that they contained anything that the manufacturers would want to publish, but in a short time a pamphlet appeared containing my statement that I had cured cancer with their product.

The result of this publication must be as follows:

1. Physicians who do not know how testimonials are obtained may do great harm by applying this remedy in cases of malignant disease which would otherwise be curable by operation. Thus the patient is injured.

2. Physicians who know that anything so important as a cancer cure would not be presented in such a light and airy manner look askance at the preparation, on the principle of *falsus in uno, falsus in omnibus*. Thus the manufacturer is injured.

3. Physicians who do not know me judge that any one giving testimonials of that sort is unworthy of confidence. Thus I am injured.

This is the sort of advertising that the County Medical Society would prohibit by a by-law. Advertising, indeed! There is not a physician in America whose reputation can stand against it, and the by-law is superfluous.

Some one will ask why offenders who make one's name serve their own purposes are not prosecuted. To this I can only quote the case of two young men who on graduation from college determined upon different lines of life work. One was to devote himself to the study of astronomy. The other was to devote his time to resenting insults and correcting misapprehensions. Each man became at once fully engaged in his occupation.

PATULA.

"THE WHITE THROAT OF THE LAKE."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: My colleague, Dr. St. Clair Thomson, has forwarded me a cutting from your issue of February 15th, which contains a letter from Dr. Charles Greene Cumston, commenting on my description of septic tonsillitis which appeared in *The Lancet* of December 14th. I was not aware that my letter had been noticed in your valuable journal. In my original article, I did not say "at Geneva this form of tonsillitis is termed 'white throat of the lake,'" but "on the Lake of Geneva the disease receives the euphonious title of 'white throat of the Lake.'" Now the Lake of Geneva is forty miles long, and while Geneva is at its western extremity, the cases on which my information is based occurred at Montreux, near the eastern extremity, and under the peculiar conditions of hotel life. I, moreover, mentioned that "the disease is more liable to affect newcomers to an infected district than residents," a point which Dr. Cumston's eight years' experience at Geneva tends to confirm. I am not cognizant of any classical description of the disease and it was for that reason I thought it desirable to draw attention to it as a "specific disease." It would be called "diphtherite" in French, a term which includes an indefinite variety of diseases.

I think it is probably the disease described by the late Sir Morell Mackenzie as "angina ulcerosa" and referred to by Schech in his work on the mouth, throat, and nose.¹ The malady derives importance

¹ P. 101 of Blackie's Translation.

from its etiological association with overcrowding and bad sanitation, and from the fact that the same disease receives a different name in each district where it prevails.

My acquaintance with the disease was first acquired during the three years I practised at Montreux after taking the Swiss federal diploma in medicine at Geneva in 1889. I meet with it yearly in the Engadine and have met with several cases in my practice here.

STUART TIDEY, M.D. LOND., M.R.C.P. LOND.

FLORENCE, March 10, 1896.

THE TRANSVAAL GOVERNMENT MEDICAL BOARD AND AMERICAN MEDICAL DEGREES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: By the advice of an American medical gentleman I apply to you in order to obtain information, and beg of you, in case you cannot yourself give the desired details, to forward this letter to such person or body as you think will be able to oblige me.

The Transvaal Government Medical Board, of which I am the chairman, does not examine for nor grant diplomas in medicine or surgery, but only examines into and decides on the merits of diplomas of such medical men as wish to be registered in this State for the practice of their profession. The rule we follow here is: We accept and admit all diplomas which entitle the legitimate holders to practise in the whole of the country where such diploma has been issued and obtained, and for which a minimum of four years' purely professional medical study is required.

We are constantly receiving applications from holders of various diplomas issued in the different United States of America, and we find a difficulty in deciding on their merits, as the only definite information which we can get here is from two books—(1) "Medical Education and Regulation of Practice of Medicine in United States and Canada," 1884, and (2) "The Medical and Surgical Register of the United States," 1893, third edition. We frequently have applicants for registration with diplomas from universities or colleges which are not specified or detailed in either of these books, and cannot judge as to the value or merits of such diplomas, and my object in writing is to find out whether you can inform us:

(1) Are there State universities or colleges whose degrees are recognized as giving the right to practise throughout the whole of the United States of America?

(2) Can we obtain a list of universities or colleges which demand a four years' course, and can the approximate date be given when such four years' course became compulsory in such college?

(3) Is there a list of the universities and colleges whose degrees are recognized by the medical board of the United States of America?

(4) Are there registers of the qualified men in each State, or is there a general register for the whole of the United States of America on which the name of every qualified man can be found?

Any information you can give us will be most thankfully and gratefully received, for, while we wish to do justice to our State, we also wish to do justice to all duly qualified American doctors who desire to settle in this country.

With an apology for the trouble I am putting you to, I remain,

GORDON MESSUM, M.D.,
Chairman Medical Board.

PRETORIA, SOUTH AFRICAN REPUBLIC,
February 27, 1896.

[In answer to the foregoing questions we beg leave to make the following general statements: There is no general medical registration law for the United States similar to the one in Great Britain, and consequently no governmental register. Each State has or has not its own regulation for medical license and its own system of registration. Medical men removing from one State to the other conform to said laws accordingly. The requirements for license differ in different States, as do also those for graduation in medicine. The report of the Illinois State Board of Health ("Medical Education and Regulation of Practice of Medicine in United States and Canada") is ample authority on all questions concerning medical qualifications and college regulations. It is the nearest approach to an official register that is possible under the existing circumstances of conflicting State interests in medical education and medical legislation. Hence colleges not mentioned in said report are open to the suspicion of being irregular.

With the exception of Maine, Massachusetts, and New Hampshire, all the other States insist either on an official registration of medical diplomas or an independent State examination for license. In the former class, in which such examinations are not obligatory, are: California, Colorado, Connecticut, Delaware, Illinois, Iowa, Kentucky, Missouri, Montana, New Mexico, Ohio, Oklahoma, Oregon, Tennessee, West Virginia, and Vermont. In the latter class, in which State examinations are necessary before any license for practice can be obtained, are: Alabama, Arkansas, Florida, Maryland, Minnesota, Mississippi, New Jersey, New York, North Carolina, North Dakota, South Dakota, Texas, Utah, Virginia, Washington, and portions of Indian Territory.

All the medical colleges in the State of New York are now required by law to have a four years' course of instruction. The colleges in other States having equal terms of study are: The medical departments of the University of Pennsylvania, of the Harvard University, of the University of Michigan, of the Northwestern University, Illinois; of the Central Tennessee College, of the Leonard Medical School of North Carolina, and of the Johns Hopkins University of Baltimore.

With possibly one or two exceptions recently made but not officially announced, all the other colleges require but three courses of lectures averaging from five to nine months each.—ED.]

Nervous Œdema.—Fedorovsky (*Vratch*, No. 26, 1895) relates the case of a soldier who was injured severely and after a period of unconsciousness found in addition to a paralysis that there was a unilateral œdema of the face. Since this time the patient has had frequent headaches and œdema of the cheek and eyelid, all upon the left side. The œdema can be brought on by energetic bodily movements, rapid walking, etc., and lasts two days. There is slight exaggeration of reflexes, and there are no stigmata of hysteria. The author attributes the condition to a neurosis of traumatic origin which has provoked a special excitability of the vasomotor nerves of the face.

Gastric Ulcer.—Dr. Mettler says a dull, lancinating, burning, and gnawing pain, strictly localized near the epigastrium, shooting through to the back and appearing with peculiar distinctness near the angle of the left scapula, occurring at times in severe paroxysms, increased by food and external pressure, and somewhat modified by posture, is almost pathognomonic of gastric ulcer.

Therapeutic Hints.

Gout.—Dr. Noorden has concluded that the gouty condition is independent of the presence of uric acid in the blood; the tissue necrosis he ascribes to the activity of a hypothetical ferment and he believes the uric acid deposited locally is formed at the necrosed focus.

Intermittent Treatment of Syphilis.—In the first year of the treatment mercury should be given for six months and potassium iodide for three months, with a pause of three months; for the second or third years, for from two to five months, mixed treatment; for the third and fourth years sulphur baths.—FOURNIER.

Chronic Nephritis.—

℞ Nitroglycerin..... gr. $\frac{1}{100}$
Tr. digitalis..... ℥ ij.
Tr. strophanthus..... ℥ ij.
Tr. belladonna..... ℥ ss.
To be used in cases marked by high arterial tension.

—DA COSTA.

Eczema.—

℞ Zinci oxidi..... 20
Pulv. acidi borici..... 10
Bismuthi subnit..... 5
Ol. olivæ..... 85
S. Externally, especially in particularly rebellious eruptions.

—La Sem. Médicale.

Lumbago.—

℞ Sodium salicylate..... $\frac{3}{4}$ ss.
Potassium iodide..... 3 ij.
Compound syrup of sarsaparilla..... $\frac{3}{4}$ iss.
Water..... q.s. ad $\frac{3}{4}$ iij.
M. S. A teaspoonful in water thrice daily, after meals.

—SOLIS-COHEN.

Cough Mixture Without Opium.—

℞ Dilute hydrobromic acid,
Spirits of chloroform..... $\frac{3}{4}$ i.
Syrup of wild cherry and mucilage to make..... $\frac{3}{4}$ iss.
M. S. Teaspoonful as required.

—Practitioner.

Amygdalitis.—Dr. Fox (*Lancet*) speaks favorably of the local application of a strong solution of cocaine as a means of aborting this symptom of disease.

Pruriginous Dermatoses.—Dr. Brocq uses the following:

℞ Talci,
Amyl. pur..... $\frac{3}{4}$ 50
Glycerini..... 20
Liq. plumbi subacet. dilut..... 100

Shake the bottle thoroughly. Add to a small quantity of the contents double the quantity of water and apply to the affected parts with a soft paint brush. This leaves a dry layer of powder, which exercises a cooling, antipruriginous, astringent, and antiseptic action.

Otitis Externa or Media.—

℞ Water..... 60
Laudanum..... 4 to 8
Boric acid..... 2

Pour into the ear a teaspoonful of this mixture as hot as can be borne. Allow it to remain ten or fifteen minutes. To empty it out, let the patient cover the ear with a handkerchief and bend the head toward the side with gentle shaking. Repeat if necessary.—MENIERE, *Lancet*.

Biliary Colic—Dr. Turnbull (*Lancet*) uses tablets of one one-hundredth of a grain of nitroglycerin with success. He was induced to use this drug from its known power of relaxing unstriated muscle fibres.

When there is an intolerance for morphine it would be well to try this drug.

Periodic Headache.—

℞ Fluid ext. ergot..... 3 i.
Elix. quinine..... 3 iij.

—DR. LUIGI CAPPELLARI, *La Riforma Medica*, No. 241, p. 191.

Diphtheria.—Dr. Seibert dips absorbent cotton attached to a holder into a solution of peroxide of hydrogen and applies it gently to the false membrane with a rotary movement and slight friction. Frequent changes of the cotton and hydrogen are deemed advisable. Patience, time, and frequent applications gradually remove the entire false membrane. He then applies in a similar manner the following lotion:

℞ Tr. ferri chloridi..... $\frac{3}{4}$ i.
Alcohol vel listerin..... $\frac{3}{4}$ i.
Hydrarg. bichloridi..... gr. ij.
Menthol..... 3 i.

Whooping Cough.—Dr. Hughes (*Medical Times and Hospital Gazette*) suggests the following:

℞ Codein. sulphat..... gr. i.
Acid. carbolic pur..... gr. viij.
Syrup. limonis,
Syrup. simp..... $\frac{3}{4}$ ss.
Glycerini pur..... $\frac{3}{4}$ i.
S. A teaspoonful every two or three hours.

Cough Mixture.—

℞ Acid. hydrocyan. dil..... 3 ss.
Acid. nitric. dil..... 3 iij.
Glycerini..... $\frac{3}{4}$ i.
Inf. quassie..... ad $\frac{3}{4}$ vij.
Ft. mist. S. A tablespoonful in a wineglass of water three times a day.

It is both a sedative and tonic in cases of phthisis.—WARBURTON BEGBIE, *Pharmacopæia of the Edinburgh Royal Infirmary*.

To Abort a Cold.—

℞ Sodii salicylat..... 3 ij.
Spirit. ammon. aromat..... $\frac{3}{4}$ i.
Syrup. aurantii..... ad $\frac{3}{4}$ ij.
S. One teaspoonful every four hours.

—Practitioner.

Gout.—Dr. Galle uses parenchymatous injection of one-quarter to one drachm of the following:

℞ Iodoform..... 1 part.
Sulphuric ether,
Olive oil..... $\frac{3}{4}$ 7 parts.

—*Medical Times and Hospital Gazette*.

A New Pomade.—Dr. Müller, of Berlin, has just given in the *Deutsche Medizinisch-Zeitung*, No. 6, the formula which follows as the very best where mercurial frictions are required, since it is very soft, has scarcely any odor, and penetrates readily into the tissues without irritating the skin.

℞ Metallic mercury..... 33.3
Wool fat..... 44.7
American vaseline..... 12
Neutral potash soap (prepared with olive oil)..... 10

Blepharitis.—

℞ Red oxide of mercury..... gr. x.
Vaseline..... $\frac{3}{4}$ ss.
M. S. Apply to the edge of the lids at bedtime.

Blepharitis Ciliaris.—

℞ Neutral acetate of lead..... 0.10
Hydrochlorate of cocaine..... 0.15
White vaseline..... 3
M. S. Make frequent applications along the margins of the lids.

—LANDOLT et GYGAX.

Society Reports.**THE PRACTITIONERS' SOCIETY OF NEW YORK.***Stated Meeting, March 6, 1896.*

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

Nephritis with Eye Symptoms.—DR. BEVERLY ROBINSON presented a young man whom he had treated for nephritis and in whom Dr. Charles S. Bull had found on ophthalmoscopic examination albuminuric retinitis. The patient was a trainman by occupation, twenty-two years of age, who had had measles in childhood, and malaria nine years ago. There was no history of rheumatic, cardiac, hepatic, or pulmonary disease. He was moderate in the use of alcoholic liquors. His father had died of Bright's disease.

A year ago the patient began to have pain in the lumbar region; ten weeks ago he was attacked by swelling of the hands and legs, which was worst in the morning; six weeks before he had blurring of the eyes, but was able to see correctly; a similar blurring occurred ten days ago and again a week before admission to the hospital, December 19, 1895. Since the last attack the eyesight had been impaired, and he was unable to recognize people unless very near to them. He had headache off and on; the urine had recently increased. The appetite was good, the bowels were constipated, the skin was pallid, and the mucous membranes were well nourished. The impulse at the heart apex in the fifth intercostal space, just outside the nipple line, was rather forcible, and the action regular. A short blowing systolic murmur, not transmitted, was heard over the mitral area. The second aortic sound was somewhat accentuated. The pulse was regular, of good force and marked tension. Examination of eyes revealed neuro-retinitis with hemorrhage.

The urine contained from five to twenty-five per cent. of albumin and some granular casts; its specific gravity was low, 1.008. Dr. Robinson said the case was of interest from two points of view. First, with regard to treatment, it was known that in many cases of nephritis the best possible results came from nitroglycerin. Some patients bore the drug in considerable quantity for a time with benefit, but he did not think it was generally known to what extent its use could be pushed without producing unpleasant effects or apparently more than slight physiological effects. At one time this patient had been given over one hundred grains of pure nitroglycerin in alcoholic solution in twenty-four hours without causing any known poisonous effects. It seemed to reduce the tension of the pulse, but no other appreciable effect was noticed. Apparently it did not influence the urine one way or another. The nitroglycerin was said by the chemist to be pure, and when tried on patients sensitive to it the usual effects were produced.

The other point of interest related to the eyes, and in this connection he read the following letter from Dr. Charles Stedman Bull: "J. M.— came under my observation for the first time December 16, 1895, with a complaint of failing vision for six weeks. His vision was $\frac{1}{100}$ in each eye (type No. 200 read at seven feet), and there were the usual signs of neuro-retinitis nephritica with patches of yellow exudation and hemorrhages. There was albumin, twenty-five per cent., and hyaline and granular casts. On January 3, 1896, the vision was, in the right eye, $\frac{3}{8}$, and in the left eye, $\frac{3}{8}$ with the correction of hypermetropia and astigmatism. The general retinal œdema was very much lessened; there were no new patches of exudation and no new hemorrhages. To-day, February 7th, the vision in each eye is $\frac{1}{10}$ and he reads Jaeger

No. 2, very small type, at the usual distance. The fundus is about the same. There is no new exudation, and but very little absorption of the patches already existing."

A second letter from Dr. Bull, dated February 11th, read as follows: "In the case of J. M.— it cannot be said that the improvement in vision actually corresponds to the ophthalmoscopic change in the fundus. When these cases of exudative neuro-retinitis in patients with chronic renal disease are subjected to proper treatment of the renal disease, the vision always improves and is often restored to normal, while the exudation in the retina remains. The improvement in J. M.—'s vision is due to the rapid and marked disappearance of the general œdema of the retina, which has been unusually rapid in his case. The fatty exudation in the region of the macula and around the optic disc remains about the same. This exudation seldom disappears and its presence is compatible with very useful vision. Most of these patients, however, do not live very long; the majority of them die within the first year after the appearance of the retinitis. It is possible to have very extensive fatty exudation in the retina coexisting with good vision."

Dr. Robinson added that he thought the prognosis with regard to death depended very much upon how the patients were treated. If their circumstances in life were such as to enable them to choose the best climate and have the best surroundings, in addition to getting proper medical care, they might live for years. He had had patients with albuminuria and all evidences of chronic nephritis so pronounced that at times he felt life was in imminent danger, yet they had lived for years and always seemed to be in as good condition as when he had first seen them. He asked for the experience of members with regard to the prognosis of chronic Bright's disease and the other points mentioned. He also questioned whether patients with chronic Bright's disease did not acquire a sort of physiological resistance to nitroglycerin, similar, for instance, to that shown to antimony by patients with pneumonia.

DR. C. S. BULL said that twelve years ago he read a paper before the Ophthalmological Society in London, based on the examination of over one hundred and forty cases of retinitis albuminurica, and the very unexpected deduction which he was compelled to draw was that the large majority of patients, about sixty-eight per cent., die within a year after the appearance of ocular symptoms; and that of the sixty-eight per cent. seventy-five per cent. die within six months. It was a well-known fact that in neuro-retinitis albuminurica marked improvement in vision might take place after disappearance of the general œdema of the retina, while the hemorrhagic spots remained. He had had a lady under observation for seventeen years with marked retinitis albuminurica, in whose eyes the patches were as distinct then as when he first examined her, yet her vision was nearly normal. But, of course, if there were recurring hemorrhages they deteriorated the vision, and that deterioration was not recovered from. Since the appearance of his paper three others had been published by foreign confrères, all of whom drew the same conclusion, that most patients with nephritis lived but a short time after the appearance of retinitis. A parallel case of good vision persisting in serious involvement of the eye was seen in many cases of choked disc, provided the papillitis was not due to rapidly growing intracranial tumor. Of course there was a limited field in which there was no vision.

DR. GEORGE L. PEABODY had occasionally encountered patients whose arterial tension was not diminished by even very large doses of nitroglycerin. He had never given as much as ten grains at a dose, the amount Dr. Robinson had at one time given his pa-

tient, but he had gradually increased to two grains without noticing marked physiological effect or change in the pulse tension. He recalled the case of a patient who had suffered periodically from attacks of renal vomiting, the vomiting persisting for days. Nothing relieved him except enormous doses of morphine given subcutaneously. Nitroglycerin had no effect on the high tension of the pulse, whereas chloral hydrate had. In giving chloral hydrate he began with five grains every three hours and increased to ten grains every three hours, giving often as much as eighty grains in twenty-four hours. There was no doubt that many people were not affected by nitroglycerin and in them chloral hydrate usually acted admirably, fulfilling the double purpose of relaxing arterial tension and producing sleep at night.

Regarding the duration of life, he thought one must consider the kind of nephritis. If it were distinctly a parenchymatous nephritis, with a large quantity of albumin in scanty urine, the prognosis was much worse than if it were an interstitial nephritis with abundant urine and few casts. He had a patient in high official position who for years had had chronic Bright's disease, who always had some oedema, whose urine always contained some albumin and casts, yet who was able to attend to his official duties without much difficulty. But this patient took care of himself, living chiefly on milk, and on milk alone during exacerbation of symptoms. But patients who had pronounced symptoms in the way of oedema and scanty urine were in his judgment patients in whom the prognosis was much worse, although more could be done for them in the way of climate, probably, than for those having interstitial nephritis.

THE PRESIDENT asked Dr. Peabody whether he thought eye complications rendered the prognosis bad.

DR. PEABODY thought they did. Pronounced eye symptoms always impressed him with the gravity of the prognosis. A gentleman well known to the local profession, while in apparently perfect health, felt that he needed a change of glasses and went to Dr. Noyes. Dr. Noyes dilated his pupils and discovered at the one sitting retinal changes of nephritic origin, and gave a gloomy prognosis. Notwithstanding the fact that the man was in good health, he immediately gave up his duties and went abroad, but died in the course of two or three months of urinary suppression and coma.

Diphtheritic Palsies and the Use of Antitoxin.—DR. CHARLES L. DANA read the paper (see page 513).

Palsy Not Produced by Antitoxin.—DR. HERMAN M. BIGGS said, as to the possibility of the production of palsy by antitoxin, that he thought it was quite out of the question, for out of the very large number of cases in which it had been used for immunizing purposes it had produced no such result in any. It had been used in New York institutions for immunization in at least fifteen hundred cases and had never caused paralysis. The fact that in cases of diphtheria treated by antitoxin the palsies were not very much reduced in number was easily explained. Rarely was a case treated early enough with antitoxin for it to counteract absolutely all of the diphtheria toxin. More or less toxæmia always occurred before the treatment was begun, enough to produce nerve degeneration. Sidney Martin had shown by experimental work that nerve degeneration was often present in animals which had received only a small dose of toxin, not enough to produce death or even symptoms before paralysis. Again, there was the fact referred to by Dr. Dana, that a larger percentage of cases of diphtheria recovered under antitoxin treatment than without it, and consequently there was a larger percentage of the total number of all cases of diphtheria in which it was possible for paralysis to

make its appearance. But the essential point was the one just mentioned, that there was a certain amount of toxæmia before the antitoxin was administered, a sufficient amount to produce the nerve degeneration. The fact that palsies did occur seemed to him not in the slightest degree an indictment of the antitoxin treatment.

DR. BEVERLY ROBINSON thought Dr. Biggs' reasoning was somewhat faulty. According to his observation diphtheritic paralysis was often seen in cases in which the diphtheria at the beginning of the attack had not been very severe, but in which the entire duration had been rather long. The inference was that but little toxæmia had occurred the first few days, and if antitoxin were used it ought, in these mild cases at least, to reduce the percentage of cases of paralysis.

DR. LAMBERT, invited guest, thought the following facts should be taken into consideration: It required a certain amount of antitoxin to counteract a given amount of diphtheritic toxin circulating in the blood; the exact amount of toxin present in a given case was not known; new toxin was constantly being added, and the antitoxin must be sufficient to counteract this also; antitoxin was not retroactive, and could not repair injury already done by the toxin. Anent Dr. Robinson's remarks, one could not say that a sufficient quantity of the toxin had not been absorbed at a given time to produce serious changes, such as might lead to paralysis. It was one of the peculiarities of diphtheria that the early symptoms might be mild, while the late manifestations might be severe.

DR. W. H. PARKER, invited guest, said it was interesting to watch the effects of antitoxin on guinea-pigs used for test purposes in the laboratory connected with the hospital for patients with diphtheria. Some of the animals received enough of the diphtheria toxin to produce death, others an amount not quite sufficient to produce that result. A certain number of the latter developed diphtheritic paralysis later. Of the animals injected with the toxin and treated with antitoxin, some were given enough antitoxin to prevent manifestations of the toxin, and none of these developed paralysis; others which received a less amount recovered, but some showed paralytic symptoms; still others received an amount not sufficient to prevent death. One who had watched the guinea-pigs could hardly see how it was possible that the antitoxin could produce paralysis; on the contrary, it seemed to prevent it by counteracting the diphtheritic toxin. The larger the amount of antitoxin administered, the less apt was there to be paralysis, and when a certain amount was passed paralysis never developed.

Regarding the frequency of paralysis in the Willard Parker Hospital, it was his custom to go in from the laboratory every day to see how the cases were getting along. There was no doubt that there had been rather more paralysis there since the introduction of antitoxin than before, but, as Dr. Dana had also said, this occurred to a considerable extent in patients who without antitoxin treatment would have died of the diphtheria before paralysis could show itself. A good many children brought there had diphtheria in severe form, the nose completely blocked with membrane which it was almost impossible to dislodge. Formerly it was very rare for this class of patients to recover, but under antitoxin treatment nearly all either recovered completely or recovered temporarily, and then after two or three weeks they might develop either general paralysis or local paralysis of muscles of the pharynx and deglutition. Some died of the paralysis, but many of them got well. Again, patients came in at different stages of the diphtheria—the second, third, fourth, seventh day—and some had even developed paralysis on the day of admission or the day following. Of course, antitoxin could have little influence in pre-

venting paralysis in late cases. It seemed to him that the frequency of paralysis was proportionate to the severity of the diphtheria when the patients entered the hospital and were put under antitoxin treatment.

Value of a Bacteriological Diagnosis.—DR. ROBINSON said that he would like to hear from Dr. Park a word as to diagnosis based on bacteriological examination. In one case he was very much alarmed lest a certain patient, a boy, had diphtheria, and was decidedly relieved when Dr. Park reported from bacteriological examination that it was not diphtheria. In another instance a lady had all the clinical evidences of diphtheria, and he was again gratified to learn from the bacteriologist that it was not diphtheria. On the other hand, he had attended two cases in which neither he nor members of the family thought the patients were very sick, yet bacteriological examination of the mucus showed diphtheria. In a certain hospital free from diphtheria it was reported that a number of the children had the Loeffler bacillus in the throat. In view of facts like these, he believed the profession was more or less in a quandary at the present time regarding a bacteriological diagnosis.

DR. PARK rejoined that if the culture from the throat was properly made and did not show bacilli of diphtheria, it could be safely assumed that the case was not one of diphtheria and was not liable to transfer that disease. Now and then a culture was taken from a limited part of the throat and did not show diphtheria bacilli, while cultures from another part did show them, and the possibility of this occurrence left a shadow of doubt.

Regarding light cases of diphtheria in which bacteria were found, he thought it was a difficult question to decide practically how to manage them. As a rule the more virulent the bacilli the more malignant was the disease, but in some of the severest cases of tonsillitis the Loeffler bacillus was absent. Recently the health department had followed up thirty cases reported as diphtheria of the tonsil, but in twenty-seven of them it had found the cultures were not virulent when inoculated into animals. Three were virulent, and in only two of the thirty cases did they find that the disease had been transmitted to others. As a rule, the less virulent cases were less likely to transmit the disease.

He concluded by saying that when the bacilli of diphtheria were not found the case was not one of diphtheria; but when they were found, such cases need not be more severe than the others, yet they could transmit diphtheria.

DR. PEABODY asked whether the health department still considered it necessary to isolate patients so long as Loeffler bacilli were found.

DR. PARK replied that a new regulation of the health department, which had not yet been put into effect, left it to the judgment of the attending physician whether in private houses patients who were convalescent should continue to be isolated. But it was expected that the physician would explain to the family the possible dangers. If he would make that explanation, the health department would allow him to assume the responsibility and would not enforce isolation. Children from that house would not be allowed to go to school.

DR. PEABODY asked how long he had known bacilli to remain in the throat after convalescence.

DR. PARK replied that nearly all disappeared within two or three weeks, but now and then some remained two or three months, and in two cases they were present nearly nine months. In the latter it was possible that reinfection had taken place, but he thought not.

Unreliability of Anatomical Diagnosis.—DR. BIGGS thought one of the great difficulties of practitioners was the fact that they had not ceased to depend upon

an anatomical diagnosis. So far as the mucous membrane was concerned there was absolutely nothing which was pathognomonic of diphtheria. In diphtheria the membrane might be simply on the surface, or it might involve the substance of the tissue and be associated with enlarged lymphatics. There was no anatomical diphtheritic inflammation which was characteristic of inflammation produced solely by diphtheria bacilli. The disease diphtheria was such an inflammation as was produced by diphtheria bacilli and by those bacilli only. Of the patients in whom diphtheria bacilli were not present, practically all recovered except the very young; whereas, if diphtheria bacilli were present, it did not matter how mild the case might seem to be, we could not say until the termination of the disease that the patient would recover. The child of a wealthy family had mild tonsillitis while on the ocean. On arrival at port they visited some friends, and within forty-eight hours one of the children in the family visited came down with diphtheria and soon died. The throat of the visiting child was then examined and most virulent diphtheria bacilli were found, yet they had caused little disturbance in this patient, but had rapidly produced death when transferred to the other child.

In private houses there was so much less likelihood of disseminating the disease that the health department had concluded to introduce the regulation mentioned by Dr. Park, to be put into effect shortly, leaving the question of isolation after convalescence with the attending physician. But this regulation would not apply to boarding-houses, tenements, etc.

DR. PEABODY remarked that it was almost impossible in many instances for the physician not to take that responsibility. He had seen a governess who had membrane in her throat; he told her he could not say for twenty-four hours whether she had diphtheria or not, but gave antitoxin. It was shown in twenty-four hours that there were no Loeffler bacilli in her throat. She was in attendance on four children and he took cultures from their throats. Loeffler bacilli were present in two of them, and remained present so long as examinations were made throughout the winter, yet the children presented absolutely no symptoms.

DR. LAMBERT remarked that it had been found that the serum of the blood of children possessed a certain amount of immunizing power against diphtheria toxin, which would account to some extent for some of the facts mentioned. He knew of two nurses who had sore throat; in one it was quite severe, in the other light. In both diphtheria bacilli were present; under antitoxin they all disappeared within ten days in the severe case, while in the other they were still present.

DR. PARK thought that the severe cases usually got well more rapidly, if they recovered at all, while the mild ones lingered. In reply to an interrogatory by DR. PEABODY as to how long antitoxin retained its strength, he said he would prefer to change for a new sample after six months. By that time it had lost part of its strength.

Books.—Drs. Du Cazal and Catrin (*L'Union Médicale*, 1, p. 608) from personally conducted experiments conclude: 1. New books, without being aseptic, do not contain pathogenic microbes. 2. Books of hospital libraries may transmit Klebs-Loeffler bacillus, the streptococcus, and the pneumococcus, but Koch's bacillus cannot be transmitted in this manner. 3. Only unbound books should be placed in the hands of patients, and these should be repeatedly sterilized.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 2, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR,

The Clinical Aspects of Glycosuria.—DR. WILLIAM H. DRAPER read a paper on glycosuria, chiefly from a clinical aspect. Clinically glycosuria, like albuminuria, was a symptom. As albuminuria did not always or necessarily point to a renal lesion, but often presented itself as a transient, intermittent, or persistent elimination, associated with a variety of functional or organic derangements, so the presence of sugar in the urine was a symptom of varying significance. Glycosuria was a consequence of lithæmia, and lithæmia would have the advantage of diabetes mellitus as the name of the disease. This same process directed attention to the state of the blood, which was still imperfectly understood. Chemistry and experimental physiology had taught us how to explain many symptoms, to estimate the degrees of its severity, to measure its progress, and to forecast its consequences. It could not be said they had rendered us much assistance in therapeutics, although they had made plain the reason why the treatment, which was empirical in its origin, was rational in its principle, and especially why diet failed to do good in the graver forms of the disease.

Often a purely accidental circumstance revealed the true nature of the patient's complaint. There was no better illustration of this statement than the fact that a considerable number of diabetics had their disease revealed to them by specialists. One fell into the hands of an oculist for amblyopia or commencing cataract; another sought advice from a dermatologist for troublesome pruritus or eczema; another went to the dentist because his teeth were decayed; another consulted a specialist because of dyspepsia or constipation, another a neurologist for an obstinate neuralgia or nervous prostration. While the symptom complex varied, yet glycosuria was sometimes unaccompanied by any serious derangement of the health. This might be true even in cases known to be associated with lesions of the nervous centres or of the viscera, but in cases with or without serious symptoms there might be no demonstrable lesion.

Clinically, we recognized two varieties of glycosuria. One was that in which it was apparently the result of imperfect combustion of carbohydrates, and in which the withdrawal of these caused the disappearance of sugar from the urine. The second variety was that in which the glycosuria continued in spite of the complete withdrawal of carbohydrates. The first form was often mild, intermittent, and always more or less controllable; the second was the opposite.

That glycosuria had an intimate connection with liver glycogenesis was still an accepted opinion, but one which had always had an opponent in Pavy who continued to maintain that the liver was a sugar-destroying and not a sugar-forming organ. He admitted the glycogenetic function of the liver, but denied that it was the source of sugar in the blood.

From a chemical point of view glycosuria was a disease of suboxidation of the elements of our food, nitrogenous as well as non-nitrogenous. The causes of this suboxidation were still obscure. Whether it was the result of disordered function of one organ or of several, whether of the liver or of the nervous centres, etc., was a question not yet satisfactorily solved. Clinical observation was of interest in pointing to some of the predisposing causes. In a number of cases the disease seemed to have its origin in inherited constitutional abnormality of nutrition. It might descend to the third and fourth generation. While the proportion of cases in which direct heredity could

be traced was small, it was different if we considered the question of indirect heredity. By this he meant the inherited constitutional incapacity for the easy and rapid digestion of carbohydrates, tending to the production of glycosuria. It was now generally admitted by clinicians that lithæmic gout was a congener of glycosuria. In the light of such relationship, heredity would be seen to play a much larger rôle in the causation of diabetes. The number of cases with a gouty ancestry was considerable. Dr. Draper could say from personal observation that a gouty subject, if he should become glycosuric, would cease to have attacks of gout as long as the glycosuria lasted, but when it ceased he was very apt to have recurrence of gout. The favorable influence of glycosuria on gout and gravel was probably due to free elimination of uric acid with the increased secretion of saccharine urine in diabetes.

After heredity was the incapacity for the digestion of carbohydrates. This was aggravated by over-indulgence or neglect to adapt one's diet to habits of life and occupation. The majority of cases of glycosuria were seen in peoples who ate most of farinaceous foods. It was common in India, for example. It had been stated that there was a special disposition to diabetes among Hebrews and Dr. Draper's observation would seem to confirm this statement, and it might be explained by the fact that in western countries the Hebrews were not an agricultural people, but were engaged in indoor occupations favorable to imperfect metabolism of food. Most cases occurred between thirty and sixty. Absence in infancy and adolescence was probably due to activity of digestion in early life. The youngest case which he had seen was in a child under one year. It was much more common in men than in women, for which no direct cause could be assigned, unless men were given more to debauchery, excessive eating and drinking, and were more exposed to traumatism. Excessive muscular exertion had been regarded as a cause, but in Dr. Draper's experience this was rare. The same was true of paludal poisoning. He thought the malarial organism could act only through depressing and deranging the nutritive processes. Cases following moral and emotional shock, cerebral tumors, etc., had been seen by all who had had much experience with diabetes.

As illustrating the tendency of mild cases to become severe, he had seen three brothers, all of whom had a little sugar in the urine, but were able to attend to large business interests for a long period. The disease gradually merged into the severe form; two of the patients had gout at intervals; one, who died of diabetes, had eleven stones in the bladder. In the mild form the amount of sugar passed did not usually exceed an ounce or two in twenty-four hours. Severe cases had been known to pass from one to seven gallons of urine, containing twenty to forty ounces of sugar in a day. It had been estimated that this could be made to lift a million pounds one foot.

As mild cases progressed, we observed symptoms connected with tissue waste, loss of strength and energy, incapacity to evolve force of any kind; there was plenty of fuel, but no fire. The fuel circulated and left the body unconsumed. There was unappeased thirst and appetite.

Among the accompaniments which accounted for the sufferings of the patients were neuralgias and paræsthesia, sciatica, burning sensation in palms and soles, pruritus, independent of and including that of the genitals. In persistent neuralgias, especially of sciatic distribution, the importance of examining the urine was not sufficiently appreciated. It seemed reasonable to suppose that many of these were the result of peripheral nerve lesion.

Another accompaniment was albuminuria. This

was generally slight, but sometimes was considerable, especially when it alternated with the glycosuria. The two might exist in this way for a long period and permit of a fair degree of health. Another curious fact was the frequent association of diabetes with obesity. It was less apt to be attended with severe symptoms than in thin subjects. One of the most painful symptoms, and one most difficult to overcome, was constipation. Rapidly fatal glycosuria occurring after traumatism, mental shock, etc., was, he thought, usually an aggravation of a previously existing mild form which perhaps had not been discovered. In grave forms the circulation of unconsumed sugar tended to the production of local congestions, imperfect nutrition, gangrene, etc.

Prognosis.—The question of prognosis was a difficult one. The simple form had a good prognosis so long as the patient was under control, but when the amount of sugar and urine increased out of proportion to the food and drink, the prognosis became unfavorable. The prognosis in traumatic cases was sometimes good, sometimes bad. He had recently had two such cases—one recovered, the other died.

Therapeutics.—So far as rational therapeutics went, it was summed up in dietetic management. Further than this we had only empiricism based on the theory of the origin of the disease to guide us. The non-combustion of carbohydrates was probably the starting-point in all cases. Two measures had thus suggested themselves: one was the withdrawal of carbohydrates from the diet; the other, to quicken their transformation. No drug yet discovered appeared to answer the second indication, although time would fail to make a list of the medicines which had been vaunted for it. They had all been used in connection with restricted diet, and often the benefit had probably been due to the latter. Iron and alkalies undoubtedly had the power to promote oxidation in the living body, and it was interesting to note that they were as valuable in lithæmia as in glycosuria. But they required to be accompanied by restricted diet. His own experience would go to show that it was in the cases of gouty habit that the alkalies did most good. The inhalation of oxygen and enforced exercise with a view to stimulating oxidation, had failed. One who had seen much of diabetes knew how valuable was opium. There was little question that opium in some form, in combination with alkalies, constituted the best method of controlling the sufferings of the patient if not the progress of his disease. He had not time to go into the details of the dietetic treatment. Essentially it converted the individual from an omnivorous into a carnivorous animal, and with the art of cooking this could be accomplished with less discomfort than one would naturally suppose.

The Mystery of Diabetes Growing More Impenetrable.—DR. WILLIAM H. THOMSON said the subject of diabetes reminded him of the answer of the old colored woman when asked what books she liked best. She liked the Book of Revelation best, because it was so easy to understand. When the glycogenic function of the liver was discovered, physiologists thought it would throw new light upon diabetes, but the many years spent since then in physiological and pathological experimentation had, while adding many new facts, only deepened the mystery. After reading Pavy's papers he had begun to think that Claude Bernard had started us on a wrong scent. He was sure that if derangement of the liver had anything to do with diabetes it would be very difficult to say what that derangement must be. It was not seen in hyperæmia, acute or chronic; the liver was deranged in various ways in the production of jaundice, yet there was no diabetes; it might be invaded by a neoplasm, but diabetes would not be found; in extreme cirrhosis its

functions might be almost or entirely abolished, still there was no indication that the carbohydrates were not being properly disposed of in the body. Of course in any of these conditions there might be sporadic glycosuria, but there was no causative relation. On the other hand, the attention of the profession had been forcibly directed the past ten years to lesions of the pancreas in connection with diabetes. First, we heard that extirpation of the pancreas invariably produced diabetes, which proceeded to a fatal issue in dogs. Therefore it was supposed that the pancreatic secretion must have some important action in the conversion of carbohydrates. But further observation showed that when this fluid was not admitted to the intestine at all, but conducted away by a fistula, there was no diabetes. Further, three-fourths of the gland could be extirpated, yet no diabetes would follow. Even the remaining fourth could be skilfully transferred to another part of the body without becoming atrophied, and still no diabetes would ensue. But as soon as this remaining fourth was cut off, diabetes set in at once. As had been stated, this fact opened up a new field, to the effect that every gland in the body apparently had a great deal to do with the economy aside from its secretion. It had been shown that the relation of the pancreas to diabetes was not through the pancreatic juice, but through a ferment generated by a certain set of cells. Removal of the testicle produced important changes in the nutrition of the body, as was illustrated by the difference between the ox and the bull. Removal of the pituitary body produced important osseous changes. Myxœdema resulted from atrophy of the thyroid gland. Remove the few cells referred to, and the glycolytic function would be interfered with, causing diabetes.

Dr. Thomson had eleven cases of diabetes in private practice at present, and must say that he knew of no disease in which the histories were more in contrast. It happened that out of the eleven four were women, a larger percentage of females than usual. He thought the prognosis depended more upon the age than upon any other condition. The younger the patient the worse the prognosis. The old man could be told that he would go on to live as long as his fellow-men. In fact diabetes seemed to rejuvenate the old man by counteracting the tendency to hardening of the arteries. In gout, instead of having a compressible pulse, we had an incompressible one, and the conditions were so different that he could not believe the origin could be the same as that in diabetes.

Dr. Thomson's Theory.—Each man, Dr. Thomson said, felt himself at liberty to have a theory in relation to glycosuria. The following was his: Where were the starchy elements of the food burned out? Not in the liver, not in the glands of the body, not in the lungs. It had been shown beyond question that when carbonic acid resulted from burning with oxygen it took place in one tissue alone, and that was in muscle. In other words, the muscles of the body were the furnaces of the body. The muscles had two entirely distinct functions, that of contraction and that of heat-production. All authorities were agreed that diabetes was not a result of power to produce sugar, but of lack of power to use it. Might not the fault, then, lie in disturbance of innervation of the muscles? This theory would explain some of the clinical phenomena, among them that of the danger of allowing these patients to become over fatigued.

Diabetes in Wall Street.—DR. ANDREW H. SMITH, in referring to a nervous influence as the starting-point in many cases of glycosuria, mentioned the case of a man who became suddenly diabetic from severe fright in a runaway accident. Prolonged mental strain of less degree was capable of producing a similar effect, and this would account for the large number

of cases among Wall-Street men. He once had a case of diabetes in a locomotive engineer, who told him that it was extremely common among those of that occupation, and through the medical director of the Brotherhood of Locomotive Engineers he had learned that diabetes occurred about seven times more frequently among members of this organization than among the general public. When asked his explanation, he stated by letter three points: 1, The jar communicated from the cab to the spinal column; 2, alternate heating and cooling of the body; 3, great mental strain. Dr. Smith thought there was probably no other occupation demanding such intensity of attention. All three facts seemed to point to the nervous system as being directly involved.

A Vicious Circle.—Dr. Smith had entertained the theory for some time that the moment sugar began to circulate in the blood it set up a vicious circle, tending to the continuance of the glycosuria by irritating the centre originally disturbed, whether this centre were at the floor of the fourth ventricle, in the glandular structure of the pancreas, or wherever it might be. The influence of heredity was strong. The sons of diabetics were apt to be diabetic, and if the father's position was mentally an arduous one, as that of railroad president, he should not transmit his disease to his son. Like Dr. Thomson, he had found the disease easier to manage in old people; in fact, in them it usually manifested itself, and it was unfortunate for such a patient to fall into the hands of a physician too much wedded to restricted diet. He believed that diabetic coma was not infrequently precipitated by too rigid an exclusion of carbohydrates, especially in the aged.

Fancy Free.—DR. W. GILMAN THOMPSON said he had no new theory, nor did it seem to him that it was necessary or desirable that we should confine ourselves to one theory of diabetes. He had been much interested in what Dr. Draper had said regarding the mutual relation between gout and diabetes, and he had himself lately given as much attention, in the analysis of the urine, to the relation of the uric acid, etc., to the metabolic processes of the body as to the discovery of sugar itself. He believed that indirect heredity did apply to a large proportion of cases, but it would not explain the indigestion of animal food which occurred in many cases in the early manifestations of the disease. Then there were many people who suffered from indigestion of starchy foods in whom diabetes manifested itself at no time. Whatever theory we might adopt, he thought it was a matter of general experience that when diabetes once became inaugurated its progress was very much under the influence of the nervous system. Various strains on the nervous system tended to aggravate it, and it was for this reason he believed opium was so useful. He had tried a large number of remedies, one by one, and had given them up, and now relied chiefly on alkalies and opium, aside from dietetics. He had not found codeine as useful as opium. Regarding diet, he divided his cases into two classes, those with a good deal of sugar in the urine, but in good general health, who usually did well under dietetic treatment alone; second, cases with considerable sugar in the urine, who had constitutional or special symptoms, who did not get along well under dietetic treatment and perhaps were harmed by it. He approved Dr. Smith's remarks on the danger of too rigid an animal diet, especially if the patients began to emaciate under it.

The Cutaneous Manifestations of Diabetes.—DR. P. ALBERT MORROW read the paper (see p. 508).

Glycosuria Written on the Skin.—DR. G. H. FOX mentioned three cases, one sent him by Dr. Robinson and one by Dr. Sherwell, of glycosuria with an eruption of xanthoma. He laid stress on the similarity of the eruption, a pale yellowish flat nodule on the lower

portion of the back and gluteal region in the three cases, and said it was so characteristic that one might assert when it was present that the diagnosis of glycosuria was written upon the skin.

DR. SHERWELL, of Brooklyn, was glad to hear the remarks of some of the gentlemen to the effect that diet ought not to be too restricted. One was almost criminally negligent who failed to examine the urine of a patient chronically furunculous, or suffering, if a female, from pruritus of the genitals. He preferred a specimen of the evening urine to that of any other period of the day. He spoke of the relation between diabetes and dermatitis herpetiformis of Dühring.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 4, 1896:

	Cases.	Deaths.
Tuberculosis.....	...	...
Typhoid fever.....	14	16
Scarlet fever.....	113	4
Cerebro-spinal meningitis.....	5	26
Measles.....	426	13
Diphtheria.....	193	9
Small-pox.....	0	0

The Microscope in Surgery.—Dr. Senn in a recent work on tumors states that the microscope is not so serviceable in diagnosing tumors as many suppose, and cites as an instance the late Emperor Frederick of Germany. Small pieces of tumor or scrapings of tissue should not be sent to the pathologist simply to see what the microscope will reveal or what the pathologist knows. The object is to obtain a correct diagnosis, and to this end as large a piece of tumor as possible should be sent for examination. It should be accompanied with a history of the case and all other points, such as site, character of growth, etc. In this way the microscope usually decides when the appearances to the naked eye throw doubt on the character of the tumor.

What is Indicated by the Tongue.—A white tongue indicates febrile disturbance; a brown, moist tongue—indigestion; a brown, dry tongue—depression, blood-poisoning, typhoid fever; a red, moist tongue—inflammatory fever; a red, glazed tongue—general fever, loss of digestion; a tremulous, moist, and flabby tongue—feebleness, nervousness; a glazed tongue with blue appearance—tertiary syphilis.—*Medical Age.*

Limited to Skin Practice.—A young physician with an amount of braggadocio altogether out of proportion to his practice was met on the street by an older physician, who asked him how he was coming on. "I have got more than I can attend to," was the boastful reply. "I had to get out of my bed five times last night." "Then why don't you buy some insect powder?"—*Omaha Clinic.*

Cigarettes.—An editorial in the *North West Lancet*, February, 1896, says that to attack the cigarette is to combat the evil in the wrong place. Reform should be begun with the boys who are injured by smoking and not with the form in which tobacco is most attractive to the young. The law should be directed against tobacco in general and not against the cigarette in particular; otherwise the form and not the substance of the evil is the thing attacked.

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Original Articles.

THE THEORY OF THE THYROID ORIGIN OF GRAVES' DISEASE, WITH ITS BEARING ON THE SURGICAL TREATMENT OF THE DISEASE.¹

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THE absence of appreciable pathological changes in one or several portions of the nervous system, in the sympathetic, in the medulla, in the pons, in the spinal cord, and in the higher cerebral centres in many typical cases of Graves' disease, and the necessity of a general involvement of the nervous system to adequately explain the symptom-complex of the disease, have gradually led to a reversion to the hypothesis originally entertained—that the disease was primarily one of the thyroid gland, with a very different explanation, however, of its probable pathogenetic influence. The original hypothesis ascribed the nervous symptoms to purely mechanical causes, viz., the pressure of the enlarged gland upon the vagus and sympathetic, and it quickly was seen to be inadequate. Experimental investigations on the functions of the thyroid gland and the knowledge of the vital importance to the economy of its physiological secretion acquired very lately through observations in myxœdema and the closely allied conditions of cachexia strumipriva, cretinism, and foetal rickets, furnish the present basis of the thyroidal theory of Graves' disease. Moebius first suggested that the symptom-complex of the disease found its fullest explanation in a general toxæmia of the nervous system, the result of a primary disease of the thyroid gland leading to quantitative and qualitative changes in its secretion, and this view has received the support, with certain modifications, of Wette, Mueller, Joffroy, Bécère, Greenfield, Bramwell, Murray, Maude, and the surgeons Kocher and Rehn, among others.

A review of the evidence at hand in support of this hypothesis is of especial importance, as on its acceptance is largely based the surgical treatment of Graves' disease at present advocated.

It may be summarized as follows:

1. The nature of the pathological changes present in the thyroid gland in many cases of Graves' disease.

2. The antithesis of symptoms present in myxœdema and Graves' disease.

3. The speedy or gradual development of myxœdema subsequent to apparent recovery from Graves' disease.

4. The effects produced by the administration of thyroid extracts in myxœdema, in health, and in Graves' disease.

5. The efficacy of medicinal and surgical measures "which tend to diminish the volume or lessen the functional activity of the thyroid gland" in ameliorating or arresting the symptoms of Graves' disease.

A careful study of the structures of the thyroid gland in Graves' disease is of comparatively recent

date. Published reports of such studies indicate that invariably structural changes varying in degree and kind are present.

Among others Greenfield¹ very lately has given in the Bradshaw lectures the results of his examination in six fatal cases of typical Graves' disease, Grainger Stewart and Gibson² in three, Mueller³ in four, Joffroy and Achard⁴ in five, Vandervelde and Le Bœuf⁵ in four, and Mikulicz⁶ in ten.

The structural changes found by Greenfield, by Stewart and Gibson, and by Mueller were practically similar, and Greenfield's cases alone need be considered.

In all there was an absence of any special vascularity except in the large superficial veins. The changes, although general, were not equally distributed or at an equally advanced stage everywhere, and consisted, in the early stage, in an alteration of the epithelium lining the spaces from a cubical to a columnar type. There was accompanying greatly increased proliferation of tubules and epithelium; little colloid material was present, which seemed to be replaced by a more mucinoid fluid. The newly formed tubules were lined with a single layer of cubical epithelium and in their structure and in the regular arrangement of their epithelium corresponded to the tubules of a secreting-gland. Greenfield further states that as a sequel of these proliferative changes, a catarrhal condition is often found, and in cases of long duration an interstitial overgrowth is developed which gradually invades the glandular structure.

Greenfield summarizes the changes as representing a true hyperplasia and indicating an exaggerated and probably perverted function.

Both Stewart and Mueller also mention the surprisingly small amount of colloid material present in the acini.

From a careful study of the five cases reported by Joffroy and Achard, it would seem that in two the differences in thyroid lesions found from those described by Greenfield, Stewart, and Mueller, is more apparent than real. In a third, a similarity to adenomatous tissue is noted as present in portions of the gland. In a fourth case there was evidence of more or less cystic degeneration; and finally, in the fifth case the gland was replaced by a dense mass of fibrous tissue retaining the form of the gland, with a few heaps of epithelial cells representing the original vesicles. In this case typical myxœdema had supervened on the subsidence of the symptoms of an equally typical Graves' disease.

Of the four cases reported by Vandervelde and Le Bœuf (three personal and one of Raymond's), one was a polycystic goitre, the second probably a fibrocystic goitre; the third case is considered by them to be of doubtful nature, but probably an example of an atypical hyperplasia of the thyroid gland. The lesions found in the fourth case were evidently produced by ligature of the arteries, and consisted of a fatty degeneration of the interstitial connective tissue and the phenomena of necrosis in the epithelial cells of the acini. In the ten cases of Mikulicz, seven are described as diffuse hyperplasias, two as cystic, and one as a hypervascular goitre.

It is evident, therefore, that although anatomically

¹ Read before the Practitioners' Society of New York, April 3d.

an apparent true hyperplasia of the thyroid gland exists in many cases of Graves' disease, lesions of simple goitre alone are found in others exhibiting an exactly similar symptom-complex. Clinically, moreover, it must be recognized that not infrequently cases of both hereditary and endemic goitre of long standing finally develop very completely the symptoms of Graves' disease. Other cases exhibit no other symptoms than increased frequency of pulse, palpitation, and dyspnoea, while in an intermediate class there is an added exophthalmos and general nervous disturbance, yet with an incomplete expression of the symptom-complex of Graves' disease.

Further, it must be admitted that neoplasms of the thyroid gland, of various kinds and degrees which of necessity must be attended with a very considerable loss of secretory tissue, also are associated not infrequently with many, if not all, the symptoms of exophthalmic goitre. Among many others a case of thyroid sarcoma reported by Tillaux⁷ and two personal cases may be cited in illustration. In one of the latter (female, thirty years old), associated with a large fibroadenoma of the gland, there was persistent tachycardia, general nervous disturbance, and slight exophthalmos. In the second case, at present under observation, a boy of twelve years, exophthalmos and tachycardia exist with a recurring (after operation) neoplasm of the thyroid, with a secondary growth in one lung causing marked pressure effects.

An attempt has been made to distinguish these cases as well as those of simple goitre exhibiting the incomplete symptom-complex of exophthalmic goitre as false or surgical goitre, in contradistinction to so-called idiopathic goitre or Graves' disease as classically described with symptoms so numerous, varied, and changeable. With Mueller, Joffroy, and others, I see no justifiable grounds for such a division.

Such cases undoubtedly militate against the thyroidal theory of Graves' disease in so far as hypersecretion alone is regarded as the causative agent, but not if a perverted function with qualitative changes in the secretion is accepted in explanation. Is it not possible that the absence of the symptom-complex of Graves' disease in the majority of cases of simple goitre finds at least a partial explanation in the absence of the neuropathic tendency, inherited or acquired? All clinical evidence indicates the frequency with which Graves' disease appears in families with a strong predisposition to neuroses in general. Moreover, actual neuroses, hysteria, epilepsy, psychoses, frequently have been noted in individuals who later have developed Graves' disease.

The antithesis of clinical phenomena in Graves' disease and myxœdema is so striking and well recognized as to demand but brief consideration. The largest number of cases of Graves' disease occur between the ages of twenty and thirty, during the period of the greatest activity of the generative functions. The interval between forty and forty-five, the period of beginning decline of these functions, furnishes the most numerous instances of myxœdema.

In Graves' disease enlargement of the thyroid gland is present, in myxœdema an atrophy of the gland. In the one case the skin is fine, soft, moist, and warm; in the other coarse, hard, dry with a tendency to desquamate, and cold; in the one perspirations, often profuse in character and easily excited, are conspicuously present; in the other their absence even in the warmest weather is equally noticeable. In Graves' disease the temperature is never subnormal and pyrexia of greater or less degree occurs on slight causes; in myxœdema the reverse holds good. In the former an excitable, mobile pulse, tachycardia, and palpitation prevail; in the latter a sluggish heart action and slow pulse. In Graves' disease irritability and excit-

ability, in myxœdema apathy and dulness of apprehension and perception attract the attention. In the former tremor is one of the cardinal symptoms; in the latter it is absent, except in its rare occurrence in the form of tetany. In Graves' disease the nutrition of the hair, nails, and skin is, as a rule, well maintained; in myxœdema the reverse obtains.

The enumeration of contrasts in the clinical phenomena of the two diseases might be extended almost indefinitely, and the antithesis justly may be regarded as a not unimportant link in the chain of evidence in support of the thyroidal theory.

The speedy or gradual development of myxœdema subsequent to recovery from typical Graves' disease is a strong argument in favor of the thyroidal theory.

In view of the nature of the pathological changes found in the gland in many cases of Graves' disease, viz., an increase in the interstitial tissue in connection with alterations in the parenchyma, and which Greenfield states is a late process, this sequence is explainable on anatomical grounds.

Clinically, a very considerable number of cases have been recorded in which myxœdema has developed at varying intervals after the subsidence of the symptoms of Graves' disease.

Joffroy⁴ reports a single very typical case of this kind; two cases have been published by Bowles;⁸ Gowers,⁹ Ord,¹⁰ Corkhill,¹¹ have seen similar instances, and finally four cases reported by Baldwin¹² in 1895 are of much interest. Briefly their histories are as follows:

CASE I.—Boy; developed classical Graves' disease at about six years of age. He recovered and was typically myxœdematous at eight. Under treatment with thyroid extract all symptoms disappeared.

CASE II.—Girl; in her fourteenth year she developed Graves' disease—tachycardia, pulse 100–116, exophthalmos, enlarged thyroid, etc. All symptoms finally disappeared after an interval of six years, during the whole of which period she was under treatment. During the following year she gradually developed all the symptoms of myxœdema. Recovery followed under treatment with thyroid extract.

CASE III.—Girl, aged fifteen years. Graves' disease appeared six months previous to treatment. Disappearance of symptoms after twenty-one months. Myxœdematous five years later. Recovery under thyroid-extract treatment.

CASE IV.—Female, aged forty-four years. After severe mental shock she developed palpitation, breathlessness, thyroid tumor, exophthalmos, great nervousness, and insomnia. A year later, after final menstruation, all symptoms disappeared and almost immediately were followed by pronounced symptoms of myxœdema. Improvement ensued directly under treatment with thyroid extract and there was rapid recovery.

Several cases have been reported in which the symptoms of Graves' disease and myxœdema are believed to have been associated. Of the two cases published by Sollier,¹³ one presented with evidently true Graves' disease a coincident œdema of an intermittent nature. Further evidence is needed before ascribing the symptom to a myxœdematous origin. In the second case a true example of myxœdema is described; the evidence of Graves' disease after admission of the patient to hospital consisted of a slight degree of exophthalmos, especially on one side, in a pulse of 110–120, running up to 160 on slight emotion, and in diminished electrical resistance.

One of these cases, according to Murray, was treated later with thyroid extract without improvement in the myxœdematous symptoms, which is presumptive evidence against the origin ascribed to them by Sollier. (I have been unable to distinguish which of the two cases was so treated.)

Kovalevski¹⁴ reports a case in which myxœdematous

swelling, apathy, anæmia, and slow speech developed in the course of Graves' disease. The symptoms of myxœdema disappeared under treatment with hot baths, galvanism, arsenic, and quinine. The patient was still living at the time of the report and still suffering from the symptoms of Graves' disease.

Von Jaksch's case¹⁵ simply presented swelling of the lower extremities, which he believed to be of a myxœdematous nature.

Chvostek¹⁶ found the skin of a patient with Graves' disease "probably cedematous but leaving no pitting."

Osler¹⁷ reports a case with slight myxœdematous symptoms—slight swelling of the face and pads of the fingers—associated with enlargement of the thyroid. Exophthalmos was not present; pulse 84.

These are the only cases I have been able to find in which the symptoms of the two diseases have been believed to be associated. Their very limited number renders any conclusions of little value.

It should be borne in mind that fugitive and unsymmetrical swellings of various parts of the body, especially of the cheeks and eyelids and clearly of vasomotor origin, are not uncommon in Graves' disease. Such cases have been described by Parinaud,¹⁸ Hector Mackenzie,¹⁹ Gowers,²⁰ Maud,²¹ and Vigoroux.²² One case of swelling of the eyelids has come under my personal observation.

The effects produced by the administration of thyroid extract in health and in myxœdema are now well recognized. The susceptibility to its action in individuals in health undoubtedly varies somewhat, but doses rather larger than those found useful in myxœdema frequently increase the pulse rate from forty to fifty beats. The accelerated heart action is accompanied with palpitation, flushing, a feeling of fullness in the head, slight tremors, with profuse perspirations.

An especial susceptibility of patients suffering from myxœdema to the action of thyroid extract certainly exists. Large doses almost invariably produce pulse acceleration and palpitation, the temperature rises above normal, the skin becomes flushed and moist. If the dosage is pushed, there follow insomnia, restlessness, polyuria, diarrhœa, often fine tremor. Bécclère²³ observed in a myxœdematous woman who took by mistake at the beginning of treatment ninety-two grams in eleven days, tachycardia, irregularity of pulse, elevation of temperature, insomnia, polyuria, glycosuria, albuminuria, incomplete paraplegia with heat sensations, perspirations, transient tremor of the arms, and slight exophthalmos.

It is needless to call attention to the similarity of these symptoms to those presented by the patient suffering from Graves' disease; they embrace almost the complete symptom-complex of the disease. They are such as would be anticipated if the symptoms of Graves' disease are dependent upon an exaggerated function of the thyroid gland.

The effects of the thyroid extract in Graves' disease are too varied for any definite conclusions. It is true that its administration in many cases is unattended with appreciable aggravation of the symptoms; it is equally true that in a similar number of cases its use causes a distinct increase in the characteristic disturbances of the disease. Several reported observations of improvement in the symptoms of exophthalmic goitre during the use of thyroid extract justly admit of doubt as to their correctness. In the most interesting case of this kind, reported by Owen,²⁴ it was discovered by him later that an extract of the *thymus* gland had been given to the patient by mistake.

The efficacy of medicinal and surgical measures which tend to diminish the volume or lessen the functional activity of the thyroid gland, in ameliorating or arresting the symptoms of Graves' disease, is at present recognized.

The good results obtained from the use of belladonna are probably due to its power of inhibiting to a greater or less degree the functions of secreting-glands. Murray has found that the inunction of the red iodide of mercury ointment over the enlarged thyroid reduces its size and coincidentally causes a distinct diminution in the symptoms of the disease.

Partial extirpation of the thyroid gland by one or another of several surgical methods, and necessarily attended with a marked diminution in the volume of its secretory structures, has been followed by a subsidence of many, if not all, of the symptoms of Graves' disease and in a large number of cases by complete recovery.

I have been able to collect one hundred and eighty-seven cases surgically treated. In the tabulated list, the results have been entered under the heads of "Death," "Cured," "Improved," "Unimproved," and "Unknown."

The precise statement of reporters or operators in regard to improvement or recovery has been accepted. Where this is not made no case has been included among the recoveries, unless all symptoms with the exception of exophthalmos have disappeared.

A summary of the table shows that 13 have died as the more or less immediate result of the operation, thus giving a mortality of about seven per cent.; 60 are reported as having recovered, 47 improved, 11 unimproved; in 25 the result is unknown. In addition, 31 cases operated on by Kocher have resulted in various degrees of improvement, amounting in some cases to complete recovery. These would therefore increase the totals of cured and improved, but I have not been able to determine the number belonging to each.

In addition to the deaths included above, two patients died from causes not attributable to operation, in each case about two months later (influenza, sarcoma of lungs).

Four of the cases reported as improved had relapse of all symptoms after periods of two months, one year, two years, and seven years, respectively.

It is interesting to note that, as a rule, the longer the period of observation after operation the better appear the results. The psycho-neurotic symptoms would seem to be among the first to subside; a marked diminution in the pulse rate occurs more gradually. The exophthalmos apparently may persist long after all other symptoms have disappeared, in fact after practical recovery has been obtained. In two patients who have come under my observation such has been the case. In Case 10 of the tabulated cases, the patient was under my observation in hospital both before and after operation, and it is of interest to mention that there was a marked diminution in the degree of exophthalmos in the twenty-four hours succeeding the partial removal of the gland; there was no further improvement during the subsequent month. In the same interval the marked psychical disturbances had almost wholly disappeared, the tremor completely, and the pulse rate had fallen from 140 to below 100.

It is thus seen that the effects of medicinal and surgical measures in relieving the symptoms of Graves' disease apparently through reducing the volume of the gland strongly support the thyroidal theory. Instances—and they are not inconsiderable in number—in which, by removal of pathological conditions elsewhere in the body (polypi and other disease products in the nasal passages—Spicer,²⁵ Stoker,²⁶ Winckler,²⁷ Fraenkel,²⁸ Semon;²⁹ diseased kidney—Barella³⁰), the symptoms of exophthalmic goitre have subsided or disappeared, need not necessarily be accepted in disproof of this theory.

As Putnam says, "morbid processes may be perpetuated by influences which were not their real cause and cease when these influences are withdrawn."

Moreover, the spontaneous and rapid disappearance of even the symptom-complex of Graves' disease in occasional cases, and complete recovery in others after several years of illness, indicate that *extensive* structural changes in the thyroid are not always present; and may it not be that in such cases peripheral irritations elsewhere in the body are sufficient to maintain a functional hyperactivity of the gland which ceases on the removal of the irritation?

The apparent absence of enlargement of the thyroid gland in exceptional cases otherwise presenting the symptom complex of the disease has been cited in disproof of the thyroid hypothesis. Mueller²⁰ reports one such case, in which, however, structural changes were found after death, and it is not improbable that similar conditions would be found in others in which during life appreciable enlargement was absent.

Finally, in further evidence of the thyroïdal origin of the disease may be mentioned the well-known aggravation and diminution in nearly all the symptoms, simultaneously with an increase and decrease in the volume of the gland, which occurs so frequently in the clinical history of Graves' disease.

The main points of evidence in favor of the thyroïdal theory have been presented, and incidentally observations which would seem to militate against its correctness have been considered.

In conclusion it would seem that a preponderance of both pathological and clinical evidence is in favor of the view that the symptom-complex of Graves' disease finds its most satisfactory explanation in a general toxæmia of the nervous system, the result of quantitative or qualitative changes, or both, in the secretion of the thyroid gland; that for the complete expression of the symptom-complex of the disease the existence of a neurotic predisposition is probably necessary; that the *ultimate* cause of the disease of the thyroid gland is still a matter of speculation.

The growing disposition to treat Graves' disease by surgical measures tends to the inquiry whether it is the best and most efficient treatment. In an attempt to answer this question the dangers of thyroidectomy or of extirpation by other surgical procedures must be carefully considered, as well as the degree of benefit which may be expected from operation.

In simple goitre the symptoms for which relief is sought are similar in character to those of Graves' disease, although of less complexity and slighter in degree, and the record of Kocher alone indicates the slight mortality attending extirpation of the gland.

Notwithstanding his brilliant results, Kocher,²¹ at the last meeting of the Congress of German Surgeons, expresses his hope that another treatment than a surgical one for these cases may be found. He even states that the results obtained by himself and his assistants by dietetic treatment and by the use of the phosphates has been sufficiently encouraging to emphasize this hope.

In well-developed Graves' disease, not only is the mortality from operation much larger, but also the occurrence of alarming symptoms during and immediately after operation is not infrequent.

The occurrence of sudden death, which occasionally takes place during operation, has not as yet received a satisfactory explanation. Putnam suggested the rapid absorption of thyroid secretion from the cut surface of the wound, but now considers this explanation improbable.

The alarming symptoms consist in extreme prostration, excessive tachycardia, and dyspnœa, and to these may be added the occasional dangerous accumulation of mucus in the larynx and trachea.

Wette considers injury of the recurrent laryngeal nerve to be the probable cause of some at least of these disturbances. As Putnam²⁴ has pointed out, the

seriousness of the tachycardia and dyspnœa may be more apparent than real, being no more than exaggerations of similar paroxysms often observed in cases not operated upon. In a case of classical Graves' disease at present under observation, frequent attacks of extreme dyspnœa and tachycardia (pulse 200) and attended with great prostration, occurred during a period of several years. The paroxysms would subside as suddenly as they appeared, leaving the patient in comparative comfort. All the symptoms of the disease in this case have been subsiding gradually during the past twelve months, without operation and after an interval of seven years from the beginning of the illness.

Nevertheless, an irritability and probable weakness of the heart, even in the absence of structural changes, in Graves' disease must be fully recognized in deciding for operation.

The paralysis of the laryngeal muscles which frequently occurs after thyroidectomy fortunately disappears, as a rule; often, however, only after an interval of months.

Of the two operations chiefly advocated, ligation of the thyroid arteries and partial thyroidectomy, the former is earnestly advised by Kocher and Mikulicz in preference to resection, on account of its greater safety. Ligation of three arteries rather than of four is practised by Kocher. The observation has been made that every surgical measure which diminishes the size of the gland leads to its gradual further shrinkage or atrophy. The evidence in regard to the benefit to be expected from any operation which tends to diminish the size of the thyroid gland is clearly given in the appended tables.

It would seem from their study that more rapid and greater benefit in a larger number of cases occurs through operative than under medicinal treatment. On the other hand the high mortality rate up to the present time of the surgical treatment of Graves' disease must exclude it as a routine measure. It should be employed only, in my judgment, when all therapeutic measures have been fairly tried and have failed. The class of cases in which surgical treatment would seem especially advisable or indicated are those of not too long duration and with symptoms sufficiently severe to produce disability.

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TABLE OF CASES.

No.	Operator—Reference.	Age.	Sex.	Nature of Case.	Operation.	Result.	No.	Operator—Reference.	Age.	Sex.	Nature of Case.	Operation.	Result.
1	Curtis, B. F., New York. Personal communication.	24	F.	Exophthalmos marked, right goitre small, pulse 120-130, nervous.	Thyroidectomy, right half.	2 years later, no goitre, exophthalmos improved, pulse 90-100; not nervous.—Improved.	28	Kronlein, Beiträge klin. Chir., 1894, p. 704.	22	F.	Goitre, exophthalmos, tachycardia.	Resection.	Cured.
2	do.	42	F.	Exophthalmos marked, moderate right goitre, pulse very rapid, nervous, chronic diffuse nephritis.	Thyroidectomy, right half; wound a septic, coma and pyrexia.	Died of nephritis in 48 hours.—Death.	29	do.	35	F.	Goitre, slight exophthalmos, tachycardia.	do.	Cured.
3	do.	43	F.	Exophthalmos extreme, right goitre, pulse very rapid, irregular; nervous.	Thyroidectomy, right half.	13 months later, exophthalmos greatly improved, pulse 100; feels very well.—Improved.	30	Lücke, Schmidt's Jahrb., 1894, p. 359.	24	F.	Goitre, exophthalmos, pulse 130, moderately hard pulsating goitre.	Thyroidectomy, half; urgent dyspnoea and pulse 200 during first 24 hours.	3 months later, exophthalmos, and goitre improved, tachycardia worse.—Unimproved.
4	do.	21	F.	No exophthalmos, left goitre size of hen's egg, pulse rapid, nervous.	Thyroidectomy, left half.	Relief, less nervous.—Improved.	31	Newton, Jour. Ment. and Nerv. Dis., 1894, p. 259.	12	F.	Goitre, exophthalmos, tachycardia.	All but small portion removed.	Pulse fell from 180 to 100 and progressive improvement followed.—Improved.
5	do.	17	F.	Slight exophthalmos, right goitre size of pigeon's egg, pulse 90, slight nervousness, neurotic oedema of eyelids.	Thyroidectomy, right half.	do.	32	Guttmann, Vierf. innere Med., 1893, Feb. 20.	.....	.....	Exophthalmic goitre.	Thyroidectomy.	Unimproved.
6	do.	35	F.	No exophthalmos, left goitre size of turkey's egg, pulse 150, irregular, very slight nervousness, insomnia.	Thyroidectomy, left half.	Pulse fell to 90 during operation and so remained.—Improved.	33	Sulzer, Deut. Zeitsch. f. Chir., xxxvi., 1893.	.....	.....	.....	.....	Unimproved.
7	Markoe, F. H., New York. Personal communication.	14	M.	Slight exophthalmos, moderate goitre, tachycardia, tremor, and nervousness.	Thyroidectomy, half; colloid goitre.	2 years later entirely well.—Cured.	34	do.	.....	.....	.....	.....	Improved.
8	do.	28	F.	Marked exophthalmos, marked goitre, tachycardia, and excessive nervous symptoms.	Thyroidectomy, half.	Sudden death with intense cyanosis, 20 minutes after being put back to bed.—Death.	35	do.	.....	.....	.....	.....	Improved.
9	do.	36	F.	Marked exophthalmos and goitre, tachycardia and slight tremor, always nervous; exophthalmos 3 years, goitre 4 months.	Thyroidectomy, half; colloid goitre.	Rapid improvement, 1 year later entirely well.—Cured.	36	Hahn, rep. by Neumann, Deut. med. Woch., 1893, No. 39.	.....	.....	.....	.....	Improved.
10	McCoach, New York. Personal communication.	38	F.	Goitre, exophthalmos and tachycardia, tremor, marked nervous disturbances.	Thyroidectomy, half.	On leaving hospital, tremor had entirely disappeared and there was a marked diminution in the exophthalmos and general nervousness, pulse 90.—Improved.	37	Frank, Berl. klin. Woch., 1888, p. 849.	22	F.	Goitre, exophthalmos, tachycardia.	Thyroidectomy, half.	Unimproved.
11	Peterson, Med. News, July 21, 1894 p. 77 (operator not stated).	.....	.....	Goitre, exophthalmos, tachycardia.	.....	Reported 5 years after operation.—Cured.	38	do.	48	F.	Goitre, tachycardia.	Total extirpation.	Death.
12	Lemke, Deut. med. Woch., 1894, p. 42.	.....	.....	.....	.....	Cured.	39	do.	38	F.	Goitre, exophthalmos, tachycardia.	.....	Cured.
13	do.	.....	.....	.....	.....	Cured.	40	do.	30	F.	do.	.....	Cured.
14	do.	.....	.....	.....	.....	Died of influenza 2 months later.—Improved.	41	Lossander, rep. by Putnam, Jour. Ment. and Nerv. Dis., 1894, p. 359.	20	F.	Exophthalmic goitre, 1 year.	.....	1 year later moderate improvement.—Improved.
15	do.	.....	.....	.....	.....	Cured.	42	Stockmann, Deut. med. Woch., 1894, p. 141.	26	F.	Goitre, 8 years with gradual development of other symptoms, pulse 125.	Ligation of superior thyroid arteries, pulse falling to 90; 17 days later, ligation of inferior thyroid arteries; 3 months later the left lobe was extirpated.	Progressive improvement.—Improved.
16	do.	.....	.....	.....	.....	Unknown.	43	Hahn, rep. by Mannheim, "Der Morb. Gravesii," 1894.	41	F.	Goitre, exophthalmos, slight tachycardia, tremor, very irritable.	Partial thyroidectomy.	All symptoms have disappeared except slight exophthalmos.—Cured.
17	do.	.....	.....	.....	.....	Cured.	44	do.	40	F.	Goitre, exophthalmos, tachycardia, tremor and various nervous symptoms.	do.	Slight improvement in nervous symptoms, exophthalmos cured.—Improved.
18	do.	.....	.....	.....	.....	Improved.	45	Lister, rep. by Fraser, Edin. Med. Jour., 1887, p. 347.	.....	F.	Goitre, exophthalmos, tachycardia.	do.	Improved.
19	do.	.....	.....	.....	.....	Improved.	46	Rehn, Berl. klin. Woch., 1884.	38	M.	Goitre; tachycardia came on after incision and drainage of cystic goitre.	Removal of necrotic gland.	Cured.
20	Tuffer, Centralbl. f. Chir., 1885, p. 614.	26	F.	Goitre, exophthalmos, tachycardia.	Partial thyroidectomy.	Cured.	47	do.	22	F.	Goitre, exophthalmos, tachycardia.	Total extirpation.	Well 1½ years later.—Cured.
21	Herskind, Schmidt's Jahrb., vol. 247, p. 25.	31	M.	.....	.....	Cured.	48	do.	36	F.	do.	do.	Well 1 year later.—Cured.
22	Kronlein, Beiträge klin. Chir., 1894, p. 704.	19	F.	Goitre, tachycardia.	Resection.	Cured.	49	do.	Young	F.	Goitre, tachycardia.	Right and mid lobe removed.	Improved.
23	do.	25	F.	do.	do.	Cured.	50	Rehn, rep. by Wette, Arch. f. klin. Chir., vol. 44, 792.	.....	.....	Goitre, very extreme exophthalmos, tachycardia.	Extirpation of major portion.	All symptoms removed except moderate exophthalmos.—Cured.
24	do.	28	F.	Goitre, exophthalmos, tachycardia.	do.	Cured.	51	Rupprecht, Schmidt's Jahrb., vol. 229, p. 138.	35	M.	Goitre, exophthalmos, tachycardia.	Thyroidectomy, half.	Cured.
25	do.	20	F.	Goitre, tachycardia.	do.	Cured.	52	Roux, Festschrift Kocher, Wiesbaden, 1891.	.....	.....	.....	Ligation of arteries.	Improved.
26	do.	21	F.	Goitre, exophthalmos, tachycardia.	do.	Cured.	53	do.	.....	.....	do.	do.	Cured.
27	do.	57	M.	do.	do.	Nearly well, some tremor.—Improved.	54	do.	.....	.....	do.	do.	Improved.
							55	do.	.....	.....	do.	do.	Improved.
							56	do.	.....	.....	.....	Partial thyroidectomy.	Cured.

No.	Operator—Reference.	Age.	Sex.	Nature of Case.	Operation.	Result.	No.	Operator—Reference.	Age.	Sex.	Nature of Case.	Operation.	Result.
57	Putnam, Jour. Ment. and Nerv. Dis., 1894, p. 359.	16	F.	Goitre, exophthalmos, tachycardia.	Unilateral thyroidectomy.	Death on 7th day with pyrexia.—Death.	100	Dubreuil, Gaz. Méd. de Paris, Aug., 1887.	22	M.	Goitre, exophthalmos, tachycardia, cystic goitre.	Enucleation.	Cured.
58	Schmidt, rep. Buschan, Bas. Kr., p. 130.				Partial thyroidectomy.	Improved.	101	Tillaux, Chamberlain, Th. de Paris, 1894.	33	M.	Goitre, exophthalmos, tachycardia, sarcoma.	Enucleation.	Exophthalmos disappeared; died 2 months later from secondary deposits in lungs.—Improved.
59	Schuchardt, ref. Buschan, Bas. Kr., 1894.				Ligation of arteries.	Death.	102	do.	29	F.	Goitre, exophthalmos, tachycardia, cystic goitre.	Thyroidectomy.	Well 2 years later.—Cured.
60	Schuler, ref. Buschan, l. c.				Partial thyroidectomy.	Unknown.	103	Kummell, Deut. med. Woch., 1890, p. 438.	24	F.	Goitre, exophthalmos, tachycardia.	Partial thyroidectomy.	All symptoms diminished.—Improved.
61	Speyer, ref. Buschan, l. c.				do.	Unimproved.	104	Riedel, Arch. f. Chir., vol. 44, p. 785.	20	F.	Goitre, very extreme exophthalmos, tachycardia, nervous.	Thyroidectomy, half.	Cured.
62	Sprengel, Schmidt's Jahrb., vol. 229, p. 138.			Typical case.	do.	Well, except exophthalmos.—Cured.	105	do.	23	M.	Unilateral goitre, moderate exophthalmos, tachycardia.	Colloid cyst removed.	Improved.
63	Sickinger, Centralbl. f. Chir., 1893, p. 1091.			Goitre, exophthalmos, tachycardia.	do.	Unimproved.	106	do.	49	F.	Very large, hard, colloid goitre, exophthalmos, tachycardia, nervous symptoms and intermittent tremor.	Partial thyroidectomy.	All symptoms had disappeared at end of 1 year, except slight nervousness.—Cured.
64	Pouquet, J. aboulay, Gaz. des Hôp., 1894, p. 151.			Symptoms of Exophthalmos.	Exophthalmos.	Cured.	107	Warren, rep. by Putnam, Jour. Ment. and Nerv. Dis., 1893, p. 799.	29	F.	Goitre, exophthalmos, tachycardia.	.....	Improved.
65	do.			do.	do.	Cured.	108	Jones, Brit. Med. Jour., Dec. 10, 1874.	27	F.	Large goitre, exophthalmos with ulceration of cornea, pulse 110.	Setons and caustics.	After 1 year improved.
66	do.			do.	do.	Cured.	109	Strümpell, Lehr. d. Spec. Path., 1892.			Exophthalmic goitre.	Partial thyroidectomy.	Death.
67	do.			do.	do.	Cured.	110	Ollier, rep. by Bernard, Th. de Paris, 1892.	25	F.	Goitre, exophthalmos, pulse 160.	Caustics.	Recovery with exophthalmos, pulse 80, 2 years later.—Cured.
68	do.			do.	do.	Cured.	111	Ollier, rep. by Chamberlain, Th. de Paris, 1894.	21	F.	Goitre, exophthalmos, tachycardia, cystic goitre.	Incision, followed by drainage and caustics.	Well, except slight exophthalmos.—Cured.
69	Pouquet, Gaz. Heb., 1894, p. 133.			Goitre, exophthalmos, tachycardia.	do.	Death.	112	Barker, Lancet, 1883, i.	21	F.	.....	Thyroidectomy, half.	Cured.
70	Pouquet, Schmidt's Jahrb., 245, p. 132.	20		do.	do.	Improved.	113	Rotter, Deut. med. Woch., 1893, p. 260.	37	F.	Goitre, exophthalmos, tachycardia, tremor.	Thyroidectomy, half.	1 year later well, except slight exophthalmos.—Cured.
71	Wolf, Deut. med. Woch., 1893, p. 263.			Exophthalmos, goitre.	Thyroidectomy, half.	Death.	114	Pean, rep. by Chrétien, Th. de Paris, 1888.	24	F.	Goitre, exophthalmos, tachycardia, nervous symptoms.	Total thyroidectomy.	Well six months later.—Cured.
72	do.			do.	do.	Improved.	115	Pean, Schmidt's Jahrb., 244, p. 130.	26	F.	Goitre, exophthalmos, tachycardia.	Subcapsular thyroidectomy.	Progressive diminution of exophthalmos and other symptoms.—Improved.
73	do.			do.	do.	Improved.	116	Lavisé, Bull. Méd., 1893, No. 48.	35	F.	Pronounced case of exophthalmic goitre.	Ligation of the four arteries.	Immediate improvement of all symptoms, but relapse and death 2 months later.—Unimproved.
74	do.			do.	do.	Improvement, with relapse 2 years later.—Improved.	117	Watson, Edin. Med. Jour., 1873, Sept. do.		M.	Goitre, exophthalmos, anemia.	Extirpation.	Improved.
75	do.			do.	do.	Improved.	118	do.		F.	Goitre, exophthalmos, anemia.	Extirpation.	Improved.
76	Mazzopust, Centralbl. f. Chir., 1893, p. 715.				Ligation of thyroid arteries.	Improved.	119	Weidemann, ref. Mannheim, l. c.	14	F.	Goitre, slight exophthalmos, pulse 138, nervous symptoms.	Partial thyroidectomy.	All of the symptoms referable to disease removed.—Cured.
77	Boeckle, Gaz. Méd. de Strassburg., 1880.	55	F.	Goitre, exophthalmos, tachycardia.	Cystic papilloma removed.	Cured.	120	Kocher, Correspondenzbl. f. Schw. Aerzte, 1895, Jan.			34 cases.	.....	3 deaths—31 Improved or Cured.
78	Billroth, Arch. f. klin. Chir., vol. 44, p. 785. Rep. by Wölfler.				.....	Cured.	121	Rydygier, Schmidt's Jahrb., 247, p. 25.			22 cases.	Ligation of the 4 arteries.	22 Unknown.
79	Steltzner, Schmidt's Jahrb. vol. 229, p. 138.				.....	Unimproved.	122	Mikulicz, Berl. klin. Woch., May 13, 1895.			11 cases (1 without goitre, but with lymphangioma, 7 diffuse hyperplastic goitres, 2 cystic goitres, 1 hypervascular goitre. In all tachycardia, tremor, and psychoneurotic symptoms.	In 3 cases ligation of arteries (1 unilateral, 2 bilateral). In 3 cases enucleation by method of Socin. In 3 cases bilateral resection. In 2 cases unilateral resection.	6 cured, 4 improved. In 1 case improvement after removal of half of gland, followed by relapse. On removal of the remaining half cured.
80	do.				.....	Temporary improvement.—Unimproved.	123	Hartley, personal communication.	20	M.	Goitre 9 years, exophthalmos 4-5 years, tachycardia began about a year later, nervous.	Thyroidectomy, half.	Cyanosis and hyperpyrexia. Died on following day.—Death.
81	Nunneley, Med. Chir. Soc. Trans., vol. 48, p. 16.				Ligation of carotids.	Unimproved.							
82	do.				do.	Cured.							
83	do.				do.	Cured.							
84	do.				do.	Cured.							
85	do.				do.	Cured.							
86	do.				do.	Cured.							
87	Audry, Bull. Méd., 1889, p. 208.	43	F.	Typical case.	Extirpation.	Death.							
88	Jaboulay, ref. Buschan, l. c.				.....	Unimproved.							
89	Kelly, ref. Buschan, l. c.				.....	Unknown.							
90	Trzebiecky, Arch. f. klin. Chir., 1888, p. 498.				.....	Cured.							
91	Maydl, Gaz. des Hôpitaux, 1895, p. 84.	20	F.	Goitre, exophthalmos, tachycardia.	Thyroidectomy.	Cured.							
92	do.	34	F.	Goitre, exophthalmos, tachycardia.	do.	Improved, with relapse 1 year later.—Improved.							
93	McBurney, Jour. Ment. and Nerv. Dis., Aug., 1894.	20	F.	Goitre, exophthalmos, tachycardia, nervous symptoms.	Thyroidectomy, half.	All symptoms absent 6 months later.—Cured.							
94	Rotini, Centralbl. f. Chir., 1893, p. 714.			Exquisite case of Basedow's disease.	Total extirpation.	Cured.							
95	Caird, Trans. Med. Chir. Soc. of Edin., 1890-91, p. 213.	25	M.	Goitre, exophthalmos, tachycardia.	Large cystic goitre removed.	Well 1 year later.—Cured.							
96	Cohn, ref. Buschan, l. c.				.....	Death.							
97	Trendelenburg, rep. by Drusemann, Deut. med. Woch., 1892, p. 91.	23	F.	Goitre, exophthalmos, tachycardia.	Ligation of arteries.	Improved.							
98	do.	20	F.	Goitre, exophthalmos, tachycardia.	do.	Improved.							
99	Gauthier, Lyon Méd., 1888.			Goitre, exophthalmos, tachycardia, cystic goitre.	Cyst emptied and injected with iodine.	Improved, with recurrence of symptoms 7 years later.—Improved.							

THE EVOLUTION OF THE SURGICAL TREATMENT OF THE BROAD-LIGAMENT PEDICLE.

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A VOLUME which I published in 1891 was devoted mainly to the establishment of severe operative procedures for the relief of diseases of the pelvis and abdomen, especially in women. It dealt chiefly with the leading features of these proceedings in the direction of reducing their primary mortality and establishing them on the basis of giving a reasonable return for the risks run. This result has now been fully accomplished, and if I had confined myself strictly to these themes in my first volume my second would have been ready long ago; but the making of the first effort toward the latter has been put off till to-day, for in the second division of my task I have found so much to reconsider that over and over again I have been compelled to delay, until at last the task has seemed to me wellnigh hopeless, and I have felt that I should have to leave it to other hands to accomplish. In the intervening six years the field of surgical literature has been flooded with contributions on abdominal surgery—some good, a few very good, very many indifferent, and the great bulk hardly worth notice. I have waited to see if any one would take up what seems to me the logical method of advance, but I have found none to do so; and the effort which I now begin to-day to produce my second volume, and to indicate the lines on which I have improved and still hope to improve the secondary results of our operations, may turn out to be a failure as great as any which I have just deprecated. If, however, it have anything like the success which my first volume has met with I shall be pleased indeed, and in my own opinion the second will greatly transcend the first, alike in interest and importance.

As the whole history of abdominal surgery, in the slow and tardy evolution of its first stages, turned on the treatment of the broad-ligament pedicle, so my first efforts in the secondary evolution necessarily start at the same point; and it is, to say the least, disappointing to me to see how little the importance of this subject has taken hold of the men who have written most fluently on abdominal surgery and who have brought out the most popular text-books.

Mr. Greig Smith's book, for instance, will, to its ordinary reader, seem sufficiently imbued with my own teaching, yet he says concerning the treatment of the pedicle: "It has always seemed to me that this *question vexata* of ovariectomy has been unduly magnified in its importance. To a surgeon accustomed to deal with amputated limbs the pedicle is, comparatively, a small matter." If this is the view generally of surgeons accustomed to deal with amputated limbs, I hope fervently that no one in whom I have any personal interest will ever fall into their hands for the treatment of an ovarian tumor. Coming from the pen of a man like Greig Smith, it can only mean that, while he has written freely and with confidence, he has not seen a sufficient number of ovariectomies to know how different these pedicles can be, and his comparison of them with the symmetrical and constant incidents of amputated limbs is the most perfect nonsense. Similarly, the experience of one or two cases in which chronically over-distended bladders may be tapped for ovarian cysts, or even attempts made to remove them by abdominal sections, will some day cause him to repent bitterly of the following sentences: "I think that the advantages of catheterism before operation are somewhat exaggerated. I am convinced that it is unnecessary, and I have never done it."

From these illustrations I am persuaded that the

creation of abdominal surgery into a special branch of surgery was a wise movement, on the same ground that the development of ophthalmic surgery has upset the advice we used to find in a few chapters on diseases of the eye, oddly enough placed at the end of text-books on practice of medicine, that in all classes of squint the muscles supposed to be at fault were to be freely divided.

It may be useful to continue my criticism of Mr. Greig Smith's text-book on one other point, and that is his expression of opinion that "the operation of Houston of Glasgow (1701) was almost certainly not a complete ovariectomy." But apart from the very conclusive fact that the patient lived afterward in perfect health for thirteen years—a similar occurrence is not known in my own experience of incomplete ovariectomies—Mr. Greig Smith only lays himself open again to a charge of defective experience. I could not understand why Houston should describe his proceedings with such photographic fidelity of detail and say nothing about his treatment of the pedicle, and I assumed that he must have divided and tied it and forgotten to mention the fact. I did not attach sufficient importance to the fact that Houston had met with one of those singular eccentricities of ovarian growth with which my own long list is interspersed in goodly number, and it was not till I began to dig them out and carefully investigate their details that I saw the probability of Houston's description being perfect, even in the absence of allusion to the pedicle and its treatment. The clew is in his words: "I took a strong fir splinter, such as the poor in that country use to burn instead of candles; I wrapped about the end of this splinter some loose lint and thrust it into the wound, and by turning and turning and winding it I drew out above two yards in length of a substance thicker than any jelly, or rather like glue fresh made and hung out to dry; its breadth was above ten inches; this was followed by several large pieces of membrane which seemed to be parts of the distended ovary. I then squeezed out all I could and stitched up the wound," etc.

When I got a group of my own cases together it was easy to see that Houston's belonged among them, and that they form a class by themselves and have peculiarities of their own, not the least curious of which is that they probably present the examples of ovarian tumors undergoing spontaneous cure—examples which beyond all doubt occur, but which are so rare that they may be certainly disregarded in any discussion of treatment.

These cases have all the same character, and no description can be better than that of Houston's own experience. The cyst walls are always thin and, so far as my memory and my notes serve me, the tumors are sessile. In these well-marked and entirely similar cases the cyst walls had given way and the gluey contents were diffused throughout the abdomen. The cyst walls, or rather their remains, were isolated by washing out and were then found to be mere shreds, patches, and strings of membrane with attached masses of cystic proliferation, by which only their inner surfaces could be recognized. These shreds and patches were quite rotten and came away from their very vague attachments in the pelvis on slight touch, no ligatures being necessary. In each case drainage tubes were left in at the close of the operation, and large quantities of the gluey material more or less in solution were discharged for some days.

My belief is that in none of these three cases was the operation really necessary. Had I left them alone the gluey material would have been slowly absorbed and the shreds and patches would have contracted and disappeared, unless they had developed malignant tendencies, and there is a suspicion that this did happen afterward in one of my cases. This is a

secondary termination from the risk of which no ovariectomy is free.

These three cases are, therefore, on precisely the same level with Houston's, only I did a little more scientifically and with better tools what he did as effectively with a stick. What is the explanation of such cases? That question I can answer only by speculation. True pedicle they have not, and it seems to me as if at a certain point the cyst contents have a digestive power over the cyst walls and that in time the peritoneal surfaces digest the cyst contents. It may be that when we come to the base of the tumor and pull away the rotten remains we complete the process by a rough enucleation, but I really cannot say. I saw the base of attachment of these three tumors, and Houston did not see his; therefore he said nothing about it. But I saw mine with the eyes of the blind, and only at my next experience will my eyes be open wide enough to get a true record of the state of matters.

Meantime I have said of Houston that the earliest known treatment of the ovarian pedicle was probably by enucleation.

Houston's operation makes a most interesting and picturesque addition to the early history of abdominal surgery, but it has no value at all, although it was published in the stately transactions of the Royal Society of London, which were read, then as now, with avidity all over the world. He found no imitators.

The first really deliberate and systematic attempt to do serious operations for abdominal disease was that of Ephraim McDowell. It was of course received with the only argument with which it could be met—that constant refuge of human imbecility—that McDowell was a liar, and the historical fact is on record that an editor of a medical journal who spread the libel had to "eat dirt" and "beg pardon of God and Dr. McDowell." Nowadays there seems to be no such fear of the Deity among medical editors, but some day one of them will have to make similar apologies.

McDowell's method of dealing with the pedicle was that which he learned from John Bell in Edinburgh, and which was applied to all arteries and to everything containing an artery down to my own time—the long ligature. In a stump the arteries were tied with a hempen ligature; one end was cut short and the other left long, the series to decorate the suppurating stump for many days—the amusement of the house surgeon and the terror of the patient being their removal by tugging as soon as they would come. Often they never came. Why it did not strike some one to try how they would answer if both ends were cut short I cannot imagine. But the difficulty set Simpson's ingenious mind to work with his visionary acupressure, and he unconsciously cleared out the long ligature. How the short ligature came into use in general surgery I do not know. It appeared early in the history of ovariectomy, but most unfortunately only for a short time.

In 1822 Nathan Smith, of New Haven, Conn., did his first case with the short ligature, dropping the pedicle in, and he followed this by a series of cases so successful that it must ever be the amazement of historians of surgery that his example was not at once followed. His lesson was far more valuable than McDowell's and his action more philosophical, for he argued out the necessity for the short ligature and he used animal ligatures (pieces of kid glove) in the belief that they would be absorbed—a conclusion most abundantly proved to be correct. His lesson was neglected, I suppose on the ground that he also was set down as a liar; at any rate, he must have been so regarded in this country, for his statements were widely published here, yet the long ligature held sway till the advent of Baker Brown in 1851. He in turn introduced the treatment of the pedicle by the cautery, obtaining his idea doubtless from veterinary surgery.

A most unfortunate incident occurred soon after this in the invention and introduction of the clamp treatment of the broad-ligament pedicle—an incident, according to his own authority, to be laid at the door of Mr. Jonathan Hutchinson.

The short ligature was reintroduced and reinstalled almost simultaneously in 1878 by Bantock and myself, and has since remained the only method of dealing with the broad-ligament pedicle, except by the cautery and clamp, which were used by Keith to the last. Up to that time we were all astray except Keith, for we used Hutchinson's clamp, with mortalities running between the dreadful limits of twenty-five per cent. and fifty per cent. Keith alone, adhering to Baker Brown's method, brought down his mortality and swept the world with his brilliant success. Very soon, however, Keith's record was beaten by the ligature, and then it became manifest that the main principle to be followed for success was that of the intraperitoneal replacement of the divided and secured pedicle, and that there was little to choose, so far as promising results were concerned, between the cautery and the short silk ligature.

As I watched Keith operate in 1880-81, I became convinced that the ideal method of pedicle treatment was by cautery, but for the great length of time and the large amount of physical exertion involved. Keith and I, in a half-jesting fashion, agreed to stick each to his own method and after a long series of cases to compare results. But Keith ceased to publish under conditions which made comparison possible, and the contrast has never been made.

Still, I do not think that any other conclusions than these I have indicated could ever have been derived.

I have, however, been haunted ever since by the clear thin line of parchment to which Keith reduced his pedicles, and I have often looked at my own, regretting the dead lump of wet and decomposable tissue I had to leave, girt by a dead and decomposable ligature. But still it is certain that the great bulk of these difficulties were successfully encountered by that wonderful power which living tissue has for removing dead matter, a power for which so many strange theories have been advanced of late years without leading us much beyond the facts.

I have not yet seen a case in which post-mortem examination made it evident that death was due to the ligature, though I have seen several, some among my own cases I regret to say, in which faulty application of the ligature has been the cause of death. If the ligature is so applied that it controls hemorrhage completely, the ligature does not contribute in any way, so far as I know, directly or indirectly to death.

But it has a most unfortunate way of contributing to secondary failure, to incomplete cure, and to persistent and vexatious interference with convalescence.

The first of the instances of this kind to be mentioned as being never fatal, but as being the more common and more alarming of the two, is the occurrence of broad-ligament hæmatocele. Speaking to Keith about this, his answers impressed me with the belief that the accident did not occur in his practice, and he was far too shrewd and anxious an observer to miss it if it had occurred frequently. The users of the clamp certainly did not place its occurrence on record; but, with a mortality of twenty-five per cent. raging round them, it is not likely that they would observe it if it did occur, and when it occurred I think death must have been inevitable. I cannot imagine any more certainly fatal combination than a broad-ligament hæmatocele and septic stump. But still the question stares us in the face, does the ligature cause or facilitate the occurrence of broad-ligament effusion? I confess I strongly suspect that it does, and this is one of the reasons for my present paper.

The second incident which tells against the ligature is the occurrence of a number of cases, three or four per cent., in which the garotted stump and ligature get the better apparently of the living tissue around them, prevent the tissues absorbing them, cause suppuration, and form sinuses which do not heal, but go on discharging till the knot of thread is got rid of, months—it may be years—after the original operation. Sometimes the ligatures burrow into sinuses of the broad ligament and are discharged into the rectum and bladder. Quite a group of these latter cases has now occurred in which I have removed knots of thread from the bladder contained within a thick deposit of phosphates, some of the ligatures having been originally placed by myself, some by others. How these ligatures travel in this way is a matter of easy explanation and that is I think as follows: Suppose the ligature to be placed on the right pedicle; it will go (as a matter of fact three of my own have so travelled) into the bladder: while if it be a left broad-ligament pedicle to which the ligature has been applied it will more likely get into the rectum. In fact, as I have often had occasion to observe in operating for pelvic abscesses, the bladder seems the road out of the right broad ligament and unquestionably the rectum is the point of election for the natural evacuation of the left parametric cavity.

The method of inclusion of the ligature is curious and interesting, for it seems difficult to imagine at first thought that a ligature tied inside the peritoneum would, as a matter of course under certain conditions, work its way through that membrane and into an extraperitoneal district. It happens thus. The ligature is tethered to the floor of the pelvis by the vessels and nerves it embraces. The peritoneum is raised up around it and finally over it by the increasing effusion of blood, until a tube of inverted peritoneum is made with the ligature at the base of it. The mouth of this inverted tube is closed by adhesion at its intraperitoneal end and opened at the ligature end by the subsequent suppuration, and the loosened ligature drops into the increasing and purulent cavity of the broad ligament. Its subsequent journey is a matter of notoriety and of long and protracted suffering for the patient. I could, unfortunately, point to a number of my patients who have been for months and even years undergoing this torture from what I call "a dead ligature." I have made various attempts to relieve them—some I am glad to say successfully, and others I regret to say with failure. But they will get well in time and none, so far as I know, has died in the process.

For these two reasons I want to get away from the ligature if I can, and after years of experimenting and thought I think I have at last succeeded. But the difficulties have been so great that I have not yet ventured to apply my plan to a living subject. Fortunately, however, for my consistency, dead animal tissue is helping me and experiments on animals are unnecessary for this purpose at least. My constant feeling has been that in the cautery we should find the solution of the difficulty; and it shows how careful we ought to be in all our experiments in surgery that it was not till after at least two years' consideration of the subject that it dawned on me that we did not understand how the cautery really works. I do not think that either Baker Brown or Keith understood how they arrived at their certain and magnificent results. I am sure the bystanders did not. Every one of whom I have asked questions has answered: "Oh, yes; sear the stump! barbarous practice, going back to the days before Ambrose Paré!" But Keith did not sear the stump. It is true he burned a piece of it off after securing it with Baker Brown's clamp, and if searing had been the means of his success he would have stopped there. But he went on for about twenty minutes or half an hour rub-

bing the clamp with his cautery and clearing it with towel or sponge, until the onlookers got weary of the proceeding and thought Keith was finical. What he had done was really this, and I found it out only after much experimenting: he had seized a transverse strip of the pedicle between the iron blades of his clamp, screwed the blades up tight, and then heated them up to the cooking-point (that is, practically, between 180° and 190° F.) and carefully maintained that temperature till the enclosed strip of pedicle was cooked dry into a strip like parchment. Now Keith either did not understand what he was doing, but acted merely by rule of thumb, or else he kept his real reason for using the cautery a profound secret. Had he seared the tissue, the probability is that either hemorrhage would have occurred soon after the patient recovered from shock, or that the burned mass would have caused pelvic suppuration—it could not have been absorbed.

Having satisfied myself of the validity of this exclusion, I set to work to contrive a better method of arriving at the same results, and after many failures I have found it in the method of cooking by electricity. Knowing the resistance of a certain piece of platinum wire, I embed it in a box of silver and isolate it by means of plaster-of-Paris, kaolin, or pipe clay. Two such boxes are placed face to face and connected by the necessary binding-screws. The boxes are placed opposite each other on a pedicle and are screwed together. An electric current, of known strength and under the control of a rheostat or a Kelvin's balance, is now turned on to heat the boxes; or better still, the boxes are heated first and then applied to the pedicle, as this method saves time. The boxes are enclosed in ivory or other bad conductors of heat, to save alike the heat and the tissues for which the heat is not wanted, though this precaution may be dispensed with. The apparatus I use will in a period of from six to eight minutes so cook an ordinary pedicle that hemorrhage will be impossible and suppuration unlikely in the extremest degree. The contrivances are rough, but they are in process of amendment, and the same principle is being applied to instruments for the arrest of visceral oozing, for parietal and omental hemorrhage and for the simplification of the operation of total removal of the uterus. For operating on hemorrhoids I do not advocate my proposals as likely to reduce the primary mortality; I believe that has been done so far as may humanly be possible. But I am quite sure that they or others on similar lines will go far to secure secondary results more satisfactory and more encouraging alike to our patients, to ourselves, and to the art of surgery. I have no doubt the new electric hæmostat will find many fields of usefulness in general surgery.

Statistics of Lactation.—Dr. Wiedon (*Centralblatt für Gynäkologie*) has collected interesting statistics at the Freiburg Maternity. Out of five hundred and twenty-five in childbed only one-half could suckle thoroughly during the first two weeks. Ninety-nine secreted no milk; forty-nine had imperfect nipples; forty-six fissured nipples; and forty-four insufficient secretion of milk. Only thirty-three suckled without unfavorable complications. Wiedon groups breasts into three classes. According to the percentage of his series good breasts give fifty-six per cent.; medium, twenty-one per cent.; bad, eleven per cent. The development of the nipple bore a direct relation to the value of the breast as a secretory organ.

Individual Communion Cups have been adopted by a Presbyterian Church in Jersey City, and were used for the first time on Easter Sunday.

TWO BLOKES' EARS SEEN IN THE VATICAN BELVEDERE DURING AN ITALIAN TOUR.

BY SAMUEL SEXTON, M.D.,

NEW YORK.

THE slang term "bloke" is of obscure origin. It is used as a term of disrespect, derision, or ridicule, and is applicable, therefore, to the ancient Greek or Roman boxer, who was a much more ferocious person when wearing upon the hand a cestus made of leather thongs formidably armored with iron or lead than is the modern pugilist. Brutal contests with this weapon are no longer tolerated unless among certain savage Asiatics. It is to the selection by Canova of the Greek bloke as a model for his famous statues, "The

guided young man from the East who had been deluded into going all the way to Paris to undergo a "hydrophobia" cure. The *Nubia's* crew were mostly Mohammedans from several different localities of India, attired in the highly colored costumes of the place from whence they came. They were very agile and constantly skipped about the decks, presenting a fantastic picture. But few of them understood English. They were temperate, reliable, could endure the extreme heat of India, and were more easily disciplined than European sailors. But few persons realize that this class of her Britannic Majesty's subjects are so numerous, and probably outnumber the Moslem population of any other nation.

We had gone aboard the *Nubia* at Gravesend some hours before the arrival of the tender which brought down the passengers from London. Their embarkation



FIG. 1.



FIG. 2.

Boxers," that we are indebted for the perpetuation in marble of the peculiarly deformed ears of the ancient pugilist. Before describing these works of art I may state that it was my intention last autumn to attend the International Otological Congress which was to meet in Florence in September, but unforeseen circumstances prevented. Meeting with an English friend in London, however, it was arranged between us to make a tour of Italy together. We selected a very pleasant route to the Mediterranean, namely, the Peninsular and Oriental steamship line. We took passage on the *Nubia* of this line, sailing from London for Naples on September 27th. She is one of the company's smaller steamers. The fare and other accommodations were good, and she offered the advantage for those who like the sea of going at a rate of only twelve or fourteen knots an hour. Most of the passengers were military or civil officers, and in some instances their wives and relations, bound for Gibraltar, Tangiers, British India, etc. There were also a number of tourists, a tiger-hunting lord, and a mis-

with their belongings of various kinds was an interesting scene, and the final parting of relations and friends, who were separating for years, or perhaps forever in some instances, was touching in the extreme. We were glad when the despondent crowd left the ship, and the bracing air, when the vessel swung around into the channel, soon had a cheering effect on the saddest passenger. On steaming out of the mouth of the Thames it was yet daylight, and we soon afterward found the Channel fleet at anchor in the Downs. The massive iron vessels loomed grandly up in the early twilight as they lay in grim repose upon the dark steely water. The third day out found the *Nubia* in the much-maligned waters of the Bay of Biscay, which were now as quiet as any duckpond. On the fifth day we came to anchor in the Straits under the shadow of Gibraltar, or the "Rock," or "Gib," as the place is familiarly called. A brief visit to the Rock afforded an opportunity to secure some Moorish coin and a silver dollar bearing the bust of Spain's baby king, and on coming aboard again the anchor was taken up

and the *Nubia* put her prow into the dark blue waters of the Mediterranean. The blueness of the water was very observable, and for hours when not gazing down upon the sea the eye was drawn to the snow-capped Sierra Nevada range of mountains, whose bold rocky coast line lay before us. Every now and then as we sailed along, there came into view the old watch towers which centuries ago the Moors had placed upon prominent rocky promontories, during their occupancy of Spain. Whatever habitations there were could not be detected by the eye, and one was left to indulge freely in picturing the country as it was when under Moorish sway. On the eighth day of our voyage the rugged easterly coast of Sardinia gradually came into view and, sailing around it, we came to anchor in the beautiful Bay of Naples the following morning.

The Italian and Spanish coasts have a beauty of their own which only the pen of an Irving could bring into a picture as complete as his "Alhambra." The mar-

wonderful, and among the objects of interest are the works of art in the Vatican palace. It was here that we found the "The Boxers" in the Belvedere, which are of special interest to the otologist.

I had heard that some of the works of ancient sculptors displayed those deformities of the ear so common among boxers both ancient and modern, and known to alienists as *othæmatoma*, and have alluded to the fact in my work on the ear.¹ We soon found ourselves viewing the studies in marble known as "The Two Boxers" of Canova. The figures represented the ancient Greek contestants Creugas (Fig. 1) and Damoxenus (Fig. 2). My companion, who is up in anatomy, exclaimed, "Look at the blokes' ears!" and sure enough here were the figures I had long wished to see. Fortunately I secured good photographs of them, which are here exhibited.

From the life of Canova, by Henry Morris,² I abstract the following legend, from which the artist is supposed to have drawn his inspiration:—The ancient



FIG. 1 a.



FIG. 2 a.

vellously beautiful sky always glowed at sunset with warm-colored tints, unless arrayed in green, as it sometimes was. What wonder that a people bred in such a climate, under such skies, are naturally both musical and artistic? No other countries but Spain and Italy ever produced a Cervantes or a Boccaccio. The early October weather in southern Italy was delightful—the temperature in Naples was about 70° F. day and night. During our brief stay in Naples we of course visited Vesuvius and the ruins of Pompeii; at the latter place excavations have brought to light the armamentaria of the pagan surgeons as they hastily left them eighteen hundred years ago. One may find instruments similar to those of Pompeii in many places where Roman legions camped and left evidences of the ancient cutlers' art. I once examined at Homburg a collection similar to that in the museum in Naples; it had been discovered in the Roman camp situated upon the Taunus range near Homburg.

I was surprised to find so little good fruit in Italy; the only obtainable kind was the fig, though a few excellent *lacrima-Christi* grapes remained on the vines of Vesuvius. The apples and other fruits served were hard and without flavor, but were eaten by the natives.

The attractions of Rome are of course known to be

Greeks, though highly refined in some aspects of their character, delighted in fatal and revolting athletic contests in which the combat was not complete without avowal of defeat by one of the antagonists, which their obstinate courage usually delayed until all strength was gone—sometimes even life itself. The combat here depicted between Creugas and Damoxenus, as recorded by Pausanias, was both cruel and revolting. These Argives and pugilists were contending at the Nemean games, their hands strengthened by leather thongs, when, victory remaining long undecided, it was agreed that each combatant should alternately give a blow to his antagonist and receive one in return. Creugas, having to give the first blow, struck his adversary on the head, but without any decisive result. Damoxenus, before returning the blow, required that his adversary should place his left hand on his head, which being done, he drove his armed hand into the exposed side of Creugas and, penetrating to his entrails, tore them reeking from his body. The unfortunate Creugas fell and expired on the spot. His pitying countrymen placed the olive crown upon the head of

¹ "The Ear and Its Diseases," Wm. Wood & Co.

² "Works of Canova in Sculpture and Modelling," Bohn, London.

the dying Creugas and, struck with horror at the deed, condemned the ferocious conquerer to perpetual exile. The combatants are represented at the moment when Creugas, having first struck his adversary, stands with unarmored hand raised to his head. The rigidity of muscles from his posture exposes the savage design of Damoxenus.

The attitude of these contestants, as shown in Canova's statues, may be artistic and indeed strictly after Grecian models, but it does not altogether represent the posture assumed by modern pugilists. But since the right hand was strengthened by the cestus, the result of the combat was very different from those of to-day. A blow upon the ear might prove fatal, and, moreover, it would seem that the hand armed with the cestus could be made to penetrate the abdominal walls.

The enlarged pictures of the ears, Fig. 1 *a* and Fig. 2 *a*, illustrate the deformities due to traumatic injury of the auricles in pugilists, which are frequently met with in this class of subjects at the present time.



FIG. 3.

The auricles, as here shown, have lost their graceful outlines by reason of previous contusions.

Sometimes the deformity is much greater than exhibited above, as may be seen in Fig. 3, in which the parts have been laid open with the surgeon's knife. Fig. 4 represents an auricle in which fluid is yet present in the tumor, the ear having received a blow some days before the photograph was taken.¹



FIG. 4.

Infant Feeding.—Dr. Cheney (*Occident Medical Times*) believes that mothers usually feed their babies too often. At first the interval should be about one and a half hours; at six weeks give food every two hours; three months, every at three hours; and at six months, give every four hours, and keep that interval from then on. As to the manner of feeding, he says we all have seen failures in infant feeding, not due to quality, quantity, or irregularity, but due to bolting the food. We cannot do so ourselves without suffering thereby. The baby is usually given the bottle and literally "swills" its contents down, a whole bottleful, which is the source usually of the indigestion. The nurse or mother should handle the bottle and allow the baby fifteen minutes to drink what may be in it.

¹ Figs. 3 and 4 are taken from Sexton's "The Ear and Its Diseases," pp. 139-144, Wm. Wood & Co., 1888.

UPON THE IMPORTANCE OF DIGITAL EXAMINATION IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT AND NOSE.¹

BY SAMUEL KOHN, M.D.,

NEW YORK.

Too much stress cannot be laid upon the importance of diagnosis in the practice of medicine. Whatever progress our science has made, whatever triumphs it has achieved, have been based upon the careful study of disease processes and their recognition. Microscopy and bacteriology, in whose development the brightest intellects of the scientific world are enlisted to the end that the apparently inscrutable secrets of organic life may be made as clear as day, are the results of this striving to know intimately the pathological processes to which flesh is heir. Clinically palpation and digital examination have ever been considered of the highest importance in physical diagnosis; although in this branch of medicine inspection ranks

first, inasmuch as it conveys to the mind the picture which disease presents, palpation is a close second, since it is capable of revealing characteristics which the eye cannot see.

It has frequently occurred to the writer that in the diseases of the throat and nose palpation has to a very great degree been neglected by the general practitioner, and it is to illustrate the value of digital examination, particularly to the general practitioner, in some of these diseases that this paper is presented. Far be it from his idea to belittle by a word the value of the instruments which laryngology has placed in the hands of physicians. Should the ideas herein set forth result in making you more careful in your diagnosis, the object of the writer will have been accomplished.

The elaboration with which the armamentarium laryngologicum is described in all works on diseases of the throat and nose and the very scant attention paid to palpation by almost every writer on the subject are perhaps responsible for the belief of which the minds of physicians seem to be possessed, that inspection alone is all-sufficient to make a diagnosis of a throat disease; and should a doctor perchance determine to dabble in laryngology, he devotes himself to obtaining a good source of light, perhaps electric, a large reflector, and much apparatus; he imagines that he must make a diagnosis by looking into the throat and doesn't think of resorting to any other method. After laboriously depressing the rebellious tongue and perhaps catching a momentary glimpse of the pharynx, or perchance obtaining a reflection of the larynx in the laryngeal mirror lasting the fraction of a second, he makes his diagnosis.

It has always seemed to me that doctors have an indefinable dread of putting the index finger into the patient's throat and palpating its different regions. Not so the laryngologist, who always in a suitable case supplements his instrumental examination by a careful palpation of the parts. After thoroughly disinfecting the hand he gently introduces the index finger to the posterior pharyngeal wall, cautiously palpating the

¹ Read at the December meeting of the Society of the Alumni of Charity Hospital.

tonsils, perhaps the naso-pharyngeal space and upper larynx, feeling for certain changes which his eye has led him to suspect.

Let us consider for a moment which changes, generally speaking, are perceptible to the eye and which to the tactile sense.

We can see a change in conformation, as, for instance, enlarged tonsils, tuberculous swelling of the epiglottis or arytenoid cartilages. We can feel with the index finger whether the tonsil be hard, containing dense organized connective tissue, or soft and made up of granulation or lymphoid tissue; and are thus enabled to decide which method of abscission to follow, whether by the guillotine, cautery, or cold snare, the danger from hemorrhage being greater in connective-tissue tonsils after the cutting operation than after the snare or cautery loop; while in the case of soft tonsils the cutting operation is almost entirely devoid of the danger of hemorrhage.

Again, the eye detects a swelling running along the border of the posterior faucial pillar; the index finger will feel that this swelling is hard and unyielding, indicating the diagnosis of possible incipient malignant disease. Implication of the submaxillary or cervical lymphatics, discoverable by palpation, makes the surmise a certainty.

While a tense, glazed, protuberant swelling seen upon the posterior pharyngeal wall of a child leads to the supposition of retropharyngeal abscess, the detection of fluctuation by the index finger leaves no room for doubt as to the diagnosis.

The strict rules of asepsis, about which so much has of late been written, must of course be rigidly observed before the finger is introduced into the mouth. Especial attention should be paid to the index finger nail, that it be thoroughly brushed and disinfected. I cannot join in the advice of "Old Peter Krukenberg," who, according to Niemeyer, advised his pupils always to keep a long sharpened nail on the right index finger, so that, should they ever detect with the terminal phalanx the fluctuating swelling of a retropharyngeal abscess, they would need lose no time in looking for instruments, but could immediately without withdrawing the finger plunge this natural lancet into the abscess and evacuate it of its contents. Not a word about asepsis in those good old days! *Tempora mutantur*. And still I am compelled to yield to "Old Peter" his due meed of praise, for he evidently was a competent diagnostician and believed in the efficacy of digital examination in the diagnosis and treatment of retropharyngeal abscess.¹

As above stated, thorough cleanliness is the first requisite to a proper digital examination of the throat; the second is gentleness of manipulation, so that no lesion, in addition to the one already existing, may be produced; the third is a thorough knowledge of the normal topography and feel of the parts, which can only be acquired by experience in this mode of examination, and which every physician should acquire.

Let us now consider, seriatim, some of the disease conditions in which digital examination is important, if not indispensable.

Adenoid Vegetations.—The patient presents all the signs and symptoms of interference with nasal respiration, is a mouth breather, snores while asleep, has difficulty in pronouncing labials, and his chest development is retarded. Inspection may reveal hypertrophied tonsils, hypertrophic rhinitis, deflection of the septum, or mucous polypi. The child's resistance makes a rhinoscopic examination impossible or unsatisfactory. Absolute certainty and accuracy of diagnosis as to the existence of the adenoids, as to their nature, density, distribution, and localization can only be reached by introducing the index finger into the

naso-pharynx and carefully and firmly palpating the entire region. If the mass be soft, pulpy, and easily crushed, it may perhaps be removed by crushing and scraping with the finger nail at the time of examination without withdrawing the finger; when the tip of the finger feels that the vault of the naso-pharynx is roomy, its lining membrane smooth and thin, the choanæ accessible to the finger tip, the space can confidently be said to be cleared out just as well at times, and better than could have been accomplished in some instances with instruments. Guye, of Amsterdam, has advocated this method of removal of adenoids altogether to the exclusion of instruments. Of course this view is extreme, inasmuch as when the growths are hard or voluminous it is impossible to remove them thoroughly without recourse to cutting instruments. Harrison Allen also, in "Keating's Handbook," "Diseases of Children," advocates the removal of adenoids by scraping and crushing with the finger.

But even when adenoids are removed by the Hooper forceps or by Gottstein's curette, a careful exploration of the naso-pharynx with the index finger is absolutely necessary to ascertain whether any small granulations be left behind, and if so to crush and scrape them away with the finger nail.

If the child be enveloped in a strong band of towel—ling imprisoning both upper extremities and be held sitting upright upon the lap of a strong nurse, the Denhard mouthgag introduced, the entire operation can be completed in a few moments, with or without instruments and without anæsthesia. Naturally under anæsthesia, the child being perfectly under control, a more thorough operation can be done.

Malignant Disease.—The diagnosis of malignant disease of the throat in its later stages can readily be made. The patient himself frequently directs the physician's attention to the growth, because of his subjective symptoms. But in incipient malignant disease, before any marked subjective symptoms are present and the eye of the examiner detects nothing perhaps except a linear hypertrophy along the tonsil or some enlargement of this structure, careful palpation with the index finger will detect induration, which at once raises the question of malignancy. The swollen lymphatics lend color to this belief, and the microscope settles the diagnosis. It has frequently happened in my experience that general practitioners have treated as cases of simple chronic pharyngitis patients suffering from incipient malignant disease. The simple method of examination by palpation, which certainly does not require the skill of the specialist, would have enabled them to make the diagnosis and would have saved them considerable reputation.

Follicular Tonsillitis, Suppurative Folliculitis, Abscess in or behind the Tonsil.—One or both tonsils are seen to be swollen and reddened. They may be studded with white or grayish patches, indicating plugging of the mouths of follicles and retention of their cheesy secretion, leading to inflammatory processes; or, on the other hand, no white or grayish spots may be visible. In either case rigors, a temperature sometimes as high as 105° F., and decided symptoms of a severe infection are present.

I have known physicians to diagnose diphtheria when these spots were visible in the throat; and when no spots were to be seen, the symptoms above described being present, the diagnosis of malaria or beginning typhoid has often been made.

The gentle introduction of the thoroughly cleansed index finger up to the anterior faucial pillar, bringing gentle pressure to bear upon the tonsil, will frequently cause the cheesy plugs or retained pus to emerge from the affected tonsil, and the diagnosis is made. Sometimes the suppuration is retrotonsillar, the tonsil being pushed out toward the median line;

¹ Niemeyer, 1875, p. 459.

the soft palate on the affected side may be swollen or protuberant, hanging lower than the unaffected side, producing asymmetry. Gentle pressure upon the swelling detects fluctuation perhaps, or it may even succeed in making pus emerge from behind the tonsil. Should this not occur, an incision with the long pharyngeal bistoury relieves the patient. We all know how much disturbance these apparently insignificant retention abscesses can cause—severe pains in the back and limbs, anorexia, prostration; in short, the symptoms of a high fever are presented. An early diagnosis, which is possible only if the finger palpates the swelling, saves much suffering.

Foreign Bodies.—It frequently happens that a small piece of fishbone, a needle, or other foreign body is embedded in the tonsil, in the naso-pharynx, or in the neighborhood of the laryngeal aperture, *i.e.*, in the vallecule, arytenoid cartilages, aryepiglottic folds, etc. The eye detects the small foreign body with the greatest difficulty, perhaps not at all. The patient complains that it is there nevertheless—he feels it pricking him. The index finger, gliding gently along the tonsil, is introduced into the upper larynx or naso-pharynx, and may suddenly feel the sharp point of the needle or fishbone protruding from the mucous membrane, and serves as a guide for the passage of forceps for the removal of the same. Gottstein¹ recommends palpation of the interior of the larynx in children for the diagnosis of disease of the epiglottis or aryepiglottic folds, and also of foreign bodies.

Intubation for stenosis of the larynx from whatever cause becomes a simple operation if the physician possess the *tactus eruditus* as applied to the throat. The child is held sitting upright in the proper position, the gag introduced; the physician's left index finger glides along the base of the tongue until the epiglottis is reached. Immediately behind this is felt the entrance to the larynx, into which, the finger acting as a guide, the tube is slipped with the greatest ease.

In diseases of the nose the tactile sense has not such a wide field of application.

I remember a case of rhinolith, however, which the index finger succeeded in dislodging and removing after all instruments had failed to do so. It was the case of an old lady from whose nose Dr. L. Weiss, of this city, had been trying for a long time to remove a large, hard, round rhinolith, of perhaps twenty years' growth. It had worn out a concave bed for itself in the osseous floor of the nose, and so completely and exactly did it fill out this concavity and the nares that it eluded every attempt to grasp it with forceps or any other instrument. It revolved in the concavity as easily as a ball does in its socket. The discharge from the nose was fetid and hemorrhage was the result of the prolonged attempts at removal. After myself trying the forceps for a time I gave it up in despair; but noticing the marked dilatation of the nostril and of the nasal passage, I introduced my index finger and patiently dilated, pushing the finger slowly forward. It required quite a little time, but the stone was finally reached and by degrees was pushed out of its bed toward the posterior nares. Finally I had it so near this opening that, introducing the first two fingers of the left hand into the naso-pharynx, I pushed the stone through the choana and with the two fingers in the naso-pharynx grasped it. Of course atrophy of the mucous membrane and the marked enlargement of the nares were features of this case favorable to digital dislodgement of the stone. The case illustrates, however, one of the extraordinary uses which the index finger can serve in diseases of the nose.

In the Asch operation for deflection of the septum, after the crucial incision into the septum has been made, the index finger is introduced into the nar-

rower nostril and the fractured septum is pushed toward the median line until it is straightened as much as possible, after which the splints, cork or otherwise, are introduced.

The writer is aware that nothing new has been stated in this paper, nor does he desire to underrate to the slightest degree the value of instrumental examination in the domain of laryngology; but if he has impressed upon the mind of a single colleague the importance of digital examination as an additional help in diagnosis, of the value of the *tactus eruditus* in this class of diseases, of the ease and simplicity of this manipulation, and finally, if his words carry conviction, his object will have been accomplished.

805 MADISON AVENUE.

PSYCHICAL INFECTION: REMARKS UPON THE PROBABILITY OF A MENTAL CONTAGIUM.¹

BY HENRY S. STARK, A.M., M.D.,

NEW YORK.

WHILE it is no part of my purpose to enter into an elaborate discussion of the pathology of the mind, but rather to call attention to that particular phase of it which furnishes the subject-matter of this paper, nevertheless such a work would be much to be desired; for I find after a careful survey of the literature of the subject that there is no contribution on mental pathology which can be styled, according to newspaper phraseology, *fin-de-siècle*, that is, up to date, or one that covers the entire ground.

In this ultra-bacteriological era it should occasion no surprise that so many new fields of speculation and study should be constantly opened up, for this theory of infection is rapidly assuming such proportions that we cannot ignore its influence on medical thought any longer. Glance at the trend of recent medical activities, of present investigations, and the conclusion is forced upon us that the theory of infection is playing the leading rôle. Scarcely a generation since Lister, Schwann, Tyndall, and Pasteur startled the scientific world with their discoveries, and yet the whole gamut of the medical sciences has been revolutionized to conform to their views.

The presumption that mental or psychical infection is a possibility rests on the close analogy between mind and matter in all their operations and phenomena, from both a physiological and a psychological standpoint. Admitted that material or physical infection is and has been proven, it no longer savors of the Utopian to believe that one mind may infect another under certain favorable conditions. Under the circumstances, then, even the most sceptical will be compelled to admit its plausibility. This theory of psychical infection, although foreshadowed by the germ theory, has not yet taken on a scientific aspect, for the simple reason that systematic attention was never directed toward it. It is therefore the writer's object to focus your attention by means of this article on this psychological creation and innovation in the realms of speculative medicine, in the hope that this theory may be worked out in detail and that possibly something permanent may be the practical outcome in the way of treatment for certain diseases and anomalies of mind.

The term "psychical or mental infection" is used by me in contradistinction to material or physical infection. The two varieties are not at all incompatible; on the contrary, they are frequently coexistent.

¹ Read at the meeting of the Section on Neurology of the New York Academy of Medicine, December 13, 1895.

¹ "Krankh. des Kehlkopfes," p. 43, 1890.

In physical infection the following assumptions are inevitable, and it will be apparent that nearly the same are applicable, only in a different guise, in psychical infection:

First, there must be the infecting agent.

Second, there must be the *contagium* or *materies morbi*, so-called.

Third, there must be an infected agent.

Fourth, there must be the medium of infection.

Consider for a moment the character of these conditions, and you will admit that they can be duplicated in the psychical sphere.

First, in place of the infecting agent we have what I might properly term the conveying or objective agent. In place of the infected agent we have the passive or receptive or subjective agent. The medium of infection is the mind in all its component parts—intellect, will, judgment, etc. It is in relation to the *contagium* only that a bone of contention could reasonably arise. Now, the essential distinctions between mind and matter are not even to-day sufficiently understood to enable one to ascribe to each its whole range of properties and aspects. It is on this account that psychical infection is not entitled to more credit than to be called a theory. Nevertheless it by no means follows that because we cannot explain the *modus operandi* by which all the varied phenomena of mind are produced they are of doubtful existence. If that were the case, all phenomena of whatever nature that could not be accounted for at random would of necessity be relegated to the realms of scepticism, while the whole fabric of reasoning would be swept into an everlasting oblivion. There are many truths and facts in science which cannot be explained yet cannot be discredited. Time and time again the mysteries of yesterday became the revelations of to-day. Therefore, although the subtle contagious element may be the missing link in this chain of reasoning, nevertheless this theory is a justifiable one in view of our daily observations of psychical disturbances. By thus comparing the two varieties of infection in parallel columns, as it were, we have at least a working hypothesis which can be employed as a basis to demonstrate the reliability of this supposition.

The first thought that would occur to the unbeliever would be whether there was any foundation in fact for this apparently strange hypothesis. In answer I would state that the amount of evidence that could be accumulated in corroboration of this theory would take volumes to catalogue. A moment's consideration of everyday events in the psychical world would furnish the data and material for the solution of this problem. For instance, what we style imitation is only to my mind one variety of psychical infection. It is thought-transference, conscious, voluntary, or compulsory. That is to say, the exact ideas in one person's mind are reproduced in another's with the subject's sanction or through his own efforts, or, on the contrary, without his knowledge or even consent. The degree of this imitative faculty varies in different subjects and at different epochs of life. Infancy and youth are peculiarly susceptible, while old age is slightly disposed to imitation. Experience shows that the mind can be so trained as to be made entirely proof against imitation. Invulnerability seems from experience to be in direct ratio to education, intelligence, and environment. To copy and imitate is a constant weakness of the human intellect. The inclination may assert itself in single individuals or in classes and communities. Sometimes it becomes so strong as to resist all efforts of the will. At other times the infection runs riot, causing epidemics of various mental aberrations, such as suicide and insanity and other mental and nervous derangements. Certain seasons of the year and certain epochs seem also to be conducive to epidemics of

imitation. To illustrate my meaning, permit me to chronicle a few instances of mental infection through the force of imitation. It is not necessary for this purpose to appeal to ancient history, but simply to revert to current events.

A Western farmer, imbued with an extravagant idea of his own importance, confident that he is the apostle of good government, believing a change in the industrial and labor laws to be necessary, concludes to march on toward the national capital in order to petition Congress for a redress of his own grievances and those of his fellow-citizens. The novelty of the enterprise at once appeals to our lay editors, who see a brilliant opportunity to interest their patrons. Through press notices the news spreads in all directions, so that as the apostle's march progresses recruits and sympathizers are gathered by the way. The infection has spread with lightning rapidity, so that in a few days enough reinforcements have been secured to constitute a good-sized army. Many who cannot join the army lend it their financial support. Thus we have a Coxey's army—a notorious example of mental alienation due to the force of imitation abetted by sympathy.

A small band of religious enthusiasts, believing the world to be infested with enough iniquity and sacrilege to carry its occupants to the verge of despair and to a point beyond all redemption, conclude to come to the community's rescue. In order to make their efforts attractive and the movement picturesque, they resort to cymbals and tambourines, to banners, escutcheons, and uniforms. Their favorite haunt is a street corner, a square, or a country lot. The attraction is sufficiently strong to meet with the approval of many who are religiously inclined. They enlist in the cause. Soon the small band has grown from local proportions to international importance. Thus we have a Salvation Army, another illustration of psychical infection through the force of imitation.

A third and last illustration: A certain type of woman, who as a result of misfortune or through force of circumstances has lost the feminine delicacy of her sex, carrying the firm conviction in her mind that her worthy mission can best be attained by approximating man in his dress, manners, and occupations, affects his costume and possibly his inclinations. At once she sets a pace that is followed by many of her own mental build and calibre. The number who imitate her is legion, for the mind of the female is notoriously flexible and impressionable. Thus we have the "New Woman," another recent example of mind poisoning. Other examples, such as the bicycle or roller-skating crazes, could be mentioned, but why weary the reader?

Besides psychical anomalies there are a few nervous disorders of a functional character that may be acquired by imitation. Thus we are familiar with epidemics of chorea, hysteria, and neurasthenia that have their origin in schools, boarding-houses, and seminaries.

Another interesting variety of psychical infection and one which is at present absorbing the attention of alienist and physician is hypnosis or suggestion. Here is a comparatively unknown force, power, magnetism, or what not, which we know by its phenomena alone, just as we know matter by its properties alone. Ever since Mesmer at the close of the eighteenth century first announced his celebrated doctrine until to-day, no satisfactory explanation has been offered for this psychological mystery. Numerous attempts have been made by writers of distinction to explain the hypnotic state upon a physiological basis; that is, to attribute this induced state to a disturbed function of the central nervous apparatus. These efforts never survived the tests of time and experience, the consensus of present opinion being that such conclusions were based on mistaken premises and were unacceptable in

the light of recent experiences and scientific investigations. Besides this explanation there were others equally original and equally untenable. There were theories galore, so numerous and diverse as to gratify even the most whimsical. None of them, however, was based on the most plausible of all theories, the theory of infection. I know of no better explanation for this strange psychical phenomenon than to call it a mental infection. The grounds for such a belief would be furnished by the evidence based on numerous instances and upon the psychical experiences of the hypnotized. Consider for a moment the nature, the method of procedure, the results, the sequence of events in a given case, and the inevitable logic of it all is that one mind is infecting another, whether for good or for evil, whether with the subject's knowledge and consent or not it matters not; suffice it to say, it is a direct transmission or emanation from an active to a passive agent of a subtle, psychical contagium. Take the familiar instance of a hypnotic séance. The *opérateur* wills that the receptive subject shall become possessed of certain feelings and emotions, or that he shall perform a definite act. The infection is carried to the subject by a few strokes or passes or through the agency of a brilliant fixed body held in his line of vision. Directly the subject becomes the tool of the operator's will. The psychosis has passed from one to the other without any physical exertion on the part of either, and is known to us only by the expressions in the hypnotized subject. Even the analogy alluded to in the beginning of this article, namely, that which obtains between physical and psychical infection, still holds true, for in place of infected blood, tissues, or organs, we are now dealing with an infection of the will, of the intellect, or of the emotions. While in physical infection the channels for the entrance and transmission of the microbic element is either the blood or the lymphatics, in psychical infection the portal is either the reason or one or more of the special senses.

If this theory of psychical infection should be generally accepted as a reasonable explanation for the hypnotic state, we would be in a position to understand those strange and phenomenal instances of mind controlling and mastering mind which from time to time are chronicled in the columns of the lay press. We could then comprehend how men, especially those neurotic degenerates with plastic minds, can become the willing prey of others to such a degree as to lose their distinct personality and their own idea of self. We could also interpret and account for those cures, apparent or real, from diseases of a hysterical origin which have been wrought at the well-known shrines and during times of religious revivals and which savor of the miraculous to the laity. The bare mention of these facts will serve to recall familiar instances. In like manner this theory of infection could be employed to account on a scientific basis for that psychological complex termed "personal magnetism," examples of which we encounter in our daily experiences. We would likewise come in possession of a scientific explanation for the metaphorical expression, "to poison the mind." It would determine once for all that hypnosis in any or all of its phases is a pathological process depending for its origin on contagium probably specific in character, although unrecognizable by any of the five special senses.

Granted that the psychical processes cited—namely, imitation and suggestion—are types of psychical infection, that is to say, they owe their origin to a mental contagium, it will be apparent at once that this infection must be of unusually frequent occurrence and must assert itself under varying degrees of virulence and intensity. This assertion is in no sense an exaggeration, but is borne out by our daily experiences.

Another point of interest and one that again illustrates the parallelism between psychical and physical infection is the perfect immunity enjoyed by some fortunate individuals and the extreme susceptibility to this poison that others exhibit when brought within the pale of its influence. Thus a person of strong will, of forcible character, and of high intellectual power cannot against his will or wish be brought under the hypnotic influence despite the most strenuous efforts at mental coercion. On the other hand, a fickle, impressionable, vacillating mind loses its self-control readily when brought under the influence of a psychical contagium. These are matters of great importance from a medico-legal standpoint, as they enter largely into the consideration of the question of mental responsibility for crime and the question of hypnosis as a defence to the charge of crime. Recent criminal dramas enacted in this city have brought this matter into unusual prominence, and point to the necessity and advisability of consulting an expert in psychology in criminal cases involving psychical phenomena.

I have thus attempted within the narrow scope of a short paper to direct your attention into certain channels of thought with a view of having others follow in the same direction. If I have succeeded I shall feel that I have accomplished all that I intended.

270 EAST SEVENTH STREET.

Progress of Medical Science.

Micro-Organisms in the Blood of Scarlatina.—Dr. Crajkowski secured blood from scarlatina patients by a needle prick of the ear, and from it made cultures and cover-glass preparations (*University Medical Magazine*). The culture media used were glycerin agar, agar with hæmatogen, blood serum, gelatin, bouillon, serous transudate from the peritoneum and from the tunica vaginalis testis. The cover-glass specimens were dried, fixed, and stained in Chencinski's mixture. These specimens showed micro-organisms in the form of diplococci. They were found in relatively small numbers—one or two in a field of vision—and generally occurred singly, though sometimes in twos or short chains. They were never seen in the blood corpuscles. The shape of the individual was oval, though with ordinary magnification no difference between the diameters could be observed. They were not stained by ordinary methods and decolorized readily when stained by Gram's method. The specimen from fresh blood had a surrounding capsule which was absent in the dried form. The growth of the organisms on culture media was carefully studied. Upon the solid culture media it was very slow. Upon all the solid media the colonies appeared under the microscope as minute dewdrop-like points measuring one-half by one-half millimetre and not becoming confluent for months. The organisms continued vital upon the solid media for from three to four months if protected from drying. In liquid culture media, especially in bouillon, the organisms formed a yellowish-white, finely granular, light precipitate at the bottom of the glass. The inoculation of the organisms beneath the skin and into the blood of rabbits was without result. Inoculated mice died in three days with the cocci distributed through the blood.

Function of the Prostate.—C. Mansell Moulin (*Journal of Anat. and Phys.*) has revived the old doctrine that the prostate has nothing to do with micturition and has only secondary connection with the urethra. He claims that its function is to add certain constituents to the seminal fluid which serve to arouse and maintain the vitality of the spermatozoa.

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MORBIFIC AND INFECTIOUS MILK.

THROUGH the kindness of Dr. G. M. Kober¹ we have received advance sheets of this report to the health officer of Washington.

It is a thorough and most important piece of work, the authors reviewing the entire subject and adding the most complete bibliography yet published.

The conclusions drawn by the authors are of the greatest interest and of vital importance to the general public.

When we recall, say the authors, the many ways by which milk may acquire morbid properties, we see the necessity for the proper protection of the public by placing dairies, the herds, and the milk market under a strict sanitary control. The owner of a dairy should be required to subject his stock to frequent inspection by a competent veterinarian, and all animals found to be suffering from diseases like tuberculosis, erysipelas, anthrax, pleuropneumonia, foot-and-mouth disease, septic and other fevers, specific enteritis and other intestinal disorders, rabies, tetanus, garget and other inflammatory conditions of the teats and udder; and also those animals which are being treated with medicaments for any or all causes, all of which are disqualified from producing a pure or sound milk, should be excluded. The milk of animals five days before and after parturition is likewise unfit for human consumption.

The pasturage of the animals should be looked after with the greatest care; the animals should be groomed daily, and before milking the teats and udders should be thoroughly washed with water previously boiled. The necessity for this has been repeatedly pointed out and is of special importance, since we consider the presence of excrementitious matter and fecal bacteria in milk next in danger to the presence of disease germs. The requirements of cleanliness apply with equal force as to the milkmen and as to their persons and clothing, and they should be requested to keep their fingernails free from dirt and to make a careful toilet just before milking. All persons engaged in handling the milk should be free from disease. No family ever thinks of employing or keeping a cook afflicted with a communicable disease, and yet not the

slightest restriction is placed upon, nor a question asked about, the persons who handle our milk supply, which we know affords an excellent culture medium for disease germs.

A most excellent suggestion of the authors is that the products of each ten cows should be mixed, not only to insure uniformity but also to diminish the danger of transmitting disease germs in concentrated doses from any one animal.

Absolute cleanliness, of course, should be observed in transferring and bottling the milk, and the retailer should be duly registered and be required to furnish the health officer with a list of customers. These lists should be arranged at that office on the "index-card system," so that the simultaneous occurrence of infectious diseases in a number of families supplied by the same milkman may be promptly discovered and the mischief checked.

On the subject of "Milk Standards" the authors conclude, after an examination of the best data on the subject, that we have a right to expect a milk containing 12.52 per cent. of total solids, composed of 8.75 per cent. non-fatty solids and 3.75 per cent. fat, and also that the legal standards should be modified accordingly.

The official standards in force vary from 13 to 12 per cent.; it seems to us that the standard should be at least 13 per cent., as in Massachusetts.

The authors go on to say that while it would be manifestly unjust to condemn a milk as adulterated when it has more than 87.5 per cent. water, on the other hand the adoption of a minimum standard would result in the sale of a very large quantity of adulterated milk, which, apart from diminishing the nutritive value of the milk—a matter of great importance in infant-feeding—is often the immediate cause of transmitting disease germs by the addition of infected water. In the opinion of the writers all this can be prevented and milk of uniform standards can be obtained by encouraging the establishment of milk depots like the Walker-Gordon laboratory of Boston. In the management of this establishment farm and herd are under the absolute control of the laboratory, and are used for laboratory purposes only; the cows, their food, their stables, their pasture, and their drinking-water are subjected to the frequent, paid, critical examination of the best veterinary surgeon that can be procured in Boston. The dairymen dress in white suits before milking, each having previously had a bath. The cows are milked into glass pails, and the milk, after being aerated and cooled to about 44° F. in a tank of ice and water, is delivered at the laboratory in Boston within four hours of the milking.

At the laboratory a ventilating engine keeps up a constant change of air, and a hose keeps the enamelled brick walls and stone floors wet to prevent any remaining dust from contaminating the milk while it is being "modified." The whole milk, after being "Pasteurized," passes through a Stockholm separator which makes sixty-eight hundred revolutions a minute, yielding a cream of an almost constant sixteen per cent. fat. It not only does this, but it removes all dirt that from unavoidable causes has gained access to the

¹ "Report on Morbid and Infectious Milk," S. C. Busey, M.D., and G. M. Kober, M.D., Washington, D. C.

milk, thus yielding a clean, skimmed milk, practically free from fat (only 0.13 per cent. remaining).

Such milk laboratories would accomplish the following objects:

(1) The source of the original milk would be closely controlled.

(2) The producer would be paid according to the quality of the milk.

(3) The milk would be Pasteurized before it reached the consumer.

(4) The milk would be sold under uniform standards of "full" and "skimmed" milk, and its sale perfectly controlled by the sanitary authorities.

(5) The milk could be modified in the laboratory according to the wishes of the consumer, and for invalids and bottle-fed children according to the formula of physicians, with a justice and accuracy not possible by any other method.

(6) Condensed milk preserved in glass bottles is a special necessity during the prevalence of blizzards or other interruption of the milk traffic, also upon long journeys; and, since a higher standard than the present is demanded for correct infant-feeding, the milk could be modified by the addition of sugar of milk and thus form the best possible basis for condensed milk of a proper standard.

Finally, we sincerely trust that this excellent report will cause an immediate and widespread agitation throughout America for proper legislation as to the milk supply and the establishment of "milk laboratories" and of milk-cattle inspection.

We really owe Drs. Kober and Busey a debt of gratitude for this work.

DOCTORS BEGINNING TO MAKE THEIR INFLUENCE FELT.

TIME was when a physician practised physics and was known by his good works of a professional nature. To judge by what one reads in the daily press, this good old custom is fast giving way to habits of gaining renown by exploits wholly foreign to medicine. In the same week we read that "Doctor" A—— takes many of the Boston horse-show prizes, and "Doctor" B—— allows himself to be worsted by a Boston prize-fighter, while "Doctor" C—— superintends a private scrap in his down-town barroom, known as "The Doctor," which results in the death of one of the contestants. Then comes along "Doc" McLean with his thoroughbred Berclair and wins the Derby. But best of all is the story of the burglar who tried to rob a physician in East Eighty-Fourth Street. Most assuredly the profession has advanced. Formerly it was the lawyer, the plumber, or the ice man who was complimented in this way by the burgling fraternity. The doctor had in his office a safe. Another sure sign of progress, but a habit to be deprecated as tending to attract outside physicians to the metropolis. However, the safe was there and the doctor found a man working at the lock. The latter explained his presence by a plea of feeling unwell and desiring medical advice. The doctor percussed his chest, and it is acknowledged by the thief, now in custody, that the per-

cussor was applied more vigorously than he thought the urgency of his case required. The doctor then wrote a prescription and charged a fee of \$5, spot cash, which he immediately placed within the safe, just as an angler puts a fish bait upon his hook, reset the combination, and retired to watch for further prey.

With gossips busy telling how a doctor of one variety has just stolen a sermon in New York, and how a doctor of another kind has embezzled from an order of United Friends in Poughkeepsie, it is refreshing to read that one of our own ilk has held up a bold, bad burglar and given him a dose of his own medicine.

A PHYSICIAN'S HEROISM.

WE read in the *British Medical Journal* that Dr. Ernest Helby saved a child's life at Croyden Fever Hospital by sucking the diphtheritic membrane from its throat after tracheotomy had been performed. The doctor contracted the disease and for some time his life was in danger. He finally recovered under anti-toxin treatment. We scarcely know whether such action is worthy of praise or blame. We become so accustomed to universal selfishness that the discovery of a hero comes as something of a surprise. The highest type of self-sacrifice, the willingness to risk one's own life for that of another, cannot fail to call forth our highest admiration. However, such instances as this—the results are not always as felicitous—raise a question in casuistry. Is not the life risked or sacrificed worth more to humanity than the life saved? Is it right for a physician to risk sacrificing those dependent upon him? We would not be chary of praise, but we suggest that the necessity of such risk must be decided by the individuals personally concerned.

News of the Week.

A Death Alleged to be Due to Diphtheria Antitoxin.

—An infant son of Privat-Docent Langerhans, professor of the City Hospital (Moabit), Berlin, died suddenly last week after receiving an injection of diphtheria antitoxin. The inoculation was made as a precautionary measure, a housemaid in the family being at the time ill with diphtheria. The father attributed his child's death to the serum, and caused the following notice to be published conspicuously in the Berlin papers for several days: "Our darling Ernest, aged twenty-one months, died suddenly in perfect health in consequence of an injection of Dr. Behring's diphtheria serum." Naturally this has given rise to much discussion among the physicians and in the press. The authorities at once seized the body of the child and caused an autopsy to be made. The result was wholly negative, and nothing was found to prove or disprove the charge of Dr. Langerhans. Dr. Asch, writing in the *Vossische Zeitung*, gives instances of similar cases, one of them relating to the daughter of a high Prussian medical official, who was inoculated with Dr. Behring's serum and was in consequence ill for three months. On the other side, Professor Brieger

expresses the opinion that it is a serious mistake to draw the deduction from an unexplained case that the serum is dangerous, and asserts that a normal injection of the serum will not cause death.

Cartwright Lectures.—The third of the series of the Cartwright lectures of the College of Physicians and Surgeons will be given in the hall of the Academy of Medicine, No. 17 West 43d Street, New York, on Wednesday, 22d, at 8:15 P.M., by George S. Huntington, A.M., M.D., professor of anatomy in Columbia University. The subject will be: "Morphology of the Bronchial System and its Relation to the Pulmonary Vascular Supply in Mammalia."

Prof. Mariano Semmola, of the University of Naples, is dangerously ill. He had a cerebral hemorrhage on March 28th, and it is feared that he will never recover sufficiently to resume his professional labors.

Dr. Franz Vulliet, professor of gynecology and obstetrics at the University of Geneva, died on March 20th. He was president-elect of the International Congress of Gynecology and Obstetrics, which is to be held in Geneva during the coming September.

Antitoxin Treatment of Diphtheria in Private Practice.—The committee of the American Pediatric Society to which this matter has been referred desires to place before the profession, for collective investigation, the subject of "Antitoxin Treatment of Diphtheria," the cases for the investigation to be collected entirely outside of hospital practice and published as the report of the society. Two points are to be made prominent: First, the length of time elapsing between the first appearance of the disease and the administration of the serum antitoxin. This is to be stated as accurately as possible, even to fractions of a day. Second, the severity of the disease, as shown by (a) extent of membrane, (b) general prostration, (c) involvement of the larynx. As every one knows, bare figures may in no way adequately express the full facts; remarks are therefore called for, and it is hoped the contributors will give fully their impressions. A diphtheria case under antitoxin may do very well and yet the physician reflect at the end that it was one which might be expected to recover under any form of treatment. On the other hand, one requiring intubation may recover promptly and without even becoming much prostrated. It is thought that family practice offers the only fair test of the efficacy of serum antitoxin treatment and that the most trustworthy statistics must be gathered from that source. In these investigations it is desired to bring together facts and opinions from cases which have what may be called a fair chance of demonstrating whether antitoxin accomplishes in the human body what experimentally it has been found to do with uniformity in animals. The co-operation of members of the profession is invited in this investigation, in return for which the society will mail to each contributor the full report when it is published. It is desired, even if a physician has but one case, that he will communicate his observations bearing upon the following points: Age, condition at

time of injection, time from initiative symptoms to that of injection, number of injections, whether or not diagnosis was confirmed by culture, extent of membranous deposit, whether or not intubation or tracheotomy was performed, and a description of sequelæ. In this way much valuable data can be obtained not otherwise available. Reports should be directed to Dr. Joseph O'Dwyer, 967 Lexington Avenue, New York.

Cholera in Egypt.—Cholera has appeared at Alexandria. Several natives and an English merchant have died of the disease.

Maryland State Board of Health.—Dr. S. Chase de Krafft, of Cambridge, Md., has been appointed a member of the health board of that State.

American Laryngological, Rhinological, and Otolological Society.—The second annual meeting will be held in New York City, April 17th and 18th. A large number of practical papers will be presented and a universally profitable time is anticipated.

No Pay, No Work.—It has been decided by the Supreme Court of Illinois that the health authorities have no right to require physicians to report contagious diseases or births without remuneration. It is a nice question whether the physician, whose aim is the prevention as well as the cure of disease, is not morally bound to warn the community of danger when this can be done at a not unreasonable expenditure of time and labor. At the same time it is unjust on the part of the community to compel him to do so and even to force him under pain of imprisonment or a fine to pay for the postage on such notification. Of course, the State cannot afford to pay a large fee for such service and neither would physicians demand it, but it would seem as though a compromise might be affected whereby the physician would receive twenty-five cents for each notification of a case of infectious disease or a birth. Such a plan is, or was, in existence in Connecticut, and we believe worked satisfactorily to both the State and its medical benefactors.

New Journals in Texas.—The *Southwestern Medical Record* is a new namesake established in Houston, and the *University Medical Journal* is a new monthly published in Galveston under the auspices of the Medical Faculty of the University of Texas.

The American Medical Association—What Is It?—A correspondent asks for information as follows: "I see that the American Medical Association will meet in Atlanta soon. Can you give me any data on the subject or refer this to any one who can—how large a society is it, date and place of meeting? I am especially interested in Jenner and vaccination, and I would like to present some matter to the society, if it is a large society and worthy the effort."

Philadelphia County Medical Society.—At the meeting of the Philadelphia County Medical Society on April 8th, Dr. A. V. Meigs read a paper on "Infant-Feeding," in which he renewed the conclusion, reached by him many years ago as a result of an analytic investigation, that mothers' milk contains, as a rule,

not more than one per cent. of casein, and that in the construction of a substitute this important fact must be constantly borne in mind. He also maintained that human milk is very constant in constitution, so that, once the proportions of its constituent elements are accurately and definitely determined, no variation need be made during the period of the employ of the artificial substitute. Dr. Alfred Stengel read a paper on "The Treatment of Pernicious Anæmia," in which he supported the view that the disease is essentially a hæmolytic one and to be viewed as a secondary anæmia, although often the causative condition may escape detection. Among the remedies from which the most good may be expected are arsenic, which has been viewed as a specific and which probably acts by an influence on hæmogenesis; iron, which is most useful in convalescence; and bone marrow, which has proved efficacious in some instances and perfectly futile in others. As contributory therapeutic measures aiding in the better distribution of the blood-corpuscles may be regarded massage and infusions of blood or physiologic solution into the vessels or subcutaneous tissues. The matters of diet and hygiene also must receive careful consideration. Often apparent cures are followed by relapses.

The Southern Medical College in Atlanta graduated a class of eleven on the evening of March 30th.

Pathological Society of Philadelphia.—At a meeting of the Pathological Society of Philadelphia, held on April 9th, Dr. J. P. C. Griffith presented the liver from a patient manifesting during life symptoms of acute yellow atrophy, diminished area of hepatic percussion dulness, leucin and tyrosin in the urine, jaundice, delirium, coma, with signs of concomitant nephritis. Upon post-mortem examination the liver was found greatly reduced in size, but histologic sections disclosed free round-cell infiltration, with less acute degeneration than was anticipated. Dr. Judson Daland showed the dilated heart of a patient who had died of pernicious anæmia; it presented an abnormal muscular band stretched across the cavity of the left ventricle, which was not recognized during life. Dr. C. W. Burr presented three brain tumors, one of which, arising from the membranes and merely displacing the brain substance, could readily have been removed had it been diagnosticated. Dr. Joseph Sailor showed an infiltrated suprarenal capsule from a case in which metastasis had followed amputation of a carcinomatous breast without recurrence in the original seat of disease. Other than the involvement of the suprarenal bodies there was no obvious adequate cause for death, which, it was suggested, might have been due to the obliteration of the parenchyma of these bodies, with the attendant loss of function. Dr. W. E. Hughes showed the spleen of a patient who had died of typhoid fever; it contained an abscess and several infarcts. Dr. F. A. Packard presented a heart with a polypoid tumor arising from the tricuspid valve and also an encapsulated new formation of the liver resembling an hydatid cyst. Dr. F. S. Pearce demonstrated the greatly thickened skull cap from a case probably of otitis deformans. Dr. Alfred Stengel showed a specimen from a young

man of colloid carcinoma of the rectum with widespread extension, evidently by contiguity but without apparent metastasis.

The Health Officer of Atlantic City, N. J., is now a physician, Dr. Walter Reynolds having recently been appointed to that office by the local board of health.

A New Hospital in Plainfield.—It is proposed to establish a homœopathic hospital in Plainfield, N. J. The practitioners of that faith complain that they are not permitted to treat their own patients in the Muhlenburg Hospital of that city.

Alleged Infection of Glanders by Canadian Horses.—A committee of the health board of Liverpool, which has been making inquiries into the subject, alleges that the spread of glanders among horses in that city is due to the importation of Canadian horses. The committee is about to send a deputation to the board of agriculture to urge the government to take restrictive action upon the importation of such animals. The allegations of the Liverpool committee are emphatically denied, however, by the Canadian officials.

"The Profession in Need of Money" is the title of an article in the *American Medical Journal*. The condition exists and we fear always will exist, but it can hardly be removed by protesting that fifty cents in silver equal one hundred in gold, as the writer of the article would have us believe.

An International Homœopathic Congress is to be held in London during the week ending August 8th. The president of the congress is Dr. Pope.

Backache.—It has never been in evidence why a woman's backache should generally be attributed to pelvic disease. Men have backaches and they are not uniformly attributed to genito-urinary trouble. It seems that the practitioner might treat the owner of a backache as a patient, not as a woman.—*Kansas City Medical Index*.

Obituary Notes.—DR. J. A. MURPHY died at Wilkes-barre, Pa., on April 4th, at the age of fifty-four years.—DR. JOHN STERLING died at Philadelphia on April 4th, at the age of sixty-five years. He was born in Ireland, but came to this country in early life, graduating from the medical department of the University of Pennsylvania in 1856. He served a term as resident physician in the Pennsylvania Hospital and during the war was a member of the medical corps that manned one of the receiving stations for sick and wounded soldiers in Philadelphia.

Dr. J. E. Schadle, of St. Paul, has been appointed instructor in clinical laryngology in the medical department of the University of Minnesota.

Antitoxin in Philadelphia.—The Philadelphia Board of Health has placed at the disposal of the physicians of that city the surplus antitoxin of diphtheria prepared in the municipal bacteriological laboratory for use in indigent cases, provided a report of the results and a history of the case are furnished in return.

An Aged Ball Player.—A man named Baugh, living in Indiana, recently broke his arm while playing baseball, but recovered in time to celebrate his one hundred and seventh birthday.

Miss A. I. de Steiger, a medical woman of London, was recently appointed third medical officer to the Essex County Lunatic Asylum, Brentwood. In order to make the appointment of a woman to this office regular it was necessary to alter the rules. England is coming on despite the fact that her two leading universities still refuse to confer degrees upon women.

Lyssophobia.—A girl of eighteen years, possessed of a nervous temperament and with neurotic antecedents, has been suffering at Lyons, N. J., with symptoms of hydrophobia, although never having been bitten by a dog. This condition is very rare, though well recognized as a groundless fear occurring in hypochondriacs.

Cremation in England.—A crematory is being erected at Liverpool, making the third in England. The others are at Manchester and at Woking; there is also one at Glasgow. Woking had 150 cremations in 1895, making its total number 733.

The Evils of Bakeshops.—At a meeting of the Ladies' Health Protection Society held recently, Mr. Thimme, editor of the *Bakers' Journal*, read by invitation a paper on "The Evils of Bakeshops," in which he said that there were two thousand bakeries in this city, most of which were located in cellars that had never been originally intended for such use, and they were not only badly ventilated but were the favorite haunts of cockroaches, spiders, mice, and even rats. Coal dust and other matter floated around the places, making them unhealthy as workshops and rendering it altogether impossible that wholesome bread could be produced under such conditions. Bakeshops were often the sleeping-places of the employees, and were not more than six feet from floor to ceiling. As an evidence of the danger of such places, the speaker said that some samples of bread from these bakeshops had been found to contain thirteen varieties of living micro-organisms. In case of contagious disease among the occupants of these cellars, there was no reason why the elements of contagion might not be distributed broadcast through the city in the bread there baked.

The Rush Monument Fund.—Since the first of the present year the amount of new subscriptions received for the Rush monument fund has been \$281, making the total amount now on hand \$3,729.39.

The Nebraska State Medical Society will hold its annual meeting at Lincoln on May 19th, 20th, and 21st. The titles of all papers and the names of prospective new members should be sent as early as possible to the secretary, Dr. George Wilkinson, Kasbach Building, Omaha.

Volunteer Patients.—True politeness consists essentially in a desire to give pleasure to others, and nowhere else is this most engaging of traits better exemplified than in the south of France. When Presi-

dent Faure stopped at Arles on his recent tour and said he would inspect the hospital there the authorities were dismayed, as there were no patients. As they did not wish to disappoint the worthy head of the republic, however, they sent out a call for volunteers, and when the president appeared he found all the beds occupied by convalescents.

The Vermont Healer, Bradley Newell, the blacksmith, has arrived in Boston. Now for a season we may expect that the hitherto excellent business of the Hub clairvoyants, faith curers, and the numerous body of "scientific" healers in general will suffer a reverse. The Hub is admittedly a great city, but how its citizens do love the occult!

Cork Nurses bob up serenely and refuse to take lodge and society cases under those physicians who attend the patients at contract rates, preferring to nurse only under those who maintain proper professional dignity.

Orange Memorial Hospital.—Mr. Frederick M. Shepard has donated \$10,000 for the construction of a pavilion for consumptives to the Orange Memorial Hospital.

The Association of Military Surgeons of the United States.—The sixth annual meeting of the Association of Military Surgeons of the United States will convene in Philadelphia, Pa., on May 12, 13, and 14, 1896. The morning session of Tuesday will be held at the Broad Street Theatre, at ten o'clock, where addresses will be made by Governor Hastings, Mayor Warwick, General Snowden, Dr. Da Costa, and President Read; also the report of the committee of arrangement, by Chairman Maj. J. Wilks O'Neill. An interesting programme of scientific papers has been arranged to be read and discussed during the day sessions. The evenings will be given up to pleasure, which has been amply and generously provided for by the committee of arrangements in the manner of receptions, social entertainments, etc. On Tuesday afternoon, at three o'clock promptly, at Hotel Walton, the regular business session will begin, with reports of committees and reading of papers. On Thursday morning and afternoon the business session and reading of papers will be resumed at Hotel Walton. The registration committee will have headquarters at Hotel Walton, and members are urged to be enrolled as soon after arrival as possible.

A Layman's Opinion on London Medical Students.—The ignorance and unskilfulness of the average English practitioner as turned out of the medical colleges are something appalling. I have attended two or three clinics in the principal London hospitals for the purpose of comparing them, from a layman's point of view, with Bellevue, the Massachusetts General, and other American institutions. The methods of instructing the students are of course practically the same in both countries. What most impressed me was the low grade of intelligence, the dense stupidity, in fact, of many of the young men to whose care the ills of humanity in these islands were about to be con-

fided. I have in mind particularly a class of young men about to pass their final examinations previous to beginning practice. I watched them undertake, one by one, to diagnose a long series of cases in the outpatient department of a great hospital. It is no self-conceit to say that with only a layman's knowledge I should have come nearer the mark in half the cases. Their book knowledge may be as complete as their diplomas will certify, but the practical application of it, the native intelligence which makes it valuable, was sadly deficient.—*London Correspondent of The Sun.*

A Pugilistic Physician.—Medicine with its many drawbacks is after all preferable to prizefighting, and we advise Dr. Payne, of Ohio, to stick to it; that is, if he is, as we have been informed, a real doctor of the practising kind. In an attempt to win pugilistic laurels from Boston's "Dick" O'Brien before the Eureka Athletic Club on April 6th, the latter gentleman is said to have promptly administered what he is pleased to call his Payne killer with such prompt effect that the physician did not require a second dose.

The Von Siebold Centenary in Japan.—On February 17th the one hundredth anniversary of the birth of P. F. v. Siebold was celebrated at Tokio. Addresses commemorative of his life and works, especially in Japan, were delivered by Messrs. Sugi, Miyake, Mutsumura, Fuku hi, Mitstkuri, Baelz, and Marumo. Von Siebold's first visit to Japan was in 1823, during the time of the feudal system, before foreigners were permitted any freedom in the country. Among other restrictions was one forbidding foreigners to have in their possession any map of the country, and one being found on him he was seized and imprisoned for six months. This reception did not discourage him, however, and he used his time of restraint to good advantage in study, and was able to continue his investigations, although under many restrictions for a while after his release. At his second visit he found the conditions very different, and took a large share in promoting the scientific growth of the country. He made many friends among the leading men of the empire, and to-day his name is honored among the Japanese perhaps even more than in his native land. Among the relics which the Japanese have piously preserved and which were exhibited on this occasion were a knife with which he had performed iridectomy and a plate which he had used in the examination of excreta. There were also shown portraits of himself, his daughter, and his two sons, and his works on zoology, botany, and the Japanese language.

Defective Sanitation in Italy.—According to Professor Bodio, of 8,254 communities in Italy, 1,454 have no supply of pure water, and 4,877 no regular sewage system.

An Unusual Termination to a Malpractice Suit.—Dr. W. O. Henry, of Omaha, has had a somewhat novel experience with the courts. He sued a patient for the amount of his bill and was in turn sued by the man for malpractice, damages being set at \$8,000. Not only was the doctor victorious in disproving malpractice, but he convinced the plaintiff and his attor-

ney of the justice of his cause, and the former went out and borrowed \$345 with which to pay what he owed for medical services, to save which he had instituted the malpractice suit.

The American Microscopical Society will hold its nineteenth annual meeting in the new Carnegie Library Building, Pittsburgh, Pa., Tuesday, Wednesday, Thursday, and Friday, August 18, 19, 20, and 21, 1896. An invitation is extended to all interested in the microscopical sciences. All communications relating to this meeting should be addressed to A. Clifford Mercer, M.D., president, Syracuse, N. Y., or to William C. Krauss, M.D., secretary, 382 Virginia Street, Buffalo, N. Y.

Mrs. Ludwig Wille died last month at Manitowoc, Wis., at the age of one hundred and five years. She was always in excellent health, and, as a correspondent informs us, was active and sprightly to the last. She attended to all her household duties the day before her death.

Illegal Practice of Medicine.—Several men have been arrested in this city during the past two weeks and sentenced to terms of imprisonment for practising medicine without a license.

The Women's Medical Institute in St. Petersburg has obtained ground near the Petropavlovski Hospital, and will begin the erection of its building as soon as the spring opens. It is expected to have the buildings completed in time formally to open the institute in August, 1897. It has been liberally subsidized by the government and by the municipality of St. Petersburg, and private subscriptions and donations have been neither few nor small. At present the capital amounts to about 600,000 roubles (\$300,000). But the greater part of this will be required for building and furnishing the institute. It has consequently been found impossible to provide residence for the students within its walls, as had been originally intended. Donations are, however, still coming in, and it is only a question of time for sufficient funds to be in hand to make up this deficiency. Already the institute has had one valuable legacy. The late Professor Tchudnofski left to the Women's Medical Institute his entire medical library, containing over four thousand volumes. The number of students who will be admitted to the courses at first has been fixed at one hundred and twenty-five. Over one hundred applications have already been received.

An Unclaimed Skull.—The dead-letter department of the national postal service contains among its curios a death's head addressed to the late Professor Gross. The sender evidently wished it to go as dead-head matter and neglected the postage, so it naturally found its way into this great postal morgue.

The Contagious Disease Law.—A warrant has been issued for the arrest of a Washington physician on the charge of violating the contagious disease law. It is alleged he failed to make a proper report of a case of diphtheria, and it is understood the case is brought to test the law.

Black Plague is said to have appeared in Yokohama. Three cases are reported by cable, in two of which the patients have died. They were both Chinamen.

Capital Punishment in Ohio.—The Ohio State legislature has passed a bill providing for the execution of criminals by electricity instead of by hanging. The law will go into effect on July 1st.

Adder Bites.—A seventeen-year-old girl is critically ill at Fishkill-on-Hudson from nine bites upon the leg inflicted by a spotted adder.

Pharmaceutical Exposition.—An international exposition is announced to take place in Prague from August 15th to September 15th, at which, besides a section on pharmacy, there will be one on hygiene, including hospital service, mineral waters, bacteriology, and hydrotherapy.

Small-Pox in New Orleans.—The *Medical and Surgical Journal* of New Orleans says that small-pox has been prevalent in that city for the past two years, new cases occurring through the coming to the city of unprotected blacks from the country parishes. The board of health is hampered in its efforts to stamp out the disease by a lack of funds, and the journal calls upon the profession of the State to advocate general vaccination of unprotected persons, so that the supply, which now keeps up the disease in New Orleans may be cut off.

The Memphis Hospital Medical College graduated a class of sixty-seven on March 27th.

Barbers Object to the Dispensary Plan.—Cincinnati boasts of a tonsorial college where instruction is given in the arts of shaving and hair cutting. As clinical material was rather scarce the college recently advertised for subjects. The result was that hundreds of men went to the school for free shaves. This interfered seriously with the business of the barber shops, so the barbers' union petitioned the board of health to interfere, alleging that the school was not clean and that disease was likely to be spread by it. The health officer therefore visited the place and ordered that hereafter the school give its patrons clean towels, bay rum, and witchhazel. This so added to the popularity of the trichoclinic that the patients became too numerous for the students to handle, and the college has now adopted the New York Hospital plan of a nominal charge for professional attendance and hair-oil. A similar institution has been opened in New York, and we too shall have an object lesson in the benefits of dispensary treatment.

The Color Line in an Asylum.—The governor of Kentucky has appointed a colored man as assistant physician to one of the State hospitals for the insane, and an outcry has been raised against the appointment because some of the patients under his care are white.

Regulating the Sale of Patent Medicines.—There has been introduced into the Massachusetts legislature an "Act to Protect the Public Health by Regulating the Sale of Patent Medicines and to Determine the Amount of Alcohol or Liquor in Each Bottle," which provides that "any person or persons, firm,

or company offering for sale to the public any patent medicine of any kind whatsoever, shall present to the State assayer the formula or manner of making the same, and the State assayer shall certify upon every bottle or package that the medicine contained therein contains nothing injurious to the public health; and the State assayer shall also cause to be plainly marked upon the side of the bottle, in type not smaller than brevier, the amount of alcohol or liquor of any kind whatsoever contained in the bottle or package, and the person or persons, firm or company, shall make oath before a justice of a peace that the formula or manner of making the same is true, and shall deposit the aforesaid formula or manner of making the same, with sworn statement, with the State assayer." The penalty for each violation of the provisions of this act is a fine of not more than one hundred dollars.

Typhoid Fever caused thirty-six per cent. of the deaths among the British troops in India during the year 1894.

Diphtheria was the cause of over fourteen thousand deaths in Vienna during twenty-five years from 1870 to 1894 inclusive.

Contract Medical Services.—At the annual meeting of the Union County (N. J.) Medical Society, held April 8th in Elizabeth, Dr. George Westcott, of Fanwood, was elected *President* for the year. A long debate took place over the alleged violation by some of the members of a by-law which forbids them to make contracts with benevolent societies or families for medical service. This law was adopted three years ago. It was charged that some of the members had not only made contracts with societies, but with the families of the members of these societies, thus robbing the regular family physician of his practice. It was voted that the execution of the law be temporarily suspended and that the law be referred to the State Medical Association for its final decision.

Leprosy is said to be spreading in the Russian Baltic provinces with alarming virulence. Several hundred persons are said to be afflicted with the disease, and the Livonian Diet has just taken measures for isolating them at the cost of the State.

Treatment of Diphtheria in Berlin.—During 1894 and 1895, 245 diphtheria patients at Am Urban Hospital in Berlin were treated with antitoxin with a mortality of 28 per cent., while among the 146 who were treated otherwise the mortality was 42 per cent.; 53.2 of the serum cases were serious, 23.7 severe, and the rest slight. The effectiveness of the serum was proportionate to the earliness of its application and the strength of the first doses. The hospital reports conclude that antitoxin is not an infallible but a valuable remedy.

The California State Medical Society holds its annual meeting at Los Angeles on April 21st to 23d.

American Pediatric Society.—The eighth annual meeting of this society will be held at Montreal on May 25th, 26th, and 27th, under the presidency of Dr. Joseph O'Dwyer, of New York.

The National Confederation of State Examining and Licensing Boards will hold its fifth annual meeting in Atlanta on May 4th. The president of the confederation is Dr. William Warren Potter, New York; vice-president, Dr. James Mackintosh Hays, North Carolina; secretary and treasurer, Benjamin F. Griffith, Illinois.

A Good Reason.—The *University Medical Magazine* says that Dr. John B. Deaver has declined to accept the appointment as consulting surgeon to the Norristown (Pa.) Hospital for the Insane on the ground that services to State institutions should not be rendered gratuitously.

An Ingenious Fake.—One of the New York dailies, noted for the power of its imagination, recently printed an elaborate tale about a new international drink-cure sanatorium, the promoters being a syndicate of physicians from New York, London, Berlin, and Paris. The establishment is to be located, our contemporary says, on an island in the South Pacific where everything but alcohol may be had in abundance. The patients have to agree to stay on the island for a year, and in order to insure their keeping of their promise they will have to pay a year's board in advance. The place will be called "Medical Island" and will belong to Great Britain.

Clinical Sketches.—Mr. Noble Smith announces in *Clinical Sketches* of March, 1896, that the work of editing the journal interferes so greatly with his other occupations that he is obliged to discontinue his editorship. It is not determined whether another editor will take up the work or whether the publication of the journal will be abandoned. We hope the former will be the case.

Privileged Communications.—In Massachusetts, says the *Boston Medical and Surgical Journal*, the physician is not protected by the law in his refusal to betray a professional secret, but may be imprisoned if he refuses to do so when ordered by the court. The priest is likewise unprotected in his preservation of the secrecy of the confessional, but the lawyers have seen to it that protection is assured them in guarding the secrets of their clients.

Obituary.

JAMES WEST ROOSEVELT, M.D.,

NEW YORK.

DR. JAMES WEST ROOSEVELT died of pneumonia April 11th, aged thirty-eight years. From the time of the initiative chill the disease progressed so rapidly that he was ill but eighteen hours. His sudden demise has caused a painful surprise to a large circle of medical associates, and to a still wider circle in which he was an active and much-beloved personality. Of a genial disposition, frank manner, and earnestness of purpose, his influence for good was felt in all the directions of his varied and beneficent work. As a clinician and medical investigator he took a leading rank, his researches for the most part being confined to matters bearing more particularly upon respiratory diseases. An active member of many of the medical societies of the metropolis, he was a powerful and

ready speaker in all discussions and was a frequent and valued contributor to current medical literature.

He was a son of Silas Weir Roosevelt, at one time a prominent lawyer in this city, was born in this city on July 2, 1858, and was graduated in 1880 from the College of Physicians and Surgeons. He was a member of the Academy of Medicine, the Medical and Surgical Society, the Practitioners' Society, and the Pathological Society of this city. He was particularly active as the representative of the Academy of Medicine in its efforts to abolish the pollution of the Croton water-shed and in its efforts to secure a national control of quarantine matters. He was also well known as a contributor to the magazines. He was visiting physician at the Bellevue, Roosevelt, and Seton hospitals. His widow survives him, with three children.

JAMES JAY MAPES, M.D.,

NEW YORK.

DR. JAMES JAY MAPES, one of the best-known among the younger physicians of this city, died April 14th at Saranac Lake after an illness of ten months. Dr. Mapes, who was a son of Charles V. Mapes, was twenty-nine years old, and was graduated from the School of Arts of Columbia College eight years ago. He was well known as an athlete during his college course, and his popularity among his associates was so great that for three years he held the presidency of his class. He commenced the study of medicine at the College of Physicians and Surgeons in this city, and at his graduation stood first in his class. During his course there he studied in the summers at the University of Edinburgh, where he won the gold medal given for the highest honors in anatomy, a distinction which had never previously been gained by an American. After an internship in the New York Hospital he spent a year in Vienna and Paris, and in the latter city attracted the attention of Dr. Roux, with whom he studied the antitoxin treatment for diphtheria. On his return to New York last year Dr. Mapes was made the physician in charge of the Nursery and Child's Hospital, and he remained in that post until the disease which caused his death suddenly developed. Two years ago Dr. Mapes was taken ill with pneumonia in Paris, since which time pulmonary phthisis developed, which finally terminated his life.

IRVING WHITALL LYON, M.D.,

HARTFORD, CONN.

DR. IRVING WHITALL LYON died of pneumonia at his home in Hartford, Conn., March 4th, in the fifty-sixth year of his age. He received the degree of M.D. from the University of Vermont in 1862, and from Columbia, N. Y., in 1863; was demonstrator of anatomy, Berkshire Medical College, Pittsfield, Mass., in 1862, acting assistant surgeon U. S. Army in 1862, served on the staff of Bellevue Hospital, New York, 1863-64, since when he had practised his profession in Hartford, Conn. He was the president of the Hartford County Medical Society at the time of his death. He had been the medical director of the Hartford Life and Annuity Insurance Company since 1866. He was the author of various articles in the Transactions of the Connecticut State Medical Society, the journals of New York, Philadelphia, and elsewhere, and in 1891 published a volume entitled the "Colonial Furniture of New England," a critical historical study of the domestic furniture in use in the seventeenth and eighteenth centuries, which has since been regarded as a standard authority in this country and abroad. At the time of his death he had in preparation an exhaustive critical study of the "Colonial Architecture of New England," which he had expected to publish by next winter.

Clinical Department.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

By SHERMAN VOORHESS, M.D.,

DAGGETT, PA.

MARCH 31, 1895, I was called to see B. J.—, aged thirty-two, male; occupation, farmer; a widower of nine years. Complexion sandy, figure erect, of healthy appearance, body muscular and well developed.

I found him complaining of pain in the epigastrium, some vomiting, aching limbs, chilly sensations along the spine, and severe headache. His temperature was 99° F.; pulse, 80; the tongue was covered with a thin white coating and the appetite was lost. I thought from the appearance of the case that probably influenza with gastro-enteric disturbance was the trouble, and I prescribed accordingly. Two days later I was summoned and found the temperature 100° F., pulse 90, respiration normal, tongue coated. The patient was vomiting frequently; the epigastrium was tender; there was some tympanites; the liver dulness was about normal; the limbs ached—he was “aching all over,” as he expressed it. The bowels were constipated, but yielded to cathartics. The case ran along for a week with but very little change in any of the symptoms. At the end of the week the liver area began to grow tender and there was considerable tenderness with tympanites over the abdomen; the area of hepatic dulness seemed somewhat increased, so that I suspected malaria, although the more characteristic symptoms of malaria were absent.

At times there was slight delirium at night. The temperature did not go above 100° F. nor the pulse above 90 per minute; the tongue remained coated and vomiting was a troublesome symptom.

I might add here that just previous to this case I had a number of patients with similar symptoms, who after being ill for a few days developed a catarrhal jaundice lasting usually for a week. Therefore I was not surprised to find in this case ten days from my first visit some jaundice, which gradually spread until by the morning of the twelfth day the whole body was jaundiced, the upper portion being deeply injected. The pulse remained at 90 and the temperature at from 99° to 100° F. There was now obstinate constipation and what was passed by the bowel was clay colored. But little urine was voided and that little was deeply stained.

On the night of the twelfth day I was called hastily and found the patient delirious and violent, requiring several attendants to keep him on the bed; he was noisy and cried loudly. The jaundice was deepening rapidly. A hypodermic injection of morphine soon quieted the patient, and by repeated doses I was able to keep him quiet. The following morning the patient was resting easily, but there was low muttering delirium. The discoloration if possible was more pronounced than in the night previous; even the bed linen was deeply stained. The liver dulness seemed diminished; still I would not be positive of this, as a distended colon might have caused error. I asked the night previous for a sample of the urine, but found it had been carelessly thrown away, so that no test for leucin or tyrosin was made. The urine was passed at this time involuntarily and but little at a time.

Hiccough lasting several hours came on and seemed to cause much pain at each spasm. The respirations were fast becoming labored, the pulse was intermittent and 130 per minute. The patient evinced no sign of pain on percussion over the liver or abdomen. This was probably due to the opiate. At 10 P.M. Dr. J. H. Nye was called to see the case and agreed with me

that it was one of acute atrophy of the liver. At this hour the pulse was 160, temperature 99° F., respiration much accelerated. The pupils were unequal in size and the patient was unconscious; both right extremities seemed paralyzed and everything pointed to a cerebral hemorrhage having occurred. Death soon closed the scene.

By the greatest effort we were allowed only a very limited autopsy. An incision was made over the liver, the skin and the fat underneath it being intensely yellow. Upon opening the abdominal cavity, it was found to contain much dark icteric fluid and the viscera were all discolored. The liver was sought out and examined. The capsule was loose; the organ seemed about one-half its natural size. The lobes were flattened and turned upon themselves on being handled, seeming to have lost their original texture. The organ was so soft that I could easily put my finger into its substance. On section it was seen to be of a dark yellow color and could be cut easily, like a liver that had undergone post-mortem changes. The lobulated appearance of the normal liver was entirely absent. The gall bladder was distended. The abdominal cavity presented evidence of ascites, the fluid filling the whole cavity.

The spleen was much enlarged, of a yellow mottled appearance, the right extremity of this organ overlapping the left lobe of the liver by about two inches. On section it was seen to be of a dark yellow hue.

The kidneys were not examined.

Now, while no test was made for leucin and tyrosin, still I think evidence enough has been presented to warrant my diagnosis of acute yellow atrophy.

We find in most text-books that venereal disease is a predisposing cause of this trouble. This man gave a history of two severe attacks of gonorrhœa, each lasting many months; at one time he had a urethral fistula. Some weeks before his illness I examined him and found a stricture extending nearly the whole length of the prostatic portion of the urethra. This was operated upon with success.

The case seemed to me of uncommon interest from the past history of venereal disease and from the fact that the disease appeared to be engrafted upon a simple form of gastro-enteritis, in which we often see the process extend to the gall ducts and cause catarrhal jaundice.

MYXOFIBROMA OF THE BLADDER IN A CHILD THREE YEARS OLD.

By GEORGE K. SIMS, M.D.,

IN CHARGE OF THE SURGICAL AND GENITO-URINARY DEPARTMENTS OF THE FREE DISPENSARY, UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

On December 28, 1895, Rosa S.—, aged three years, female, colored, was sent into my department. She was very much emaciated and her appearance gave evidence of great suffering and severe illness. She had not passed her urine for three days, except a little that dribbled out. From her mother I obtained the following history: For the preceding eighteen months the child had had difficulty in evacuating the bladder and bowels, and had suffered a great deal with a straining, as she thought, to empty the bowels. These symptoms had gradually grown worse until three months previously a large tumor had developed in the lower part of the abdomen. She had a prolapse of the rectum and there was a mass about the size of one's finger in the vulva. Three physicians who had treated her previously said that this was the womb which had come down, but they had failed to get it back into position after several attempts. Upon a hurried examination I made the diagnosis of a tumor obstructing the urethra and that the abdominal tumor was the bladder

enormously distended with urine. After some difficulty I succeeded in introducing a small silver catheter and drew off about half a pint of very offensive, ammoniacal urine. This removed the abdominal tumor and confirmed my diagnosis.

The vulva was so completely blocked up by the mass that it was very difficult to find its attachment, but a closer examination showed that it was attached about the vesical neck. Owing to the extremely debilitated condition of the child, and the inflamed condition of the urethra and bladder, it was not considered advisable to undertake the operation of removing it at that time. She was given salol and boric acid to render the urine aseptic, and appropriate treatment to improve her general condition.

After about ten days of this treatment and before the day set for the operation, the tumor slipped back into the bladder; several days later a large portion of it sloughed off and passed out, so that she could pass her urine without the use of a catheter, which she had not been able to do before. In the mean time her condition had improved so much that her mother would not consent to an operation. A portion of the tumor was left and it was evidently growing very fast, for it was not long before it began to obstruct the urethra again, and when she bore down it could be seen trying to engage in the urethra.

On the morning of February 28, 1896, I was notified that it had come out again, so I decided to operate at once. After a hurried preparation chloroform was given, the urethra was dilated, and by digital examination the tumor was found attached to the anterior wall of the bladder just above the urethral orifice. With a finger it was pulled out as far as possible and enucleated with curved scissors, this being the only means of getting at it, as owing to the large size of the pedicle and to its close attachment to the bladder walls, the snare or thermo-cautery could not be used. She rallied very well from the operation and is getting along as favorably as could be expected. In addition to the medical treatment her bladder is being washed out twice daily with boric-acid solution.

The whole mass weighed about three ounces. Microscopical examination showed it to be a myxofibroma, a very rare neoplasm for this location, and its size was remarkable for a child of this age. Another peculiar feature is that it was attached to the anterior wall of the bladder and not to the base, the usual situation.

621 EAST FRANKLIN STREET.

PERSONAL EXPERIENCE IN THE ANTI-TOXIN TREATMENT OF DIPHTHERIA.

By B. SCHEINKMAN, M.D.,

NEW YORK.

FROM my personal experience with antitoxin in more than thirty cases I can with difficulty restrain myself from becoming too enthusiastic concerning the value of this mode of treatment. The results obtained by me with this new remedy, as compared with our old method of treatment in apparently identical cases, are very striking indeed. Leaving out all the milder and questionable cases and considering only the most typical and severe forms of the disease, especially those complicated by laryngeal croup in which intubation was absolutely necessary, I do not believe that I ever succeeded in saving more than twenty per cent. by the most approved of the old methods, while, since resorting to the antitoxin treatment, I can positively assert that over ninety per cent. of the most severe and apparently hopeless cases of laryngo-pharyngeal diphtheria were actually saved.

I may say that the number of my cases is too small to draw any positive or valuable conclusions, yet

I regard them as worthy of record. In all cases the diagnosis was confirmed by the bacteriological bureau of the Board of Health.

CASE I.—Rosa R.—, three years of age; posterior pharyngeal wall and both tonsils covered with pseudo-membrane; temperature, 103° F.; laryngeal stenosis not severe; she was treated with bichloride and iron in appropriate doses. Forty-eight hours after the onset I was called in the night and found the child cyanotic from severe laryngeal stenosis; temperature, 104° F.; pulse very rapid and irregular. The child was very restless and suffocation seemed impending. I immediately intubated and six hours later injected 20 c.c. of antitoxin, all other medication being discontinued, with the exception of some brandy and steam inhalations. Twenty hours later I found the child's respiration perfect; the color of the pseudo-membrane was considerably changed and it was partly detached; temperature, 101° F.; pulse better. The child looked more cheerful and wanted to eat. As she was steadily improving the tube was removed on the sixth day, and at the end of the eighth day complete recovery was established. At the time of administering the antitoxin to Rosa, I insisted upon inoculating all other children of the family with small doses of the remedy for prophylactic purposes, but succeeded in doing so with only two of them; one child, fearing the needle, managed to escape and was left unprotected. Three days later the unprotected one (who was about seven years of age) developed a very severe form of diphtheria and was at once subjected to antitoxin treatment and fortunately has also recovered. Those children who were prophylactically treated, notwithstanding their constant mingling with the sick ones, and although younger than the unprotected one, escaped infection. This case tends to show the efficacy of the remedy not only in the active and well-developed state of the disease, but also its prophylactic properties.

CASE II.—Joseph W.—, age two and one-half years; naso-laryngo-pharyngeal diphtheria; submaxillary glands enormously swollen; dyspnoea not severe enough to require intubation; temperature, 105° F.; pulse, 150. Was treated for two days with bichloride and iron. As the symptoms were not abating I administered 18 c.c. of antitoxin. The next day the membrane had changed in color; temperature three degrees lower; pulse, 110; dyspnoea greatly relieved. I stopped all other medication except brandy and steam. The child continued improving every day, and on the sixth day was discharged as cured.

CASE III.—Lasar L.—, age seven months; both tonsils and pharynx covered with a grayish-colored false membrane; both submaxillary glands very much enlarged, severe dyspnoea with a characteristic croupous cough; temperature, 104° F.; pulse, 160; general condition of child precarious. I immediately injected 8 c.c. of antitoxin, excluding all other medication except brandy and steam. The next day there was no change in the general condition of the child. I injected another dose of 15 c.c., and on the following day I found a change in the appearance of the membrane; pulse, 120; temperature, 104° F.; dyspnoea slightly diminished. The general condition of the child was improved and he was discharged as cured at the end of fourteen days.

CASE IV.—Elias S.—, age two years; laryngo-pharyngeal diphtheria; severe dyspnoea with cyanosis; temperature, 105° F.; pulse uncountable; great restlessness and impending suffocation. I immediately intubated and injected 18 c.c. of antitoxin, excluding all other remedies. Fifteen hours later I found the child's respiration almost free, pulse much improved, temperature the same. The child continued to improve every day, until on the seventh day I removed the tube,

although the temperature had not yet reached the normal. Six or seven days after my last visit I was called again to see the child. On inquiry I was told that the patient had been getting along very well until that morning. On examining the child I found nothing to account for the high fever, which I found to be 105° F., except a slight bronchial catarrh and a mild form of pertussis, from which the patient had been suffering for a couple of months previous to its present illness. I administered an antipyretic without the slightest effect. The child grew worse every day, until finally, after four weeks of this continued unaccountable fever, the patient died with symptoms very much resembling those of tuberculous meningitis. Even this case I consider as successful so far as the diphtheria is concerned, for my impression is that the child died of an incidental tuberculous meningitis, but at the same time I must confess that possibly what appeared to me as a tuberculous meningitis might have been the much-spoken of poisonous effect of the antitoxin.

CASE V.—X. Y.—, age two years. I was called up at 4 A.M. in a hurry and found the patient in a most precarious condition. The throat was covered by diphtheritic membrane; the submaxillary glands were enormously congested; temperature, 104° F.; pulse could not be counted; the cyanosis was extreme; the patient was semicomatose with cold extremities, and seemed to be *in extremis*. I immediately intubated and ordered frequent administration of brandy while waiting for a dose of antitoxin, which was administered three hours later. But, owing to the extreme severity of this case on the one hand and to the uncertainty and shaky confidence in the new remedy on the other, I did not dare to withhold the old routine treatment entirely and ordered that the bichloride and iron, in conjunction with stimulation, be continued. The next day I found little improvement and almost lost hope for the patient. I decided, however, to try another dose of antitoxin (15 c.c.), keeping up stimulation but excluding other remedies. The following day on entering the sick-room I was astonished to find the child sitting up and fighting with its mother against the administration of some brandy. On examination I found the greater part of the membrane had disappeared; the pulse was 120; temperature, 101° F.; the glandular engorgement was considerably diminished and the general condition of the child was very good. The child made an uninterrupted recovery.

All my other cases, of about the same gravity and numbering twenty-seven, recovered, except two. These proved fatal, notwithstanding the antitoxin, which had been resorted to late in the disease. It is also important to bear in mind the fact that these five cases are examples of a series of only the most severe forms of the disease, while in milder cases I seldom, if ever, resort to antitoxin, but treat them according to our old methods. In fact, since the introduction of the antitoxin in my practice, a fatal case of diphtheria is a phenomenon with me, provided the disease is seen in an early stage.

THE FLOATING OR MOVABLE KIDNEY.

By CHEVES BEVILL, M.D.,

WINFIELD, ARK.

In 1888 I reported in the *Medical Bulletin* three cases of floating kidney. They were all in women. Since then I have seen three other cases—two in women and one in man. They are as follows:

CASE I.—Woman, aged thirty-three, married; mother of two children. When in the eighth month of pregnancy with the second child, she began to complain of a strange feeling in her right side. I advised absolute rest and administered anodynes to give ease. After ten days' rest (during this time while in bed

she was comparatively easy) she got up and in two or three days was taken with the same strong bearing-down sensation in her side. The pains in her side grew worse. Labor came on, lasting four days. The fetus was born dead, as the waters had been escaping for three days prior to its birth. The woman did well while in bed and until she resumed her housework, when the same feeling of distress came on worse than ever. I had not seen her for over one month. I was then called to see her for a tumor in her right side, which greatly distressed her. I found it to be the right kidney. As she was a very lean, slim woman, there was no difficulty in recognizing the trouble. An abdominal supporter with a pad was used and all was righted. Since then she has had several times a return of the trouble, but an adjustment of the bandage with the use of galvanism has relieved her.

CASE II.—Married lady, aged thirty-six, mother of two children, both living and healthy. Was seized with great pain in her right side after a walk of one and one-half miles. When called to see her I found that she had been suffering for six hours with a keen cutting pain in the right iliac region or just above. She was vomiting every few minutes and passing water at frequent intervals. Pulse quick and hard, 120; temperature, 103° F.; respiration, 32. There was such a degree of tenderness in her side that it was out of the question to make any pressure whatever. She would lie on her back with her limbs flexed when not vomiting, and I thought she had appendicitis. I finally quieted her by hypodermic medication and hot applications to the painful point. I thought that I would await further developments and if necessary get help and operate, as I had lost one patient two years before from appendicitis (a man who would not agree to be operated upon). Eight hours later, when the patient was easy and could talk, I obtained information that made all clear to me. She had carried one of her children, eight months old, on her left arm and the other, two years old, a very fleshy one, astride of her right hip for over half a mile. The tenderness gradually subsided, so that I could outline the displaced kidney. This I replaced and put on a bandage. In three days she was up but had to wear the bandage for several months. She has done very well since.

CASE III.—Man, a farmer, aged twenty-five, well built. On December 6, 1895, I was sent for by his physician to go and operate on him. The patient was thirty-three miles away. I went prepared to open the abdomen, but when I arrived I found that it was now the eighth day of the trouble. The patient spoke to me, but appeared to be somewhat in distress. There was no fever; pulse, 82; respiration, 19, when quiet. Lying on his back with his legs drawn up, he could not put his right leg out straight. A tumor was plainly to be felt in the region above the appendix. There were pains darting down the right spermatic cord; the testicle was retracted. He had vomited for three days and nights and was troubled with frequent urination.

The history of the case was that he was stricken after helping put some cotton bales on a wagon. He sent for a physician, who diagnosed appendicitis and treated him on general principles for such. I could make nothing out of the case but a displaced kidney, and we waited until the next morning (as I saw no immediate danger). I could press the tumor back to the place where the kidney belonged. The patient became easier, although pressing on the tumor made him sick. This confirmed my diagnosis to my mind. Next morning the patient was easy and I left for home. I saw him January 23d, twenty-seven miles from his home. He cannot stand erect without pain and has not been able to do any work, but has worn no supporter.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL ADVERTISING—PATHOLOGICAL SOCIETY OF LONDON—MULTIPLE EXOGENOUS ADENOMATA OF THE THYROID—ACTION FOR SLANDER AGAINST DR. PLAYFAIR—VERDICT OF £12,000 DAMAGES—NEWPORT HOSPITAL—THE LATE DR. BRABAZON.

LONDON, March 27, 1896.

ADVERTISING is just now the "burning question" in medical circles. Perhaps I should rather say it is the subject which touches on and threatens to absorb most others. What is advertising? What form of advertising is legitimate? What constitutes unprofessional advertising? Such and such like questions abound in medical gossip and occupy medical casuists. The treatment of such points in the so-called ethical column of the *British Medical Journal* has unquestionably increased the irritation of jealous and envious men by furnishing them a platform from which to proclaim or insinuate that their rivals availed themselves of unprofessional ways of obtaining practice. It is curious that some people cannot see that unprofessional is only another word for ungentlemanly, and that in a body of more than thirty thousand men it is not surprising that now and again one meets with a person whose claim to the name gentleman cannot be made out. It is more curious still, quite funny, to see queries submitted and solemnly adjudicated, as to how a doctor may have his visiting-card printed or what sort of a door plate he may have, or whether a duplicate of the latter may be fixed to the side of a corner house! Closely allied to the last query was the verdict which mulcted the editor of the journal in damages for libel. He had pronounced against a doctor whose plate had been affixed to a hydropathic establishment of which he was the visiting but non-resident adviser. To the surprise of most people the doctor promptly sued the editor for libel, and to the astonishment of every one was successful. But out of this trial still more curious developments have cropped up. Thus, Mr. Lawson Tait writes to the *Medical Press* to say that while the action was being tried he read in the court circular of the *Times*: "Mr. Ernest Hart has left for a yachting tour on the Riviera for the restoration of his health, which has not yet recovered from the overstrain of his recent sanitary tour in India." Mr. Tait's curiosity induced him to apply to the publisher of the *Times*, who sent him a printed reply that "such insertions are charged for at the rate of three lines for a guinea and 10 shillings and 6 pence for every additional line." Thereupon Mr. Tait wants to know "what is guilt and what is innocence in advertising?" If Mr. Hart thinks it worth his while to spend his superfluous guineas in advertising his movements, he will do so without consulting Mr. Tait as to whether it is professional or gentlemanly. But it seems scarcely consistent for the ethical column to denounce in others the very act of the editor. Howbeit, I hope the editor pays for the privilege of airing his own taste in advertisement, and that the amount is not debited to the journal. Another correspondent on these ethical points wants to know who sanctioned the payment of £100 to Sir Dyce Duckworth for his evidence at the trial, evidence which in fact gave away the case. And further, this inquisitive correspondent asks who invited Dr. Cousins, who is chairman of the council and on the editorial reference committee, to be a witness? Because of this, he says, Dr. Cousins should have made no claim for his services, to which it might be replied his offices are honorary. If he

were a paid servant of the association it would be different.

Sir D. Duckworth can scarcely feel gratified at the notoriety he has attained in this matter. It was disagreeable enough at the trial for counsel to press him respecting the leaflets of his insurance company. "*Et tu, Brute?*" is not a pleasant argument. But this phase of his doings is eclipsed by the publication in the *Rochester Diocesan Chronicle*, a monthly periodical, of the paper on "Clerical Breakdown," read at the house of the rural dean by Sir D. Duckworth, physician, etc., and lay reader in the diocese of Rochester. People are declaring that if the treasurer of the Royal College of Physicians may thus disport himself in a sort of parish magazine, Messrs. Jones, Brown, and Robinson ought not to be blamed because the editor of the *Little Peddington Gazette*, when the gasworks blew up, reported that these three respected fellow-townsmen were soon on the spot and did all that medical science could do to alleviate the sufferings of the injured. "What is sauce for the goose is sauce for the gander." If I have dwelt too much on advertising, it is because it furnishes a key to several other questions about the unwritten "ethical code," for the floodgates have been opened and we are overwhelmed with streams of discontent and envy.

At the last meeting of the Pathological Society, among other specimens was one of multiple exogenous adenomata of the thyroid gland from the right side of the neck of a man of twenty-two. It was of a very unusual character, for the mass was a conglomeration of a large number of distinct growths loosely held together by connective tissue. Structurally they presented in part the character of normal thyroid tissue, but in part the gland spaces were distended with multiform epithelial cells and the colloid occurred as collections of discrete droplets lying amid the cell masses. Mr. Shattock discussed the possibility of the tumor being akin in its origin to the compound kidney of the bear, seal, cetacea, etc., but he had been unable to find that such a disposition of the thyroid ever obtained in any vertebrate forms. The explanation he held to be that the multiplicity arose from an exogenous formation of adenomata. It was not rare to find adenomata embedded in goitres (endogenous), and in the present specimen sections disclosed all stages between the formation of adenomata at the surface of certain of the growths and their complete isolation, the whole process being parallel with that seen in subperitoneal myomata of the uterus.

Mr. James Berry brought fifteen specimens of thyroid cysts and adenomata from museums to show the manner in which certain common and important thyroid cysts were formed, namely, from solid adenomatous nodules by the gradual breaking down and liquefaction from the centre of these several nodules. Many so-called cysts removed by enucleation could be shown, if properly prepared by hardening in spirit, to be really adenomata. These specimens showed all degrees of transition between the early solid adenoma without any cyst to the almost completely cystic tumor in which mere traces of gland tissue adhering to the inner surface of the cyst wall were all that remained of the original solid adenoma. Cysts formed in this way are particularly well suited for enucleation, since the cyst wall is usually thick and only loosely embedded in the surrounding thyroid-gland tissue. In contradistinction to these cysts two other specimens were shown of thin-walled smooth cysts with clear straw-colored contents. These, it was considered, did not belong to the same class and had never contained adenomatous tissue within them. Mr. Berry asked Mr. Shattock how far his specimen was artificial—that is, how far the thyroid capsule and accompanying connective tissue had been dissected away from the growths.

It should be remembered that when adenomata grew toward the edge of the gland the proper thyroid tissue surrounding them gradually became thinner. Mr. Golding-Bird asked, with regard to two of the cysts Mr. Berry had shown, what was his ground for regarding them as anomalous. Mr. Shattock said that there was practically no dissection of the specimen. Even the small growths lay quite at the surface of the parent mass. Mr. Berry said he regarded the cysts as anomalous because, the lining of the cysts being smooth, it was in that respect quite unlike the other class of thyroid cysts.

A verdict for £12,000 damages was given to-day against Dr. W. S. Playfair for slander in communicating to a third party an opinion he had formed in his professional capacity involving the honor of a lady. The defence set up was privilege and the duty of protecting his own wife, who is the sister of the lady's husband. Dr. Playfair said he removed from the patient a piece of recent placenta, and her husband was not in England at the time such could have been formed. Other evidence was given to the effect that what he removed was a blighted ovum. The question of professional confidence in its various bearings came before the court, but as the trial is only just over and there may be an appeal, there is only time by this mail to report the verdict, which elicited tumultuous applause that was suppressed only with difficulty.

Professor Fraser, of Edinburgh, came to London last week and lectured on Friday at the Royal Institution on "Immunization against Serpent's Venom and the Treatment of Snake-Bite by Antivenene," as he calls it. Can we not find something better in English? Anti this, anti that, and anti the other are most distracting. Dr. Fraser exhibited specimens of the dried venom of different serpents.

The London County Council has elected Dr. W. J. Collins vice-chairman.

Dr. and Mrs. Garrod Thomas, of Newport, Mon., offered £5,000 toward the erection of a new infirmary if the additional sum of £15,000 required for the purpose can be raised.

Dr. Brabazon, who died on the 13th, practised at Bath for thirty-five years, and during the most of this period he was physician to the Mineral Water Hospital. He was also for a time medical officer of health, and was highly esteemed by his brethren. The last number of the *British Medical Journal* contains an interesting account of his views on rheumatoid arthritis written some months ago. His position at the Mineral Water Hospital gave him a large experience with that disabling and painful disease.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE CONGRESS OF BALNEOLOGY—A NEW METHOD OF TREATING WOUNDS—PALPATION BY A SOUND IN THE STOMACH—SCARLATINA ANTITOXIN.

ACCORDING to their yearly custom on the approach of spring, the German balneologists have met and discussed subjects of particular interest to them in their chosen specialty as well as others belonging more to the domain of general medicine. After a day spent by the members in visiting various institutions, the congress was opened in the evening at a session of the Hufeland Society. Prof. Oscar Liebreich was the president of both this society and of the congress. Among other things of interest the members inspected Lassar's dermatological collection and also were present at a demonstration by Litten of an arterial phenomenon, in which by slight pressure on the arterial wall he was able to produce a murmur.

At the opening session Dr. Schleich demonstrated

his new method of treating wounds, which seems destined to mark an epoch in our surgical therapeutics. He first, in the presence of the assembled physicians, removed a piece of the diseased clavicle from a woman, the operation being done under cocaine anaesthesia. Then he applied his new formalin-gelatin dressing. This renders all other forms of antiseptic wound treatment superfluous. By means of the vital activity of the cells formalin is gradually drawn away from its combination in this dressing, and acts in a nascent state with great antiseptic power. Suppurating surfaces are speedily converted into simple uncomplicated wounds, and furuncles, felons, and the like are healed in an astonishingly brief period. Dr. Schleich exhibited a large number of patients whom he had so treated, and his paper received the greatest commendation from all. It remains to be seen how this method will be received by our leading surgeons—better, it is to be hoped, than the same Schleich's method of cocaine anaesthesia, which has never received the approbation which it deserves.

Dr. Boas followed with the description of a new method for mapping out the lower limits of the stomach. He showed that the ordinary flexible sound, when the stomach was empty, applied itself exactly to the greater curvature, and in the majority of cases could be felt here on abdominal palpation and could be followed along its whole length to the pylorus. All other methods of determining the lower border of the stomach give uncertain or fallacious results, while by this sound palpation all danger of error is avoided. This same method is applicable to the determination of the position of the transverse colon, but not yet so perfectly that it can be relied upon for purposes of diagnosis.

In the general session, at which there were many of the four hundred and twenty members of the Balneological Society present, Landolt read a very interesting paper on the new elements argon and helium, two constituents of the atmosphere which are, however, by reason of their chemical inactivity and because of their non-existence in animal or vegetable organisms, of no significance in practical medicine. Schuster, of Aachen, then spoke of the results of the treatment of chronic myelitis with hot baths. Markus, of Pyrmont, read a paper upon the relation of attacks of migraine to meteorological conditions, a subject with which he had had painful personal experience. He believed that the attacks of migraine were called forth by changes in the electrical tension in the atmosphere. Karfunkel, of Cudowa, presented a communication which aroused much interest, upon the electrical conductivity of twenty-six natural waters which he had tested. He stated that every spring was characterized by a special conductivity which was greater in proportion to the amount of salts contained, and was less in waters containing a large amount of carbonic acid gas. This was followed by a paper by Schulz, of Greifswald, on the therapeutic value of sulphur and of sulphur baths, which he had come to regard, as a result of experiments upon himself and his students, as very high.

The "Curative Serum of the Hydropaths" was the title of a paper by Professor Winternitz, of Vienna, in which he discoursed upon the beneficent action of water in the treatment of infectious diseases. The natural internal curative force, strengthened by means of a rational employment of water, was what he denominated the "Autoheilserum" of the organism, through which the latter is assisted in its resistance to disease processes. He attributed to the body, stimulated by the action of the cold or the heat of the water, the capability of forming from its own constituents, so to speak, an antitoxin. In support of this view the speaker said that the same phenomena,

namely, leucocytosis and increased alkalinity of the blood, were produced by a rational "water cure," as by specific therapy. These views received further support in a paper by Strasser on the chemical changes in the blood and urine induced by the action of heat and cold. Klemperer presented a communication on the employment of hydrotherapy in Leyden's clinic. The paper, which was somewhat concise and aphoristic in form, called forth a lively expression of dissent from many speakers. The reader of the paper believed that the chief value of water was in its action upon the nervous system, and that this was mainly in the way of suggestion, that is, by quieting the patients; it was, however, often of excellent service in purely nervous affections. He dwelt upon its mode of application in nervous disturbances, asthma, heart diseases, and catarrh of the stomach.

Another interesting subject discussed was the treatment of pulmonary phthisis. After Winternitz had advanced the claim that he had cured thirty-two per cent. of his cases by hydrotherapy—a favorable result which he attributed to the strengthening of the resisting powers of the organism by water—and others had reported good results from mud-baths and tuberculin injections, Hansemann insisted that a spontaneous cure of tuberculosis was of much more frequent occurrence than we had unfortunately come to assume in this tuberculin period.

The sittings of the congress came to an end after four days, the closing function being a banquet at which many of the ladies of the members assisted.

Dr. A. Baginsky has made a report upon fifty-seven cases of scarlatina treated at the Kaiser Friedrich Hospital by the Marmorek antistreptococcus serum. This serum, a supply of which had been sent to the speaker from Paris by its inventor, acts only against the complications of scarlet fever which are due to the presence of the streptococcus. According to Marmorek, who has treated one hundred and three cases with the serum in doses of from ten to eighty grams, the remedy not only cures the complications but prevents their occurrence. The results of Baginsky's experiments with the serum were as a rule favorable. With the exception of a few cases in which the remedy had absolutely no effect, for example, that of a child with glandular suppuration in whom sixty cubic centimetres had been injected, most of the patients recovered without any complications. The number of cases is yet too small to allow of a definite opinion concerning the value of the antitoxin, but the remedy was employed sufficiently often to show that it is without injurious effects, since no untoward symptoms, such as collapse and the like, were observed.

OUR PARIS LETTER.

(From our Special Correspondent.)

ARTIFICIAL MILKS, USE OF DELETERIOUS—GROCERS AND THE SALE OF MEDICINES—THE LEAGUES OF PARIS—APPROPRIATION FOR LABORATORIES—HEALTH OF THE CITY—THE CHAMBER OF DEPUTIES AND THE DOCTORS.

PARIS, April 1, 1896.

Artificial Milks.—Sterilized milk, maternized milk, Pasteurized milk, and phosphatized milk, are pompous and high-sounding names with which dealers in the lacteal fluid stamp their wares which are recommended as substitutes for natural human milk. Injustice and often injury is done, not only to the child who is nourished by them and who certainly has a right to its mother's milk, but also to the mother herself, who is only truly such when she carries and nurses her child. These are laws of nature that it would be well to promulgate afresh and emphatically, because they

are beginning to be forgotten since numberless interested advertisements, unfortunately often coupled with medical endorsements, are constantly appearing in print, vaunting the merits and advocating the superiority to mothers' milk of sterilized milks, maternized milks, phosphatized milks, naturally or artificially prepared. The public, led into error by reading these artfully prepared notices in the daily press or lay-medical and health journals, end by believing that mothers' milk can be thus easily replaced and without serious objection.

This substitution is nevertheless highly deleterious, and it is a crying injustice to deprive children of their mothers' milk under the fallacious pretext of substituting therefor Pasteurized milk. Pasteurized milk, that is to say, cows' milk passed twice to a temperature of more than 60° C., evidently no longer possesses, after the coagulation of the albumin and a part of the casein, the properties of a good, digestible, and sound milk. It is well known that children brought up on such milk are more delicate and less well-developed than those nursed by their mothers. It is true that some succeed in overcoming this scanty nourishment and thrive in spite of the insufficiency of nutritives when they are of an unusually good constitution and come of remarkably strong and healthy parentage; but many fade and those that do not die grow up delicate or sickly when they might have been vigorous and well developed with their mothers' milk. The robust and buxom peasants too frequently leave the fields to come to Paris and nourish the children of the rich. They are to be had so readily from the Bureau des Nourrices that the Parisian ladies of wealth and fashion rarely accept maternity in its full signification; they accept of it only what they cannot refuse; that is, they give to the child about half what they owe it. If they could have the child carried in the fullest sense of the term by the mercenary woman, most of them would not hesitate a moment to do so.

Maternized milk, a happy name with which to baptize a new production, is simply cows' milk which is modified by the action of cane sugar upon the casein contained therein and thus made to resemble more or less mothers' milk.

Another method of maternizing milk is to add to cows' milk a certain quantity of artificial serum composed chiefly of salt and water. Phosphatized milk is obtained by the addition of the phosphate of soda to cows' milk in the proportion of from fifteen to thirty grains to the litre. Sterilized milk obtained by heat is but another name for Pasteurized milk, of which we spoke above. All these are pretexts for foreign nourishment and it is the duty of every physician to oppose vigorously the generalization of such deleterious substitutions; the more so at the present time, as the warm months are at hand, and the first and second summers of infancy are the ones in which there is the greatest mortality from infantile diarrhoea, cholera infantum, and atrepsia.

Grocers and the Sale of Medicines.—In a country where the laws regulating the sale of drugs by pharmacists are so stringent, it is strange that grocers should be permitted to sell them. We refer to the sale of candies and pastils of santonine by grocers. These famous vermifuge lozenges are a veritable poison, as every physician who is at all familiar with the effects of this powerful alkaloid knows. The law which forbids a pharmacist to sell twenty drops of laudanum without a physician's prescription permits a grocer to distribute santonine thus prepared by the pound. Many serious accidents have occurred in this way and there are other new ones to be found in the *Journal de Médecine de Paris*. Dr. Leo in a valuable article on the subject also cites several. The same may be said of poppyheads, of which decoctions are

imprudently made as sleeping-potions for children and invalids, not only in the country but even in Paris.

The Leagues of Paris.—Leagues seem to be the order of the day. A short time ago the league against cancer was founded by the late Professor Verneuil, Professor Duplay, and others. There were for a time many meetings and papers on the subject, but nothing has been heard of it for some time, although it is still in existence and good work is undoubtedly being done. Individuals too weak to resist by themselves form leagues; that is very natural, but there is danger of going to the other extreme. In the famous Latin Quarter the students of the Faculty of Paris have founded a league against alcohol, the president of which is Dr. Drain, the neurologist. Then there is the league against the abuse of tobacco. Now, if we had a league against making a noise in the streets and against cocottes, the drinking, smoking, and frolicking Quartier Latin would be turned into a sort of austere necropolis, given up to the promenades of water-drinkers and young stoics *fin-de-siècle*.

Appropriation for Laboratories.—M. Audiffred has proposed in the French parliament an appropriation of 250,000 francs for laboratories of investigation, and it is to be hoped that the proposition will be carried. The official laboratories, from which all the best work comes, are often insufficiently supplied with what is really necessary. Moreover, further working-space is needed, as never before were there so many medical students in Paris and never before were the laboratories so crowded. In the École Pratique, where the courses of operative surgery and dissection take place, there has been during the winter just passed a positive dearth of cadavers, something very unusual indeed. The minister of war decided on March 17th that the laboratory of chemistry of the Hôtel des Invalides should be attached to the administration of the service of public health and should have henceforward the name of Laboratory of the Technical Committee of Health. The government seems to be fully alive to this vital question when it can be claimed to-day that battles are won in the laboratory.

The Health of Paris.—The service of municipal statistics has just issued its bulletin for the week—the twelfth week of 1896 according to their reckoning. There were 972 deaths instead of 1,001 during the preceding week, and instead of 1,155, the ordinary average at this time of year. It will be seen then that the sanitary condition of Paris continues satisfactory. Epidemic diseases are rare: typhoid fever caused 7 deaths instead of 20, the average; scarlet fever 3, or just the average number; whooping cough 5 instead of 10, the average; measles 10 instead of 19, the average. There were no deaths from small-pox. Diseases of the respiratory organs and phthisis, as always, were most fatal, there having been 146 deaths from bronchitis, pneumonia, broncho-pneumonia, and pulmonary congestion, and 194 from phthisis, both inferior to the average. Last week there was a slight recrudescence of the grippe, but the cases were all mild and only two deaths occurred.

The Chamber of Deputies and the Doctors.—Until quite recently the tax upon doctors practising in Paris was one-fifteenth of the amount of rent paid. The Chamber of Deputies not long ago passed a law, which has now come into force, assessing all practising physicians one-twelfth of the amount of rent paid. This is called a "patente" and is for the right to practise. The onerous law was passed in spite of an earnest protest by the profession at large, and in spite of the fact that there are many regular physicians in the Chamber of Deputies—some of whom still practise. The bond of confraternity seems to have been dissipated in the political atmosphere of the Chamber, where a fresh tax or increase of an old one and more

money are equally popular. Instead, therefore, of getting the original tax expunged, so that physicians could practise without let or hindrance, they only find themselves more handicapped than ever, and that too by members of their own profession.

A POSSIBLE EXPLANATION OF SUDDEN DEATH AFTER THE ADMINISTRATION OF DIPHTHERIA ANTITOXIN, APPLIED TO THE DEATH OF THE CHILD OF DR. LANGERHANS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—I published in the MEDICAL RECORD of October 19, 1895, a note on the use of carbolic acid as a preservative of diphtheria antitoxin, in which, from my experience in the technique of the preparation of the antitoxin, together with a study of some animal experiments, Dr. Kortright's case, and the literature of carbolic-acid poisoning, I concluded that carbolic acid was too dangerous a substance to use.

The announcement of Dr. Langerhans, of Berlin, that "his son, aged twenty-one months, died suddenly while in perfect health, in consequence of an injection of diphtheria antitoxin," caused me to endeavor to ascertain whether the antitoxin used contained carbolic acid and by whom the antitoxin was prepared.

I sent a cablegram to Dr. Langerhans on Monday afternoon to ascertain these facts. To-day (Tuesday) I have received a reply in which he stated that the antitoxin employed contained carbolic acid and that it was prepared at the Hoechst Farbwerke.

The autopsy as reported in the New York *Sun* of yesterday gave a negative result. This was to be expected, as congestion of the brain, meninges, lungs, liver, and spleen may be the only sign present when a small fatal dose of carbolic acid has been hypodermically injected.

"The minimal fatal dose of carbolic acid is not known" (H. C. Wood, "Treatise on Therapeutics," p. 686, 6th ed.). This I have confirmed experimentally on animals and, moreover, have found the minimal fatal dose to vary.

The amount of carbolic acid employed as a preservative in a ten-cubic-centimetre dose of diphtheria antitoxin is ten cubic centimetres of a five-per-cent. solution. This is equivalent to 0.05 gram, or between three-fourths and four-fifths of a grain of carbolic acid.

The minimal dose for adults is usually considered as one grain, or 0.06 gram. Age modifies the dose. H. C. Wood (*l. c.*, p. 22) recommends the rule of Dr. Young, which, allowing the above-given dose for an adult, would for a child of two years make the dose of carbolic acid one-seventh of a grain. Dr. R. O. Cowling (*American Practitioner*, vol. i.) and Professor Clark (*Boston Medical and Surgical Journal*, 1872) give rules which result in the same proportion.

These deductions, applied to the child of Dr. Langerhans, who was twenty-one months of age, would seem to indicate that he had received about five times the safe dose, and, inasmuch as the minimal fatal dose is unknown, perhaps a fatal dose.

I am aware that a great number of patients have been injected with diphtheria antitoxin and that no ill effects have been reported. Among these, however, are a large number who received antitoxin preserved with camphor and other harmless substances. I have met with no case among this latter class which I could include in this explanation. Moreover, it may be urged that if this explanation were true more cases would have been reported.

It is evident from the above explanation that, if the fatal dose be unknown and variable, in the great majority of cases with ill results the relation of cause and effect is much obscured; also that, the effects of the diphtheria toxin must be excluded, and that it is only such rare cases as those of Dr. Kortright and Dr. Langerhans, which seem to have no ordinary explanation, that can demonstrate the explanation here given. I hope to be able shortly to complete an experimental investigation on the possible causes of sudden death after the administration of diphtheria antitoxin.

C. B. FITZPATRICK, M.D.

50 EAST THIRTIETH STREET, NEW YORK,
April 14th.

Therapeutic Hints.

Spurious Iodoform Gauze containing but one-sixth per cent. of iodoform instead of twenty-five per cent. as called for on the label, has been put upon the market, according to the *Apotheker Zeitung*. Auranthin is used to give to the gauze a bright yellow color.

Ulceration of the Cornea resulted favorably in forty cases treated by Dolgénkov (*Vratch*, No. 48, 1895) with a few drops of a fifty-per-cent. lactic-acid solution. Inflammation and photophobia disappear, and an eschar which forms falls at the end of three or four days.

Camphorated Salol applied on cotton to boils and carbuncles and covered with one of the impermeable protectors diminishes pain and decreases swelling.—BOWEN.

Cystitis.—

℞ Guaiacol. 5
Iodoform 1
Sterilized olive oil. 100
S. Inject one or two grams into the bladder once or twice daily in painful cystitis and tuberculosis.

—COLIN.

Sternutation.—Prolonged sneezing may be checked by injecting spirit of camphor well back into the nostril.—STEWART.

Uterine Leucorrhœa.—Dr. Lirola (*Semaine Médicale*) recommends the following:

℞ Tannic acid. 3 ij
Pure alcohol 1 i.
Beechwood creosote. 1 i
Distilled water 3 viij.
Dose, a tablespoonful in a quart of warm water to be used as a vaginal injection three or four times a day.

How to Remove the Disagreeable Taste of Cod-Liver Oil.—Pavesi's method is to take four hundred grams of oil, twenty-eight grams of roasted and ground coffee, ten grams of pulverized animal boneblack. Heat this mixture to 60° C. in a closed receptacle for fifteen minutes. Let it stand for two or three days, shaking occasionally, and then filter. This leaves a limpid amber oil with the perfume and taste of coffee. Another way is to add to one hundred grams of oil one gram of essence of eucalyptus.—*Gaz. Médicale de Liège*.

Acne.—Boeck says (*Annales de Dermatologie*) dolphin oil inhibits the growth of bacteria in the skin, and consequently he finds the following useful:

℞ Camphoræ 0.30
Acidi salicylici 0.50
Sulphuris precipitatus 10
Zinci oxidi 2
Saponis 1
Olei delphini. 12
M. Make the application each night; wash the face in the morning with soap and warm water.

Society Reports.

TRI-STATE MEDICAL SOCIETY OF IOWA, ILLINOIS, AND MISSOURI.

Fourth Annual Meeting, held in Chicago, April 7, 8, and 9, 1896.

THE society met at the Great Northern Hotel under the presidency of Dr. R. H. Babcock, of Chicago.

Antitoxin and Serum Therapy.—After the transaction of miscellaneous business the PRESIDENT'S address was read. He selected for his subject antitoxin or serum therapy. He traced the efforts that had been made to combat tuberculosis by means of serum therapy, telling of the first discovery that certain animals possess comparative immunity from the disease. Detailing several experiments, he said a more intelligent use of tuberculin showed that the early failures were due to its injudicious employment in too large doses. He next passed on to a personal trial of the remedy, citing the case of a young woman of twenty-one years, whose sister had died of pulmonary tuberculosis and in whom well-marked signs of inactive disease existed in the right apex. The administration of antiphthisin for two months was followed by a gratifying disappearance of the malaise, nervousness, and occasional slight cough. He also treated a male, aged thirty-four, with satisfactory results.

Dr. von Ruck had furnished the speaker with advanced sheets of a report, soon to be published, of one hundred and eighty-two cases of consumption in all stages treated with tuberculocidin and antiphthisin, in which recovery was obtained in thirty-two per cent. of the cases, arrest or marked improvement in thirty per cent., and some improvement in sixteen per cent.

Special Education as a Means of Treatment in Chronic Neurasthenia.—By DR. J. F. PERCY, of Galesburg, Ill. Neurasthenia, he said, is considered the result of an imperfectly used and therefore improperly developed nerve organization. In his city there is an ably conducted kindergarten normal school, and when he has a neurasthenic woman he sends her, if possible, to this school to take the normal course there. The result has been that every case so treated has recovered. In one case cited the right ovary was buried in a mass of exudate beneath the uterus. Electricity and pelvic massage were resorted to for over a year with but little, if any, appreciable result. All treatment was stopped and the woman sent to take a kindergarten normal course, with the result that she is well to-day, so far as any morbid mental phenomena are concerned.

Cancer of the Uterus Complicated by Pregnancy, with Indications for Operation was the title of a paper read by DR. A. H. CORDIER, of Kansas City, Mo., in which the author reported a successful case of vaginal hysterectomy in a woman thirty-two years of age, the uterus being three months pregnant.

In twenty-seven cases tabulated by Dr. Vander Veer, of Albany, five patients had died during labor undelivered, nine had died during the puerperal period, in three cases the results were not mentioned, and ten had recovered, the mortality to mothers being sixty per cent. Another author had reported thirty-four cases of cancer of the uterus complicated by pregnancy, with a mortality of fifty-two per cent.

The author drew the following deductions: (1) Cancer of the cervix uteri, if left without surgical interference, always kills. (2) The disease in most instances is primarily a local process. (3) Early hysterectomy will cure a considerable percentage of these cases. (4) The microscope, while a great diagnostic aid, is not infallible in its findings. (5) The experienced surgeon is warranted in resorting to hysterectomy,

even in doubtful cases. (6) All malignant pregnant uteri should be removed when seen, before the disease has advanced beyond the period of a probable cure.

DR. RYAN, of Galesburg, cited an uncomplicated case of cancer of the cervix which occurred in the hands of another practitioner. The cervix was amputated; the patient was four months advanced in pregnancy. Following the operation she went to full term and the child was delivered without difficulty.

DR. L. H. DUNNING, of Indianapolis, said that if he should find hardening of the cervix and the development of a neoplasm with the presence of discharges sanguineous or offensive in character, even though the microscope failed to reveal positively the existence of malignant disease, he should pursue the course recommended by the essayist.

DR. RUFUS B. HALL, of Cincinnati, thought the whole matter hinged upon diagnosis. When the diagnosis was accurately made it was perfectly clear what should be done. He favored total extirpation, believing that high amputation should only be performed in exceptional cases.

DR. D. C. BROCKMAN, of Ottumwa, Ia., emphasized the importance of early diagnosis. The general practitioner does not understand the importance of irregular hemorrhages occurring in women approaching the menopause, and prescribes a placebo when a radical operation is needed.

DR. BYRON ROBINSON, of Chicago, concurred with the essayist that the microscope alone is insufficient in many cases to enable surgeons to make an accurate diagnosis of malignant disease of the cervix. More stress should be laid upon the clinical history of the case.

Diffuse Pelvic Inflammation.—A paper on this subject was read by DR. L. H. DUNNING, of Indianapolis. The author reported five cases in which vaginal hysterectomy was resorted to for inflammatory disease of the uterus and appendages. In all of the cases, except one, the uterus on removal was not found to be markedly diseased beyond a glandular endometritis. In the two cases in which the uterus and appendages were fixed the operation was most difficult. The uterus in either case was only slightly diseased. The chief pathological lesions were double pyosalpinx and pelvic peritonitis. The operation would have been easy and the results quite as good by the abdominal method. In these cases the appendages were much more inaccessible and less open to ocular inspection than in the abdominal operation. In his experience in clamp cases the pain after vaginal hysterectomy is greater the first two days than after celiotomy. The systemic disturbances, as evidenced by the temperature and pulse rate, do not vary much in the two methods. The temperature after vaginal hysterectomy is lower the first three or four days but is higher after six or ten days, when the sloughs begin to give way. In two cases in which ligatures were employed instead of clamps, abscesses in the stumps of the broad ligament followed, retarding the recovery of the patients. Many cases of abdominal section were done in the hospital during the same time, and in none of them did abscess appear. In one case of the five prolapsus of the vaginal walls appeared a few weeks after the patient began to walk around. This was a ligature case. Such a prolapsus he had never witnessed in a forceps case. In three of the cases the same pain and nervousness followed the recovery as is sometimes witnessed in cases of abdominal section. In two of the cases the pain and nervousness passed off after several weeks, as they usually do after abdominal section.

DR. RUFUS B. HALL said that women should be educated up to the point of avoiding septic infection, suppurating tubes and ovaries, and the young men should likewise be educated to avoid gonorrhœa in order to prevent infecting their wives in future years.

DR. T. J. WATKINS, of Chicago, said that all large pus collections in the pelvis that can be opened and efficiently drained without entering the peritoneal cavity should be treated by incision and drainage through the vagina or above Poupart's ligament. Vaginal hysterectomy should be the operation of election in old backward displacements in which the uterine appendages are destroyed by suppurative disease.

Dysuria in Women.—A paper was read by DR. O. B. WILL, of Peoria, on this subject.

DR. E. O. Sisson, of Keokuk, Ia., followed with a paper entitled "Ulcerative Inflammation of the Cornea." He first dwelt upon the etiology, then passed on to the subdivisions of keratitis suppurativa. Symptomatology and complications were next considered. In the treatment of corneal ulcers the author reiterated the methods laid down in the several text-books.

Pylorotomy in America.—By DR. ALEX. HUGH FERGUSON, of Chicago. The author reported a case of carcinoma of the pylorus upon which he had successfully operated. He recommended pylorotomy for carcinoma of the pylorus for the following reasons: (1) Medical treatment offers a mortality of one hundred per cent. within twelve or eighteen months. (2) Pylorotomy promises a possible cure. In nineteen per cent. of over nine hundred cases dying with cancer of the pylorus no adhesions whatever were found after death; starvation took place before the carcinoma had reached the peritoneum. There would be good prospects of curing most of these. Recovery follows the operation in about fifty per cent. of the cases. By timely interference many cases can be saved that now go on to secondary infection and are doomed.

After opening the abdomen, Dr. Ferguson recommends the performance of pylorotomy thus:

1. Liberate the duodenum from the pylorus, unite its distal cut end to the posterior surface of the stomach with Murphy's button, invert the proximal cut end toward the pylorus, and close with sutures. The great advantage of completing the gastro-duodenostomy first is that the operation can be safely stopped at this stage should the patient show signs of weakening, the abdomen be at once closed, and the removal of the pylorus be left for a second operation.

2. Separate the stomach from the pylorus and close it rapidly with sutures. Should the patient now present alarming symptoms, the surgeon should again cease operating and leave the pylorus *in situ* in the mean time. It would, of course, be necessary to fasten it in the abdominal wound and drain it externally, which would only facilitate its extirpation at another time.

3. Remove the cancerous pylorus. Spend no time in trying to use interlocking ligatures, but apply forceps after forceps and cut the mass away. This done, the application of ligatures can be effected more expeditiously.

Local Treatment of the Eye was the title of a paper contributed by DR. DUDLEY S. REYNOLDS, of Louisville, in which he said that the local treatment of this organ was as much in need of reform and readjustment as any other department of surgery, for there had been little change in prevailing custom for nearly a hundred years. He considered the yellow oxide of mercury very valuable as a local application in nearly all forms of ulceration or abrasion of the cornea and conjunctiva. The tension of the eyeball should be noted in every case of injury, and, if found slightly increased, a solution of eserine should be instilled, a saline purgative administered, and, if the increased tension be accompanied by a sense of pain on pressure upon the globe, it is best to begin with salicylate of sodium or ammonium at once. Hot ablutions are often of great value in cases of irritation of the iris and ciliary body, whether due to constitutional or to local causes.

Criticisms of Sero-Therapy.—DR. PAUL PAQUIN, of St. Louis, Mo., read a paper entitled "Observations on some Criticisms of Sero-Therapy." No department of therapeutics, he said, had called forth so much criticism as sero-therapy. These criticisms had been of two kinds—those based on scientific problems of biology, and those based on clinical effects and results.

As to the beneficial effects of serum, he thought these depend unquestionably in a great measure upon increased phagocytosis. The serum increases the white cells, whose duty it is in part to destroy micro-organisms in tissues and their toxins, probably by a process of cellular digestion, or rather a diastatic neutralization. In a tuberculous man of thirty-five years, in whom the white cells were less than 16,500 per cubic millimetre, they were increased to over 40,000 in seventeen days by the daily injection of two cubic centimetres of anti-tubercle serum. The author obtained a similar result in a rabbit in which he had injected the Roux anti-tubercle serum daily for three days, the dose being one cubic centimetre.

DR. FRANK ALLPORT, of Minneapolis, read a paper in which he pointed out the relations which should exist between ophthalmologists and opticians. He advanced strong arguments in favor of licensing opticians to fit glasses. The fitting of glasses was not a trivial affair, but necessitated in many instances a thorough examination of the eyes by a properly equipped, specially trained medical practitioner.

The Operative Treatment of Jacksonian and Focal Epilepsy, as Illustrated by Selected Cases.

—By DR. CHARLES B. NANCREDÉ, of Ann Arbor, Mich. He said the cases reported demonstrated what had been the experience of Horsley, Keen, and other surgeons; namely, lack of permanency in results. The removal of the discharging lesion in cortical and Jacksonian epilepsy could only be regarded as palliative. The earlier the operation was done after the disease had become established, the longer the immunity. It is possible that if trephining were resorted to early, the operation in a few instances might prove curative, if a reliable method were devised to lessen the inevitable scar and to prevent adhesions between the membranes and brain.

Some Needed Reforms in Medicine.—This was delivered by DR. JOSEPH M. MATHEWS, of Louisville. He first dealt with specialism. Professors in medical colleges should impress upon the minds of students that thorough preparation is necessary to be a specialist, and unless this is done specialism would be brought into disrepute. No man can be a specialist in any department of medicine who has not fitted himself and has had experience in general practice.

Reform is needed in the appointment of medical men to medical institutions. Too often petitions are circulated and signed in favor of men without considering their professional qualifications.

Expert testimony should be raised to a higher plane, and those who testify as experts should receive adequate compensation.

The old rule that applied to consultations does not hold good to-day. At the present time a patient belongs either to the physician or to the specialist, and not to both alike. When a specialist recognizes that a patient does not require his special attention he should call a physician. *Per contra*, when a physician recognizes that a patient needs special attention he should give the patient to the specialist.

As to the Code of Ethics, this document needed no defence from him. Not a man or woman could raise any objection to what is taught therein.

The State Board of Health of Kentucky had succeeded in driving out of the State within the last two years over eight hundred and sixty quacks. This was accomplished by the concerted action of the medical

profession and the representatives in the State legislature.

Early Operations in Appendicitis.—DR. R. HARVEY REED, of Columbus, O., contributed a paper on "Some Practical Reasons for Early Operation in Appendicitis." The following conclusions were drawn: (1) That the appendix vermiformis is a useless rudiment. (2) That chronic catarrhal appendicitis is always dangerous and liable to be followed at any time by hazardous and even fatal results. (3) That medical treatment is of little or no permanent value in this class of cases. (4) That the only safe and reliable method of treating chronic catarrhal appendicitis is the prompt amputation of the appendix. Cases were then reported illustrating the importance of early operative interference and the arguments of eminent surgeons advanced in its favor.

Surgical Tuberculosis.—DR. D. C. BROCKMAN, of Ottumwa, Ia., followed with a paper entitled "Observations in the Treatment of Surgical Tuberculosis." He called attention to three remedies which he had used in the treatment of this disease—guaiaicol internally and iodine trichloride and iodoform emulsion locally. He thinks guaiaicol is an efficient remedy for the septic condition which accompanies tuberculosis, when judiciously used. Iodine trichloride he uses in vesico-tuberculosis. In the management of tuberculous abscesses there is no treatment that could compare with the use of iodoform emulsion.

DR. ELMER LEE, of Chicago, read a paper on the "Treatment of Pneumonia without Drugs." The author had recently instituted in his practice a sprinkling bath, which he illustrated. Pneumonia cases treated by scientific hydropathic measures are convalescent at the end of the first week. Complete recovery is proportionately shortened. It is the author's belief that this method of treatment is the quickest, surest, and best management of pneumonia.

Conservative Surgery in the Treatment of Hemorrhoids.

—By DR. JOSEPH B. BACON, of Chicago. He had found in looking over his records that but a very small per cent. of his operative cases had been purely internal or external hemorrhoids. Patients who were suffering or bleeding sufficiently to cause them to seek medical advice were those who had a mixed form of piles, in which the anastomosing vessels connecting the external and internal hemorrhoidal veins had become varicose, and these dilated veins pressed upon the sensory nerve filaments over the inner border of the external sphincter muscle, causing pain and prolapse of the internal hemorrhoids. A segment of the varicose system of veins must be removed, one segment on each side of the anus being sufficient. Remove those hemorrhoids that are causing the discomfort together with the external or skin tags, and the patient is cured, and only a small surface of either skin or mucous membrane had been disturbed. The ligature, clamp, and cautery, or crushing method, according to the choice of the surgeon, would answer the purpose.

Leucocytosis—Its Relation to Modern Therapy.

—This paper was read by DR. THOMAS O. SUMMERS, of St. Louis, Mo.

DR. ALEXANDER C. WIENER, of Chicago, exhibited cases of spastic torticollis treated with an extension apparatus combined with corsets.

DR. GUSTAV FUETTERER, of Chicago, described a method of treating gonorrhœal infections of the knee-joint by injections of oil of sandalwood. He employs the best preparation of this kind made and his results have been gratifying.

Clinics.—Clinics were given at the Post-Graduate Medical School by Dr. J. B. Murphy, before the members of the society; at Rush Medical College by Drs. J. H. Dtheridge, Fernand Henrotin, and Nicholas Senn.

The following officers were elected for the ensuing year: *President*, Dr. A. H. Cordier, Kansas City, Mo.; *First Vice-President*, Dr. Hugh T. Patrick, Chicago, Ill.; *Second Vice-President*, Dr. H. C. Eschbach, Albia, Ia.; *Secretary*, Dr. George W. Cale, St. Louis, Mo.; *Treasurer*, Dr. C. S. Chase, Waterloo, Ia.

St. Louis was selected as the place for the next meeting.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, April 9, 1896.

WALTER LESTER CARR, M.D., CHAIRMAN.

Some Considerations of Rachitis.—DR. A. JACOBI, in the course of a paper on rachitis, referred to the view held by several authors that rachitis was dependent upon syphilis in the parents or child, but in his opinion the relationship, if any existed, did not differ from that existing between rachitis and any constitutional condition which reduced the general health. It was a mistake committed by some physicians that they looked for the manifestations of rachitis only in the bones. In reality it spared few tissues; the muscles were weak and flabby, the spleen was enlarged, the lymph organs were likely to be altered, there was leucocytosis. He had several times seen grave rachitis complicated by pseudo-leukæmia. The deposition of lime in the bones in rachitis was diminished or altered, and there might even be resorption and softening of parts which had already become calcified. In infants the first change in the bones was seen in the cranium, more especially in the occipital region and along the sagittal suture; next along the lambdoidal, for at this age the brain with its osseous envelope was undergoing most rapid development. The occipital portion of a skull was presented, in which many spots showed absence of bony deposit when held up to the light. The increased size of the arteries in rachitis resulted in slacking the circulation and contributed to swelling of the viscera, to which they were already predisposed by the succulence and expansibility of their tissues. The cerebral murmur which could be heard in these patients seemed to be caused by the large carotid artery being compressed in its bony channel before it entered the cerebral cavity. If the health were restored and the disease arrested, the increased size of the brain might leave the children brighter and smarter than their schoolmates. On the other hand, the cranial tabes might lead to internal or external hydrocephalus. While a certain amount of hydrocephalus was not unusual, it seldom went to the second stage. The changes in the long bones in cases terminating favorably might result in increased size and strength.

Hypertrophy of the heart was likely to be diagnosed in rachitis, but the cardiac dulness was unusual in extent simply because the thorax was out of shape, the chest being either triangular, quadrilateral, or flattened, and the heart touched a larger surface than in the normally elliptical chest.

There was no direct relation between rachitis and tuberculosis, yet rachitical children were apt to become tuberculous, no matter what the cause of the rachitis might be. There were several reasons for this: the rachitical chest was narrower than normal, the lungs had less space for expansion, there was consolidation of the sternum; interference with respiration and sanguinification led to peribronchial hyperæmia, epithelial and catarrhal changes; foreign bodies, including microbes, entering the bronchi were not expelled. Thus these patients had frequent attacks of bronchitis,

perhaps lobular pneumonia and tuberculosis. Swelling of lymphatic glands was secondary, and was rarely seen in uncomplicated rachitis.

Nervous symptoms were frequent. Insomnia was common, and many patients slept better carried about on the arm, for as soon as they were laid down the brain became hyperæmic. Sometimes they were bad-tempered to the degree of moral or intellectual insanity. Hydrocephalus had been mentioned. A large proportion of cases of laryngismus stridulus were due to cranial tabes, although this was doubted by some. Commenting on the three phenomena said to be characteristic of tetany—the electrical, the facial, and the popliteal phenomena—Dr. Jacobi said that all three often disappeared under antirachitical treatment. Rachitical pseudo-paralysis he attributed to muscular deficiency. When nystagmus existed it was usually bilateral, and there was apt to be motion of the head in the same or opposite direction. Scoliosis was very common, and this was favored by the habit of carrying the infant in one position on the arm and the malposition assumed in school. Resurrection was preached only from the pulpit, while nothing was said about that effected by fresh air, hygienic conditions, and proper food.

Renal disorders were not at all uncommon. Constipation which could not be accounted for in other ways should excite a suspicion of rachitis, and unless relieved at once by antirachitical treatment the diagnosis would be confirmed after a while by the appearance of other symptoms of rachitis.

The use of Pasteurized and modified milk had been attended with certain advantages, but it was a mistake to suppose that this alone would prevent rachitis and preserve good health. The author did not enter far upon the subject of treatment, but referred incidentally to the indication for phosphorus and change of food.

A Case of Rachitis in an Infant Breast-Fed.—DR. H. D. CHAPIN presented a child, then two years old, which had been under his observation a year or longer, but the parents were very poor and ignorant, and allowed the child to remain in their narrow rooms, almost entirely deprived of light and change of air. The result had been that in spite of having breast milk it had developed rachitis, which manifested itself more especially in the bones of the thorax, in pseudo-muscular paralysis, atelectasis, and some kyphosis.

DR. AUGUST CAILLÉ said we had heard from the author about the association of rachitis, syphilis, and tuberculosis—three chronic ailments which were met in various manifestations almost daily. Syphilis and tuberculosis were due to specific microbes, while rachitis had no such causative factor, but was a pronounced type of malnutrition. Syphilis and tuberculosis, if they did not kill in early life, might in later life seriously damage the organism, whereas rachitis showed a decided tendency to heal.

He had that day seen a case of pseudo-paralysis due to rachitis which had been mistaken for paralysis of nervous origin, but careful examination would usually show signs of rachitis and the true nature of the muscular weakness. Physicians ought also to be careful not to mistake acute epiphysitis of rachitic origin for rheumatism. Both were attended by pain on movement, but the presence of cranial tabes, sweating, and constipation would show rachitis. Most cases of laryngismus stridulus which he had seen had been in rachitical children.

The family physician should not alone see that the child was properly nourished after birth, but should give directions to the pregnant woman to partake of sufficient albuminous and other food. Taking the mother's milk was not in itself proof that the infant was being properly fed, for analysis sometimes showed

that such milk did not contain the proper proportions of fat, albuminoids, and other ingredients. It was always a question whether the infant should continue to nurse after the mother began again to menstruate, for it was known that during menstruation the milk was changed. The milk should be examined both chemically and microscopically.

DR. CHAPIN said he did not mean in presenting his case to say that the baby had got absolutely the right kind of food, but simply that the preponderating factor in producing the rachitis was bad surroundings, and that this would produce rachitis as well as bad food. It was not true, either, that we could by analyzing food say positively that it would agree with the child. Food contained a certain vital element which no analysis had yet revealed, so that an infant might thrive on a given kind and not on another, which so far as we could determine by analysis was quite similar. Incipient rachitis was common in this city among all classes, although the more advanced cases were seen oftenest in the tenement houses. It was important to strip the patient of all clothing during the examination. In most or all cases there was some enlargement of the costal articulations. These patients would sweat at the head while the body was hot and dry, they kicked off the bedclothes, the equilibrium of the nervous system was easily disturbed, they were liable to convulsions, the teeth might appear too early or too late, there was often persistent cough, indigestion, etc. Rachitis aggravated other ailments, some of which were named.

Rachitis a Varying Picture.—DR. F. M. CRANDALL said he had once had occasion to see a great many cases of rachitis, and had been surprised to find that it showed itself so unequally in different parts of the body in the different cases: in one it manifested itself most in the cranium, in another in the joints, in others in the chest. It was easy to overlook a mild case unless it were examined in a critical way. There was never a greater error than the belief that rachitis was simply a disease of bones. The muscular system and nearly all of the organs of the body were affected. Fat was a most important element in the diet of young children, and was almost always deficient in quantity in the mother's milk in cases of rachitis. The value of cod-liver oil was well known.

DR. A. B. JUDSON remarked that the absence of deformity of the legs in Dr. Chapin's case might be accounted for by the fact that the child had never put its weight upon them. As an example of great strength in those who had had rachitis in early life, he mentioned the case of a powerful sailor whose legs were so deformed that he was called "duck toe."

DR. ACHILLES ROSE mentioned the relationship, referred to by several authors, between rachitis and scurvy.

The Chairman, DR. CARR, emphasized the fact that nursing a child was not proof that it was receiving suitable food; also the fact that rachitis might show itself in the muscular and nervous systems and other organs as well as in the bones.

DR. JACOBI said that when he had first seen modified milk used by Dr. Rotch he was so favorably impressed with it that he took steps to have it introduced into New York by the Boston firm. There could be no doubt that such milk and that which was Pasteurized had done much to check intestinal disorders. But certainly it was not all that we would wish as an artificial food, for he had seen quite a number of cases of rachitis in babies fed upon it. This had to be prevented by the addition of oatmeal or barley and animal broth. If the child were constipated, give oatmeal; if diarrhoea existed, give barley. He did not allow a baby to go beyond the sixth month without animal broth. The first year of life was the making of

the man or woman, for it was this period which largely determined the future growth of the viscera as well as of the bones and muscles.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 11, 1896:

	Cases.	Deaths.
Tuberculosis.....	259	119
Typhoid fever.....	3	0
Scarlet fever.....	120	7
Cerebro-spinal meningitis.....	3	5
Measles.....	493	28
Diphtheria.....	254	30
Small-pox.....	0	0

"Case for Operation" is an intelligent partial diagnosis which should be made in some cases. I do not believe in carelessly opening the living human body as a child breaks his toy, just to see "what's inside," but if there are logical grounds to suspect that there is something inside which ought to come out, delay can rarely be productive of good.—LILIENTHAL.

Typhoid.—Every fatal case of typhoid is, in fact, a violent death, an example of water poisoning, and should be the subject of sanitary inquest.—ERNEST HART.

Dr. G. H. Cantyler died recently in St. Petersburg at the age of ninety years. He was for fifty-six years director of the Children's Hospital in St. Petersburg.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

THE PRACTICE OF MEDICINE. By Marvin A. Curtis, M.D. 12mo, 367 pages. Boericke & Tafel. Philadelphia, Pa. Price, morocco, \$2.00.

DIETS FOR INFANTS AND CHILDREN IN HEALTH AND DISEASE. By Louis Starr, M.D. 12mo. W. B. Saunders. Philadelphia, Pa. Price, \$1.25.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. SEVENTH SESSION, 1895. 8vo, 222 pages, illustrated.

ELECTRICITY IN ELECTRO-THERAPEUTICS. By E. J. Houston and A. E. Kennelly. 12mo, 402 pages, illustrated. The W. J. Johnston Co. New York. Price, \$1.00.

CLINICAL LECTURES ON ABDOMINAL SURGERY AND OTHER SUBJECTS. By Charles T. Parkes, M.D. Edited by Dr. A. J. Ochsner. 8vo, 477 pages, illustrated. The W. T. Keener Co. Chicago, Ill. Price, \$4.00.

CONSUMPTION, ITS NATURE, CAUSES, AND PREVENTION. By Edward Playter, M.D. 12mo, 343 pages. E. B. Treat. New York.

AN INQUIRY INTO THE DIFFICULTIES ENCOUNTERED IN THE REDUCTION OF DISLOCATIONS OF THE HIP. By Dr. O. H. Allis. 8vo, 171 pages, illustrated.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM, ANUS, AND CONTIGUOUS TEXTURES. By S. G. Gant, M.D. With chapters on "Cancer" and "Colotomy" by Herbert William Allingham, F.R.C.S. Eng. 8vo, 400 pages, illustrated. Cloth, \$3.50 net; half-russia, gilt top, \$4.50 net. The F. A. Davis Co. Philadelphia, Pa.

DON'TS FOR CONSUMPTIVES. By Dr. C. W. Ingraham. 12mo, 218 pages.

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Original Articles.

THE BLOOD CORPUSCLES IN DIPHTHERIA; WITH ESPECIAL REFERENCE TO THE EFFECT PRODUCED UPON THEM BY THE ANTITOXIN OF DIPHTHERIA.*

By JOHN S. BILLINGS, JR., M.D.,

ASSISTANT BACTERIOLOGIST, NEW YORK HEALTH DEPARTMENT.

THE following investigations were instituted primarily in order to determine, if possible, the effect produced upon the blood by the subcutaneous injections of diphtheria antitoxin and its accompanying horse-blood serum. Especial attention has been paid to the red corpuscles, as the greater part of the work done by previous observers upon the blood in diphtheria, has been limited to the leucocytes. The question as to the etiology of the leucocytosis observed in diphtheria and the source whence it is derived, has not been touched upon. Those interested in that subject, together with the question of hyper- and hypoleucocytosis, are referred to the articles by Ewing and Morse hereinafter quoted. An article by Ewing on "Toxic Hypoleucocytosis" (*New York Medical Journal*, March 2, 1895) also gives an excellent review of the subject, together with some original experiments.

The investigations of the blood in diphtheria have been comparatively few, and, as stated, have been confined largely to studies of the leucocytes.

Bouchut in 1868 was the first to note an increase in the leucocytes in the blood in diphtheria. The first published observations were those of Bouchut and Dubroisay.¹ They reported twenty-four cases of diphtheria and membranous croup, and found a distinct diminution in number of the red corpuscles in all their cases.

In seven the count was below 4,000,000 per cubic millimetre, and the average of all the counts in all the cases was 4,461,543 per cubic millimetre. As this last figure doubtless included the counts made at the beginning of the illness as well as those made in convalescence, the diminution noted at the height of the disease must have been considerable. Unfortunately for comparison, the authors gave only one average count for each case. The leucocytes were found to be markedly increased in number in almost every case.

Cuffer² made counts of the red and white corpuscles in fifteen cases of diphtheria. In all of his cases but one the number of red corpuscles was above 5,000,000 per cubic millimetre. He therefore concludes that there is little if any diminution in the number of red corpuscles in diphtheria. On examining his table, we find that a second count was made in only one case; in that one the red corpuscles fell over 1,000,000 per cubic millimetre in two days. It is also to be noted that in three of his cases the red corpuscles reached the remarkable figures of 7,451,000, 7,251,000, and

7,852,980 per cubic millimetre respectively. So that it is an open question whether his counts are not all from one to two million per cubic millimetre higher than they should be. This would make the majority of his cases show an anæmia. He found the leucocytes above normal in only six out of the fifteen cases. This is curious, considering the high counts of the red corpuscles above referred to.

Bouchut³ in 1879 made one hundred and seventy-seven examinations of the blood in diphtheria, following some of the cases throughout their course. He did this to confirm his first results, which had been contradicted by Cuffer. He reports only twenty-seven of the one hundred and seventy-seven observations, thinking this number sufficient to uphold his views.

Four cases were followed throughout. In one there was no reduction in the number of the red corpuscles; this was a very mild case. In the other three cases there was a reduction of from 610,000 to 1,100,000 per cubic millimetre. He also reports seven observations in single cases. In all but one of these the number of the red corpuscles was below normal; *i.e.*, 5,000,000 per cubic millimetre. He found the leucocytes to be increased in number in the majority of the cases, and states positively that the degree of leucocytosis is directly proportional to the degree of septicæmia; no septicæmia, no leucocytosis, and *vice versa*. Yet in this very article he reports a fatal septicæmic case showing no leucocytosis; this is directly contradictory to the statement above quoted.

Pee⁴ found a leucocytosis in diphtheria, but not so marked as in simple follicular tonsillitis.

Rieder⁵ noted the presence of a leucocytosis in diphtheria, but doubted the possibility of any knowledge of the same being of prognostic value. In his cases the leucocytosis disappeared promptly when convalescence began.

Reinert⁶ reported one case of diphtheria as follows:

	Reds.	Whites.	Large Leucocytes.	Small Leucocytes.	Hæmoglobin.
Third day,	5,050,000	5,763	91	22	92%
Sixth day,	4,398,000	7,700	111	39	87%

A distinct diminution in the number of the red corpuscles and amount of hæmoglobin took place between the third and sixth days. It is curious that no leucocytosis was noted. The relative numerical proportions of the various forms of leucocytes was about normal, the smaller forms being twenty and twenty-four per cent. respectively.

V. Limbeck⁷ noted the presence of a leucocytosis in diphtheria, as also did Halla.⁸

Felsenthal⁹ reported the results of the examination of the blood in eight cases of diphtheria. He could make out no reduction in the number of red corpuscles nor any changes in their morphology or staining reactions. He found a leucocytosis in all cases, reaching in one instance the enormous sum of 148,229 per cubic millimetre. He found the relative numerical proportions of the various forms of leucocytes to be the same as in pneumonia; *i.e.*, an increase in the so-called polynuclear forms. The leucocytosis disappeared coincidentally with the inflammatory phenomena. In one

* A Report to H. M. Biggs, M.D., pathologist and director of the Bacteriological Laboratory, Health Department, New York City.

case the leucocytes contained basophilic granulations; these he held to correspond with the "mastzellen" of Ehrlich. This subject will be discussed later.

Gabritschewsky¹⁰ was the first to investigate the effect of the diphtheria antitoxin upon the blood corpuscles. He examined the blood in fourteen cases and found a leucocytosis in all of them. This leucocytosis diminished progressively after the use of antitoxin in twelve cases. In two of the fatal cases the number of leucocytes increased after the administration of the antitoxin.

His most important conclusions are that the leucocytosis of diphtheria can be distinguished from that of many other infectious diseases (how, he does not state) and that a steady rise in the number of the leucocytes is usually of bad omen.

Morse¹¹ examined the blood in thirty cases of diphtheria, only one examination being made in each case. The red corpuscles were normal or above in twenty-one cases; below normal in nine cases. The hæmoglobin was not estimated. A leucocytosis was present in all but four cases, two of the latter being convalescent. Differential counts showed the increase in number of the leucocytes to be chiefly in the so-called polynuclear forms—a simple inflammatory leucocytosis. He believes the leucocytosis to be due to the absorption of toxins and that so many factors enter into the question that no information of prognostic value is to be gained from examinations of the blood.

Ewing¹² reports fifty-three cases of diphtheria which he followed throughout as far as possible. All of these received injections of antitoxin; the number of "units" is given, but not the amount of serum injected. In several instances he has simply given the strength of ten cubic centimetres of the serum, omitting the number of cubic centimetres given. This of course tells us nothing. Of these fifty-three cases, all but four showed a leucocytosis at some time in their course (10,000 per cubic millimetre or above). The four cases in which the number of the leucocytes was normal were all mild and speedily recovered. His differential counts agree with those of Morse and Felsenthal (*l. c.*). In one case the lymphocytes were markedly increased; thirty-two and thirty-five per cent. on two occasions. This the author calls a lymphocytosis. In those cases showing no leucocytosis, the larger mononuclear forms were increased, with a corresponding diminution in the percentage of the lymphocytes. His most important conclusions are as follows:

"In favorable cases, after the injection of antitoxin, the leucocytosis never again reaches its original height." In severe cases "an injection of antitoxin may be followed immediately by rapid hyperleucocytosis or extreme hypoleucocytosis and death." "Antitoxin, within thirty minutes after its injection, causes a hypoleucocytosis," the reduction being chiefly in the uninuclear forms. "The staining reaction of the leucocytes is an accurate measure of the severity of a diphtheritic infection, and variations in this reaction often precede changes in other symptoms." The multinuclear leucocytes in favorable cases after treatment with antitoxin show increased affinity for gentian violet. Absence of this change twelve hours after injection makes the prognosis unfavorable. He also dwells upon the occurrence of "pseudo-eosinophile" granules in the protoplasm of the leucocytes. This subject, together with that of the poor staining of the nuclei, will be referred to later in this report.

As regards the effect of injections of serum upon the blood, the literature of such investigations as are adapted to our purpose is very scanty. The various text-books of physiology speak of the destruction of the red corpuscles after transfusion and even after in-

jection of serum, but no references or experiments are given. The most recent contribution to the subject is that of Chapin.¹³ He investigated the effect of prolonged injections of horse serum upon the number of red corpuscles and percentage of hæmoglobin in rabbits, guinea-pigs, and other animals. He himself says that his experiments are inconclusive, but that serum injections as ordinarily employed in therapeutics have little effect upon the corpuscles.

In the following series of observations three classes of cases were examined; those of diphtheria with and without antitoxin and those of healthy children injected with antitoxin for immunizing purposes. The cases of diphtheria without antitoxin were those reported from the various dispensaries. All of these cases were apparently mild when first seen; otherwise they would have been injected with antitoxin. Several, however, became severe, and in two cases antitoxin was administered because of the severity. The blood counts in these two cases have been omitted. The cases of diphtheria receiving antitoxin were all seen at the Willard Parker Hospital, and thanks are due to Dr. Somerset, the resident physician, for his unfailing courtesy and cordial assistance. The cases which received antitoxin for immunizing purposes were seen at the New York Juvenile Asylum. Several cases of diphtheria had developed there, and all the inmates were immunized. The injections were given by Dr. Studdiford, one of the inspectors of the health department. The antitoxin used in all these cases was that prepared at the laboratories of the Board of Health. The varying amounts and strengths are given in the tables. The regulation Thoma-Zeiss instrument was used for counting the corpuscles. In counting the red cells, the blood was diluted two hundred times with Toison's fluid (sodium chloride 1, sodium sulphate 8, Bower's glycerin 30, water 160, methyl violet .025) and the number of corpuscles counted in one-half the entire number of squares. This was repeated in a second specimen, thus obtaining a fair average. Toison's fluid preserves the shape of the red corpuscles and for a longer time than simple salt solution or any of the diluents advised by other investigators. The large Zeiss mixer was used in counting the leucocytes, the blood being diluted ten to twenty times with one-third per cent. acetic acid, and the number of leucocytes in four entire fields being taken. The acetic-acid solution dissolves away all the hæmoglobin from the red corpuscles, thus rendering them invisible, and brings out the nuclei of the leucocytes quite sharply. In several of the cases the six-per-cent. salt solution tinged with gentian violet as advised by Ewing was used. The nuclei of the leucocytes being stained, they are of course more easily recognizable, but the blood has to be diluted from one hundred to two hundred times in order to prevent the red corpuscles from completely hiding the leucocytes. This of course increases greatly the liability to error. The percentage of hæmoglobin was estimated by means of a v. Fleischl hæmometer, two specimens being taken in each case.

The specimens for microscopical examination were made by the double-cover-glass method and after drying in the air for one to two hours were hardened in one of three ways—by heating for two hours at 140° C. according to Ehrlich, by keeping them for one to two hours in a mixture of equal parts of absolute alcohol and ether, or for the same length of time in a saturated aqueous solution of bichloride of mercury. Each one of these methods was used in every case, and on the whole the alcohol-and-ether mixture gave the best results. In some of the cases the specimens were immediately passed through the flame of an alcohol lamp while still moist, and then hardened as above. The majority of the specimens were stained with a

modification of the triple stain first used by Ehrlich. The writer has found the following to be the best method for its preparation: First make saturated solutions of the following stains in hot distilled water: (a) orange green, extra; (b) acid fuchsin, extra (Rubin); (c) crystallized methyl green. Let them settle for two days and then with a clean dry pipette take of (a) 55 c.c. and of (b) 50 c.c. Add to these distilled water 100 c.c. and absolute alcohol 50 c.c. After thoroughly shaking the above mixture, add the following solution drop by drop, shaking thoroughly between each drop: saturated solution of methyl green (c) 65 c.c., distilled water 50 c.c., and absolute alcohol 12 c.c. Allow the stain to stand two weeks before using and then take from the middle of the bottle with a perfectly dry pipette. It will keep indefinitely, apparently improving with age. To use it, simply put one or two drops on the cover glass and allow to remain for four or five minutes, wash thoroughly in water, dry between filter paper, and mount in balsam. The above is simply a rough working-formula, and the stain often has to be made up three or four times before it proves satisfactory. It must be made for a definite purpose, and has to be experimented with in order to make it suitable for such purpose. For instance, if the object of study be chiefly the red corpuscles, the proportions of methyl green and acid fuchsin should be relatively small: the red cells then take on a clear orange stain and changes in their staining-reaction can be more readily made out. To study the leucocytes, on the other hand, the amounts of the two stains above mentioned should be relatively large in order to bring out the nuclei and granules. In certain cases the specimens were also stained with eosin and methylene blue, methylene blue alone, eosin-hæmatoxylin (Ehrlich's acetic-acid mixture), Ehrlich's dahlia solution and safranin. Further reference to these will be made later on.

The estimation of the relative numerical proportions of the various forms of leucocytes was made by counting a certain number of leucocytes in specimens stained with the above-mentioned triple stain. From two hundred and fifty to one thousand leucocytes (an average of five hundred) were counted in each case, the counting of the same leucocyte twice being

avoided by the use of the mechanical stage. This is a tedious process it is true; an objection often urged against it. But so far no other reliable method for accomplishing the same purpose has been advanced. Elzholz¹⁴ has proposed a method which is theoretically perfect. He uses the large Zeiss mixer, diluting the blood ten times only. His solution or solution dissolve away the majority of the red corpuscles, and the leucocytes are stained with gentian violet and eosin. They are then counted on the Thoma-Zeiss counting-stage as modified by Zappert; this has nine times the area of the form ordinarily used. In practice this method is very disappointing, as the solution of the red corpuscles is either carried too far or not far enough. Ewing also makes his differential counts with the hæmocytometer, using six-per-cent. salt solution tinged with gentian violet, and a dilution of 1-100. The writer has not been able to make satisfactory differential counts in this way. The only forms to be differentiated are large and small leucocytes and eosinophiles. The nuclei of the polynuclear forms are often contracted into a ball and are very hard to distinguish from the true mononuclear forms, while the differentiation of a large lymphocyte and a moderate-sized mononuclear is impossible. In the following tables the leucocytes are grouped under four heads: (P) So-called polynuclears—those forms with polymorphous nuclei and neutrophilic protoplasm, or rather neutrophilic granules in the protoplasm. A short description of these granules will be given later. (L) Large and medium-sized mononuclear forms, and the so-called transition forms, with incurved nuclei. The true sign of transition is probably the appearance of granules in the protoplasm of these cells. (S) Small mononuclear forms and lymphocytes. These forms are distinct, but their differentiation is not always possible, so that they are grouped together. (E) Eosinophiles—cells with polymorphous nuclei and coarse refractive granules which show an especial affinity for eosin and other acid stains.

For the sake of brevity the above letters (P, L, S, and E) are used at the heads of the columns showing per cent. of the various forms in the different tables.

TABLE I.—CASES OF DIPHTHERIA TREATED WITHOUT ANTITOXIN.

No.	Name.	Age	When Seen and Character of Illness.	Date and Hour of Examination.	Red Corpuscles.	Leucocytes.	Hæmoglobin. Per Ct.	Leucocytes. Per Cent.				Stained Specimens.
								P.	L.	S.	E.	
1	B. M.	6	First seen July 25. Ill two days. Membrane on both tonsils; temperature, 103.2° F. Case of moderate severity.	July 25	6,112,000	14,800	94	79.6	7.2	12.9	.3	See remarks.
				26	5,792,000	21,600	91	78	11	11	0	
				29	4,072,000	18,700	81	80	8	11	1	
				August 2	4,448,000	19,200	78	80	8	11	1	
				6	4,960,000	11,600	83	72.6	6.4	12.1	.9	
2	J. M.	2½	First seen August 7. Ill one day. Membrane on right tonsil; no fever. Mild case.	August 7	5,433,000	12,800	88	76.3	9.3	15.6	.8	See remarks.
				8	5,640,000	13,800	96	71	7.3	18	1	
				10	5,170,000	15,000	90	78	10	11	2	
				13	5,260,000	18,000	88	81.2	8.6	9.8	.4	
				17	5,476,000	10,100	88	68	16	15	1	
3	G. W.	3	First seen August 13. Ill two days. Membrane general; bad diarrhoea; temperature, 102° F. Severe case.	August 13	5,632,000	18,700	98	79	11	10	1	See remarks.
				15	4,416,000	9,200	68	77	4	18	1	
				17	4,371,000	14,400	68	80	8	12	0	
				19	4,896,000	21,700	74	83	4	13	0	
				22	4,192,000	9,000	68	78.6	9.3	11.1	.2	
4	L. L.	8	First seen August 24. Ill one day. Membrane general; temperature, 104° F. Severe case; anti-toxin given on sixth day.	August 24	4,762,000	11,100	81	77	4	18	1	See remarks.
				25	5,200,000	22,800	96	80	8	12	0	
				27	4,980,000	20,200	92	75	6	18	1	
				29 a.m.	4,870,000	18,300	91	78	9.1	12.5	.1	
				p.m.	4,620,000	28,000	87	77	11	12	0	
5	A. S.	5	First seen August 26. Ill one day. Membrane on both tonsils; no fever. Mild case.	August 26	5,800,000	12,500	98	74	5	20	1	See remarks.
				28	5,670,000	13,300	96	88.2	7.3	4.3	.2	
				30	5,810,000	11,000	96	80	8	12	0	
				September 6	5,573,000	7,600	98	75	6	18	1	
				August 28	6,496,000	34,000	100	78	9.1	12.5	.1	
6	D. H.	2½	First seen August 28. Ill one day. Membrane general; temperature, 103.6° F. Severe case.	September 2	5,800,000	17,000	90	77	11	12	0	See remarks.
				4	5,324,000	22,000	78	75	9	15	1	
				7	4,810,000	16,300	72	78	9.1	12.5	.1	
				12	5,080,000	15,400	72	77	11	12	0	
				19	5,984,000	11,000	76	75	9	15	1	
7	J. G.	18	First seen November 19. Ill five days. No membrane, but general infection.	November 19	4,561,000	17,300	70	78	9.1	12.5	.1	See remarks.
				20	4,896,000	18,500	69	77	11	12	0	
				21	4,608,000	14,000	71	75	9	15	1	
				26	4,981,000	10,800	73	78	9.1	12.5	.1	
				30	5,260,000	9,600	76	75	9	15	1	

Remarks on Table I.—In the seven cases tabulated above the patients were all seen at their homes. The treatment was of the simplest description; in all the cases but one it consisted of a tonic of tr. ferri chlor. and strychnine, and when the age permitted a simple gargle. As previously stated, all the cases were apparently mild when first seen, but three out of the seven became quite severe. In five cases there was a distinct fall in the number of the red corpuscles per cubic millimetre. The two cases showing no fall were both very mild, one (VII.) showing no membrane at any time. The diminution in the other cases ranged between 470,000 by the third day (II.) and 2,040,000 by the sixth day (I.). A word may be inserted here as to the limitations of the Thoma-Zeiss instrument. If used by different observers, especially if they are not using it constantly and as a matter of routine, the results may vary widely. Under the most favorable circumstances, when the various stages are all carried through by the same person and that person is thoroughly skilled in the use of the instrument, the limit of error may be markedly reduced, but it has always to be taken into account. In the case of the red corpuscles we should consider two counts within 200,000 of each other as practically the same. It is more difficult to determine the limit of error as regards the leucocytes. In the present series of observations it has been put at three thousand. Another question to be considered is what constitutes the normal number of the corpuscles, white and red. The personal equation enters into the question and each observer should determine his own normal standard. It is therefore enough to say that any number below 10,000 per cubic millimetre has been taken for the normal number of leucocytes and above 5,000,000 per cubic millimetre for the red corpuscles. The high count of the red corpuscles in some of the cases here reported is rather surprising, and it is possible that the normal for infants has been set too low. In these seven cases the diminution in number of the red corpuscles would seem to be directly proportionate to the severity of the case, as inspection of the table will show. As a rule, no marked diminution could be made out until after the third or fourth day; possibly corresponding to the production of the toxins and their entrance in quantity into the blood. In the four severe cases the number of the red corpuscles had not returned to normal when observation of them ceased. In Case II., a mild one, the number of the red corpuscles returned to normal in about ten days; in Case V. there was no fall, and Case VII. exhibited a steady rise from the beginning of observation.

Stained specimens were examined for evidences of degeneration or destruction of the red corpuscles. So far as our present knowledge of the subject goes, the following are the signs of such changes.

1. Diminution in number.
2. Variations from the normal in shape (poikilocytosis).
3. Variations from the normal in size (schizocytosis).
4. The presence of free pigment in the blood (melanæmia).
5. Variations from the normal in staining-reaction.
6. Presence of nucleated red corpuscles.

The last-mentioned sign (6) is truly an evidence of regeneration, but so far as is known, occurs only where such regeneration is secondary to preceding degeneration. (Exception is made of leukæmia and of the blood of very young children.)

The blood in severe secondary and pernicious anæmia always shows the presence of red corpuscles which, when stained with the triple stain, take on a violet instead of an orange tint. This is due to a loss of affinity for the acid components of the stain (acid

fuchsin and orange green) and an increased affinity for its basic component (methyl green). In a word they are neutrophilic; *i.e.*, take up a combination of the three stains, and from this fact have received the name "polychromatophilic" red corpuscles. The protoplasm of almost all of the giant nucleated red corpuscles seen in pernicious anæmia show this staining-reaction, as do also a smaller number of the ordinary nucleated red corpuscles. For this reason it is disputed whether this phenomenon is degenerative or regenerative in character. For our purpose it is enough to know that it always accompanies degeneration. To bring it out distinctly, the specimens should be heated for only one hour at 120° C., and the stain must contain a relatively small proportion of acid fuchsin.

Changes in shape (2) and in size (3) are rarely observed unless the anæmia be quite marked, 3,000,000 per cubic millimetre or under. The writer has never observed the presence in the blood of what he could convince himself was free pigment. It has been stated to occur in cases of rapid destruction of the red corpuscles, as in pernicious malarial fever for instance.

In the specimens from the seven cases of diphtheria above tabulated, no poikilocytosis (2), schizocytosis (3), melanæmia, nor the presence of nucleated red corpuscles (6) were noted. But in Cases III., IV., VI., and VII., there was apparently an increase in the number of the polychromatophilic red corpuscles. The word "increase" is used because these corpuscles are occasionally seen in normal blood. This phenomenon is merely confirmatory, and must be associated with more definite evidence of degeneration, such as a decided diminution in number of the red corpuscles, in order to be of value.

In all the severe cases a leucocytosis was present, ranging from 34,000 per cubic millimetre to normal. Beyond the fact that the severe cases showed the greatest degree of leucocytosis, no correspondence could be established either with the temperature or with the pulse. Temperature and pulse have been omitted from all the tables, as taking up too much space. In all the cases the leucocytosis gradually decreased, except in Case IV., which was not followed throughout—the number of the leucocytes reaching normal in from eight to fourteen days. Differential counts of the leucocytes in stained specimens showed the increase to be mainly in the polynuclear forms, their per cent. ranging between 88.2 and sixty-eight per cent. The large mononuclear forms seemed to be somewhat increased in number in some of the cases, but as they vary so widely in normal blood (two to twelve per cent.), no definite change can be said to have taken place in them. But the transitional forms between the polynuclear and the large mononuclear forms, which have been grouped with the latter, were seen much more frequently than in normal blood. The small mononuclear forms varied widely, but, as a rule, were decreased in number, in one case falling as low as four per cent. An increase of the lymphocytes to thirty or thirty-five per cent., as noted by Morse and Ewing, may be termed a lymphocytosis, but is not an evidence of any pathological condition, as the writer has observed thirty-two, thirty-three, and thirty-five per cent. of lymphocytes in perfectly healthy individuals. In health an increase to thirty per cent. is certainly much more common than a fall to ten per cent. The increase in the polynuclear forms was, as a rule, directly proportionate to the increase in the total number of the leucocytes. The stained specimens were also examined with reference to the staining properties of the nuclei, variations in size of the polynuclears, and variations from the normal in the granulations of the several forms. Nothing abnormal could be made out. This question is discussed more fully in the remarks on the cases treated with antitoxin.

The hæmoglobin of the red corpuscles shows about the same changes as in all the acute infectious diseases. It falls coincidentally with the number of red corpuscles, begins to rise at the same time that they do, but rises much more slowly, not reaching normal until some time after the corpuscles. Thus, in only two of our cases did the hæmoglobin return to its original figures; one case (V.) being very mild, and the other (VII.) being anæmic when first seen and exhibiting a steady rise in corpuscles and hæmoglobin from the beginning of observation. The hæmoglobin, however, had only reached seventy-six per cent. at the time of the last observation.

Remarks on Table II.—Of the cases cited twenty-three were followed throughout and six were examined only once. They will be called the "complete" and "incomplete" cases, respectively. Let us take up first the complete cases (I. to XVIII. and XXV. to XXIX.). In six of the twenty-three cases a diminution in number of the red corpuscles was noted. In Cases VI., XXV., and XXIX. there were falls of 241,000, 368,000, and 384,000 per cubic millimetre, respectively. In Case IV. there was no fall until the eleventh day of the disease, when broncho-pneumonia set in, the patient dying on the seventeenth day. A fall of 1,000,000 was noted in this case. In Cases IX.

TABLE II.—CASES OF DIPHTHERIA TREATED WITH ANTITOXIN.

No.	Name.	Age.	Date of Admission and Character of Illness.	Date and Hour.	Anti-toxin.		Red Corpuscles.	Leucocytes.	Hæmoglobin. Per Cent.	Leucocytes. Per Cent.				Stained Specimens.
					C.c.	Units.				P.	L.	S.	E.	
1	P. P.	8	Admitted June 13. Ill two days. Membrane on right tonsil. Temperature, normal. Mild case. Discharged June 20.	June 13, p.m.	6	600	5,210,000	11,000	92	82.3	4.3	13	.4	Negative.
				14	.....	.....	5,850,000	13,000	91	79.1	5.2	14.6	1.1	
				15	.....	.....	5,180,000	8,000	90	.....	.....	.....	.....	
				19	.....	.....	5,430,000	6,000	93	72.8	4.7	21.2	1.3	
2	M. B.	2½	Admitted June 14. Ill two days. Membrane on right tonsil. Temperature, normal. Mild case.	June 14, p.m.	5	500	4,880,000	10,400	82	78.8	7.5	11	2.7	Negative.
				15	.....	.....	4,721,000	13,000	83	.....	.....	.....	.....	
				18	.....	.....	5,032,000	14,000	90	76.7	4.4	10.3	6.6	
				21	.....	.....	5,143,000	7,400	91	75.7	5.3	16.4	2.3	
3	B. B.	5	Admitted June 14. Ill two days. General membrane. Temperature, 101.2° F. on admission. Severe case. Discharged July 1.	June 14, 3 p.m.	13	1,950	4,980,000	23,000	84	86.7	5.8	7.3	.2	Negative.
				15	.....	.....	5,130,000	16,000	89	80.2	7.1	11.7	1	
				17	.....	.....	5,200,000	11,000	92	.....	.....	.....	.....	
				19	.....	.....	5,350,000	12,000	91	70.8	8.8	19.8	.6	
4	E. S.	1½	Admitted June 18. Ill two days. General membrane. Temperature first three days, 100° to 105° F. Very severe case. Suppurative otitis media. Broncho-pneumonia, July 2. Died July 7.	June 19, 11 a.m.	13½	2,025	5,760,000	30,000	93	87.1	6.3	6.1	.5	Marked differences in size of polynuclears.
				20 10 a.m.	.....	.....	5,824,000	26,000	94	88.2	9.4	2.2	.2	
				21 11:35 a.m.	.....	.....	5,633,000	18,000	93	79.6	8.3	11	1.1	
				24	.....	.....	5,783,000	9,800	87	70.3	6.1	21.8	1.8	
5	H. W.	1½	Admitted June 20. Ill four days. Moribund. Membrane general. Died June 21, P.M.	June 20, a.m.	13½	2,025	5,001,000	26,300	91	92.6	1.2	5.1	1.1	Negative.
				21 10:15 a.m.	.....	.....	4,980,000	32,000	89	95.8	.8	3.2	.2	
				22 1:10 p.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				23	.....	.....	.....	.....	.....	.....	.....	.....	.....	
6	W. H.	5	Admitted June 23. Ill one day. Membrane on both tonsils. Temperature, normal. Medium severity.	June 23	13½	750	5,568,000	15,000	95	64.2	12.9	64.2	.5	Negative.
				24	.....	.....	5,327,000	8,900	90	69.7	8.9	20.8	1.6	
				26	.....	.....	5,410,000	6,300	88	68.6	8.6	21.9	2.1	
				July 1	.....	.....	5,476,000	10,500	92	.....	.....	.....	.....	
7	M. F.	7	Admitted June 25. Ill four days. Membrane general. Temperature, 100° 102° F. first two days. Severe case. Died June 26, P.M.	June 25, 10:30 a.m.	6	600	5,856,000	32,000	97	88	.8	10.4	.7	Negative.
				26 10:45 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				26 10:30 a.m.	.....	.....	5,750,000	38,000	96	92	3	5	0	
				26 10:45 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
8	J. O.	10	Admitted June 25. Ill three days. Membrane general. Temperature, 103° to 100° F. first three days. Severe case.	June 25	13	1,950	4,600,000	19,000	84	81.8	7.1	10.8	.3	Negative.
				26 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				27 p.m.	.....	.....	4,750,000	15,000	87	78.6	4.8	15.4	1.2	
				29	.....	.....	5,001,000	17,000	88	80.8	6	12.4	.8	
9	I. K.	5	Admitted June 29. Ill two days. Membrane on both tonsils. Temperature, 102.5° to 100° F. first three days. Moderate severity.	June 29	10	1,000	5,340,000	6,000	93	71	8	19	2	Negative.
				30	6½	9,375	5,008,000	13,000	96	78.1	3.3	17.6	1	
				July 1	.....	.....	4,830,000	15,000	95	79	6	13	2	
				2	.....	.....	5,107,000	9,000	95	.....	.....	.....	.....	
10	F. L.	9	Admitted June 30. Ill two days. Membrane on both tonsils. Temperature, normal. Mild case.	July 1	4	600	5,000,000	7,000	96					Negative.
				2	.....	.....	5,108,000	17,000	84	79.2	7.9	12.3	.6	
				3	.....	.....	5,080,000	15,000	83	76.8	8.4	14.7	.1	
				4	.....	.....	5,230,000	9,000	84	64	11	23	2	
11	L. S.	3	Admitted July 1. Ill for three days. Membrane on both tonsils. Temperature, normal. Moderate severity.	July 1, p.m.	7	1,050	5,080,000	7,000	84					Negative.
				2, 9:30 a.m.	.....	.....	4,288,000	14,300	85	74.2	11.1	14.3	.4	
				3 2:20 p.m.	.....	.....	4,107,000	16,000	84	75	13	12	0	
				5	.....	.....	4,096,000	18,500	90	74	10	16	0	
12	S. W.	1½	Admitted July 5. Ill four days. Membrane on both tonsils. Moderate severity. Temperature, normal.	July 5, p.m.	9	1,350	5,088,000	12,800	80	71.3	6.2	21.3	.2	Negative.
				6 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				8 p.m.	13.5	2,025	4,976,000	16,300	79	78.6	10.8	10.3	.3	
				11	.....	.....	5,136,000	10,600	82	.....	.....	.....	.....	
13	R. G.	3½	Admitted July 7. Ill four days. Membrane on both tonsils. Temperature, 102° on admission. Case of moderate severity. Anæmic.	July 7, p.m.	13.5	2,025	5,370,000	4,300	88					Negative.
				8, 4 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				11 a.m.	.....	.....	4,192,000	22,400	80	84	8	8	0	
				12	.....	.....	4,176,000	28,300	80	86	3.6	10	.1	
14	G. G.	1½	Admitted July 7. Ill four days. Membrane on both tonsils. Moderate severity. Temperature, normal on admission.	July 7, 11 a.m.	13.5	2,025	4,581,000	13,600	88	76	6	16	2	Negative.
				2:30 p.m.	.....	.....	4,368,000	20,300	102	81.6	7.8	10.5	.1	
				8 11:30 a.m.	13.5	2,025	6,750,000	26,800	100	85	2	13	0	
				11 11:35 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
				15			6,475,000	25,700	97	80.8	8.1	11	1.1	Negative.
				18	.....	.....	6,300,000	19,300	98	.....	.....	.....	.....	
				22	13.5	2,025	6,240,000	16,800	99	72	8	17	3	
				22	.....	.....	6,310,000	11,200	100	.....	.....	.....	.....	

TABLE II.—CASES OF DIPHTHERIA TREATED WITH ANTITOXIN.—*Concluded.*

No.	Name.	Age.	Date of Admission and Character of Illness.	Date and Hour.	Anti-toxin.		Red Corpuscles.	Leucocytes.	Hæmoglobin. Per Cent.	Leucocytes. Per Cent.				Stained Specimens.
					C.c.	Units.				P.	L.	S.	E.	
15	E. B.	5	Admitted July 9. Ill six days. Membrane general. Temperature, 101° F. Moderate severity.	July 8, 8:15 a.m. 11 a.m. 9, 11:30 a.m. 11:45 a.m.	13.5 13.5	2,025 2,025	4,871,000 4,901,000 5,100,000 5,080,000	21,800 23,900 18,600 18,800	81 81 86 89	79.6 81 77 7	7.4 8 7 15	12.7 10 15 1	.3 1 1 1	Negative.
16	J. F.	11	Admitted July 8. Ill four days. Membrane on both tonsils. Temperature, normal. Mild case.	July 8, a.m. 2 p.m. 4 p.m. 9, 11 a.m. 12:20 p.m.	 6½ 6½	1,000 1,000	5,276,000 5,284,000 5,310,000 5,263,000	16,000 16,800 18,000 12,000	93 91 95 94	76.8 78.9 78.9 70.6	2.1 5.8 5.8 10.1	19.8 15.4 17.7 17.7	1.3 .9 1.6 1.6	Negative.
17	E. C.	4	Admitted July 9. Ill three days. Membrane on right tonsil. Mild case. Temperature, normal.	July 9 10, 11 a.m. 12 m. 11 13 17	4 4	600 600	4,768,000 4,650,000 4,830,000 4,988,000	16,500 15,800 9,200 4,500	92 90 88 89	78.1 76 76 72	13.6 9 9 5	8.1 14 15 21	.2 1 2 2	Negative.
18	S.	6	Admitted July 9. Ill two days. Membrane on both tonsils. Temperature, 102.4° F. Severe case.	July 9 10, 11 a.m. 11:55 a.m. 11 15 20	6½ 6½	1,000 1,000	5,600,000 5,448,000 5,580,000 5,420,000	30,800 32,000 18,000 11,000	87 87 88 86	88.2 87 76	3.8 4 7	7 9 15	1 0 2	Negative.
19	S. Z.	3	Admitted June 16. Ill one day. Membrane on right tonsil. Mild case.	June 17 25 Child apparently anæmic.	6	720	5,733,000	19,500	87	74.4	8.1	13.3	3.2	Negative.
20	M. M.	3½	Admitted June 2. Ill eight days. Membrane general. Severe case.	June 2 3 Child apparently anæmic.	6.5 5	1,000 500	5,980,000	12,300	88	71	4	22	3	Negative.
21	M. M.	3	Admitted June 26. Ill ten days. Membrane general. Severe case.	June 26 27 Child apparently anæmic.	13 13	1,950 1,950	5,210,000	8,200	94	68.3	11.1	21.1	1.0	Negative.
22	E. C.	6	Admitted July 8. Ill three days. Membrane on left tonsil. Mild case.	July 8 22 Child apparently anæmic.	6½	1,000	4,896,000	11,500	82	72	8	18	2	Negative.
23	L. S.	3½	Admitted July 1. Ill five days. Severe case. Membrane on eyes and throat.	July 1 22 Child anæmic.	7	1,050	4,260,000	14,800	78	70	10	19	1	Negative.
24	H. G.	7½	Admitted July 20. Ill four days. Membrane general. Severe case.	July 20 21 Aug. 5 Child apparently anæmic.	4 4	600 600	5,260,000	6,300	94	75	2	22	1	Negative.
25	J. D.	5	Admitted November 18. Ill one day. Membrane general. Temperature, 101° F. Moderately severe case.	Nov. 18, a.m. p.m. 19, a.m. p.m. 20 22 24 26 30	 16 16	3,000 3,000 3,000 3,000	5,536,000 5,381,000 5,408,000 5,168,000 5,331,000 5,741,000 5,618,000	13,300 28,800 38,600 16,500 22,500 18,800 13,600	99 98 96 90 86 89 91	73 86 88.3 81 81 81 91	10 7 4.6 9 9 10	16 3 7 10 10 0	1 0 .1 0 0 0	Negative.
26	H. S.	2½	Admitted November 15. Ill one day. Membrane on right tonsil. No fever.	Nov. 15 16 18 23 27	12	2,000	5,056,000 5,008,000 4,806,000 5,181,000	7,800 6,500 9,300 3,000	91 90 86 86	72.5 73 73 86	6.8 5 5	20.1 21	.6 1	Negative.
27	A. F.	12	Admitted November 21. Ill three days. Membrane on both tonsils. No fever. Mild case.	Nov. 21 22 23 25 27	6	1,000	5,480,000 5,500,000 5,731,000 5,522,000	24,900 20,600 14,400 9,800	102 100 96 93	83.6 85 85 96	8.8 6 9	7.4 9	.2 0	Negative.
28	R. D.	3	Admitted November 22. Ill no days. Membrane on both tonsils. Temperature, 103.6° F. Very severe case.	Nov. 22 23, a.m. p.m. p.m. (one hour after antitoxin.)	12 12	2,000 2,000	5,162,000 5,183,000	3,100 6,700	98 97	58.1 55	30.9 28	11 17	0 0	All the large mononuclears in the transition stage.
29	A. S.	12	Admitted November 23. Ill three days. Membrane general. Temperature, 102.2° F. Severe case.	Nov. 23 24, a.m. p.m. 25 27 30	13 13	3,000 3,000	5,186,000 5,162,000 5,002,000 5,281,000	15,600 19,300 11,200 9,600	88 86 85 88	71.2 76 74	10.8 149 16	17.8 10 16	.2 0 1	Negative.

and XI. falls of 178,000 and 192,000, respectively, were noted. These cases can be ruled out as falling within the limit of error before mentioned, and if we are justified in assuming the fall in Case IV. to be due to the sepsis and pneumonia, we have three cases out of twenty-three showing a diminution in the number of red corpuscles, and that diminution less than 400,000 in each case. These cases, while not absolutely unfavorable, were all severe. Some of them were admitted at a comparatively late stage in the disease and were already anæmic. These latter cases showed a steady rise in the number of the corpuscles (Cases III., VIII., XI., XII., XIII., and XV.). In only five of the cases was it possible to examine the blood before the administration of the antitoxin, as they were usually admitted in the late afternoon and

received an injection of antitoxin at once. Two of these cases resulted in death, two were of moderate severity, and one was a mild case. Not one of them showed any appreciable reduction twenty-four hours after the administration of the antitoxin. In one case the blood was counted two hours after the injection (XVI.).

The amount of antitoxin injected varies from three to 41.5 cubic centimetres (Case XIV., in three doses). The largest single dose given was sixteen cubic centimetres (Case XXV.). The strength in antitoxin units varied from five hundred to six thousand and seventy-five units (Case XIV.). The greatest amount given at one dose was three thousand units (Cases XXV. and XXIX.). Of the three cases showing a diminution in the number of the red corpuscles, two

received large doses of antitoxin, both as to amount and strength. Case XXV. received thirty-two cubic centimetres, with a total strength of six thousand units, and Case XXIX. received twenty-six cubic centimetres with a total strength of six thousand units. The third case received only five cubic centimetres with a strength of seven hundred and fifty units. So that it is possible that large doses of antitoxin may, by virtue of their strength or amount, bring about or permit of a reduction in the number of red corpuscles. But it must be remembered that these were severe cases, which in the judgment of the attending physician required large doses of antitoxin and which would probably have shown a marked fall in the number of the red corpuscles if the antitoxin had been omitted. Case XIV., which received 41.5 cubic centimetres with a total strength of six thousand and seventy-five units, showed no reduction at all.

The microscopical examination of stained specimens revealed nothing abnormal. An occasional polychromatophilic red corpuscle was seen, but in the observer's opinion they were present much less frequently than in the cases of diphtheria treated without antitoxin. But, as before stated, this evidence of degeneration is untrustworthy except as confirmatory.

In twenty-seven out of the twenty-nine cases a leucocytosis was observed, ranging from 38,600 in Case XXV. to normal. The severe cases showed the greatest increase. But the severest case of all (XXVIII.), in which the patient was practically moribund on admission, showed no leucocytosis at all. The other case (XXVI.) showing no leucocytosis was very mild in character. But beyond the rough correspondence to the degree of severity of the case the amount of leucocytosis did not correspond to any particular clinical feature, nor could the observer form any idea from it as to the final outcome of the case. The leucocytosis is independent of the pulse, the temperature, or the amount of membrane. But while a high grade of leucocytosis is, as a rule, seen only in the severe cases, the ordinary clinical examination of the patient is of much greater value in forming a prognosis and in indicating the line of treatment than any information to be gained from the examination of the blood. The latter is simply confirmatory, never indispensable. As to the influence of the antitoxin upon the course of the leucocytosis, the cases here reported furnish no evidence that it has any effect whatever. True, the leucocytosis diminishes in the majority of the cases, but it does the same in the cases of diphtheria treated without antitoxin, as comparison of the tables will show. The leucocyte curve does not seem to have reached normal any sooner in the cases with antitoxin than in those without. In several of the cases ending favorably, the number of the leucocytes was greater twenty-four hours or more after the antitoxin was given than before (Case XIV. for instance). We have no explanation for the sudden and marked variations that take place in the course of the leucocytoses in acute diseases such as pneumonia and scarlet fever. These often amount to from 10,000 to 15,000 per cubic millimetre; such variations are seen in Cases III. and VI. of Table I. They can also be noted in the series of cases reported by Bouchut (*l. c.*), so that we would expect to see them in the antitoxin cases, and are hardly justified in ascribing them to its use. It is not denied that the injections of antitoxin may have some effect upon the number of the leucocytes. But such effect is immediate and transitory, appearing within the first hour and disappearing again by the end of twenty-four hours. In common with many other substances, the injections of antitoxin are stated to bring about an immediate reduction in the number of the leucocytes, the so-called hypoleucocytosis. But unless the injected sub-

stance be toxic and capable of producing a reactionary hyperleucocytosis, the number of the leucocytes promptly returns to normal, and no trace of any change is observable at the end of twenty-four hours. In the above cases no attempt was made to determine the immediate effect of the injections of antitoxin upon the leucocytes, some idea of its ultimate effect being all that was aimed at.

Stained specimens showed the same state of things already noted in the remarks on Table I. The polynuclear forms of the leucocytes were increased and the small mononuclear forms diminished, as also were the eosinophiles. Case XXVIII., the fatal case with no leucocytosis, showed a marked increase in the mononuclear and transitional forms, the polynuclear and small mononuclear forms being correspondingly diminished. No changes in the staining-reaction of the nuclei were observed, except in one case, which is not given in the above table. The child was practically dead when the blood was examined, the heart ceasing to beat five minutes afterward. Here all the nuclei of the leucocytes refused to stain, the leucocytes being heaped together and partially disorganized. Ewing states that by the use of six-per-cent. salt solution faintly tinged with an alcoholic solution of gentian violet, he is able to differentiate two classes of polynuclears in the blood in diphtheria, those with poorly stained nuclei and those with well-stained nuclei. This loss of affinity for gentian violet shown by the first class he holds to be due to the necrotic action of the toxins present in the circulating blood, and states that this loss of affinity is present in all cases of diphtheria that are at all severe. He also states that the use of antitoxin in favorable cases is followed by a recovery of this affinity, and hence that observation of this fact is of prognostic importance. The writer followed Ewing's procedures faithfully in the last seven cases in the above table, varying the amount of gentian violet and using different magnifying powers, but was unable to obtain similar results in any case. It is difficult, well-nigh impossible, to outline the nucleus, using the above solution and the hæmocytometer. The leucocytes are not flattened out, but globular, and take up the stain with such intensity that differentiation of the nucleus from the protoplasm is almost impossible, as above stated. Another point to be considered is that in normal blood the nuclei of the polynuclears exhibit the most varied intensity in their staining-reactions, from the colorless nuclei of the so-called "leukocytschatten" to the almost black-staining nuclei of the small polynuclear forms. No variations from the normal in the staining-reaction of the nuclei were made out in the dried and stained specimens.

A few words concerning the granulations of the leucocytes may be added here. There are four varieties of granulation stated by Ehrlich¹⁴ to occur in the protoplasm of the leucocytes in human blood.

1. The oxy- or eosinophilic; these take up only the acid stains, such as eosin, acid fuchsin, etc.
2. The basophilic; these take up only the basic stains, such as methylene blue.
3. The neutrophilic; these take up in preference a combination of the acid and basic stains. Hence the name.
4. The amphophilic; these take up either acid or basic stains, but not their combinations.

To the first class belong the eosinophiles, to the second some of the large mononuclear forms, to the third the polynuclear forms, to the fourth the so-called "mastzellen" of Ehrlich. These latter are excessively rare in human blood. The great majority of the mononuclear forms have no granulations; at least none have as yet been demonstrated. Ewing states that in diphtheria the granulations in a certain num-

ber of the polynuclear leucocytes lose their affinity for neutral stains and show a certain affinity for acid stains, such as eosin. These forms he calls pseudo-eosinophiles, and asserts that the change is due to the necrotic action of the circulating toxins; he thinks they are identical with the forms showing poorly stained nuclei, and so estimates their percentage by the salt-solution and gentian-violet method.

Now the statement that the neutrophilic granulations of the leucocytes in normal human blood are absolutely neutrophilic is not correct. They have an affinity for eosin, although it is a weak one, and the eosin is quickly washed away by water; it can be demonstrated by staining with a one-half per cent. solution of eosin in seventy-per-cent. alcohol, washing very rapidly in water, and drying immediately between filter paper. On examination the granules of the polynuclears will be found to be stained red. Again, if a specimen of normal blood after being hardened be stained in the above solution and then be passed directly into a strong aqueous solution of methylene blue, we have all the conditions present which are necessary for a neutral stain. That such staining does take place any one can demonstrate for himself. If, on the other hand, after staining with the eosin we wash the specimen thoroughly and carefully in water before staining with methylene blue, the granules will be completely decolorized and invisible. Now, the above procedures were tried upon specimens of blood from five healthy individuals and upon specimens of blood from six or seven of the severest cases of diphtheria in the Willard Parker Hospital. Both sets of specimens showed the granules in a certain number of the leucocytes to be stained when the washing with water was omitted, and all the granulations were unstained when the specimens were thoroughly washed in water before using the methylene blue. So that the writer was unable to differentiate these pseudo-eosinophilous granules and is inclined to believe them due to the

staining-methods used, rather than that they really exist as pathological entities.

Panet¹ describes certain granules staining with methylene blue which he observed in the blood of animals injected with cultures of anthrax and pneumococcus. He demonstrates to his own satisfaction that these granulations are the remnants of the bacteria which have been taken up by the leucocytes. Three specimens from each of the last seven cases in the foregoing table were stained with methylene blue and carefully gone over with the mechanical stage, in order to see whether any of these granules were present. None were found, and it was not to be expected, even if the theory be correct, as few if any diphtheria bacilli enter the circulation under ordinary circumstances.

The hæmoglobin in these cases apparently suffered less reduction than in the cases without antitoxin. When a fall did take place, however, the return to normal was slow as compared to that of the red corpuscles. Even after the child was apparently well, and up and about, the hæmoglobin was below normal. This may be in part accounted for by the fact that children are confined to the house and do not get out into the open air. This pseudo-anæmia occurs in other diseases, and is often seen in the children in infant asylums. There is less need of hæmoglobin as a respiratory agent, because of the lack of exercise, fresh air, and sunlight. To show that these cases are not in reality anæmic, examinations were made in six cases (XIX. to XXIV., the incomplete cases) at varying periods after the beginning of the illness; eight, nine, fourteen, fourteen, twenty-one, and fifteen days after admission, respectively. In one case (XXIII.) the number of the red corpuscles was below normal. This was a very severe case, with involvement of the eyes, and the patient was still in bed at the time of the blood examination. In four of the six cases, the leucocytes were still slightly above normal. In all but two of the cases the hæmoglobin was below ninety per cent.

TABLE III.—CASES OF NORMAL INDIVIDUALS GIVEN ANTITOXIN.

No.	Name.	Age.	Date and Hour.	Antitoxin.		Red Corpuscles.	Leucocytes.	Hæmoglobin Per cent.	Leucocytes. Per cent.				Stained Specimens.
				C.c.	Units.				P.	L.	S.	E.	
1	W. P.	35	April 16, 11 a.m.	..		5,870,000	7,950		68.2	4.8	25.6	1.4	Negative.
			12:30 p.m.	10	1,000	.....	.....	.....	.....	.....	.....	.....	
			12:40 p.m.	.....	.....	5,660,000	7,000	.....	59.8	7.8	30.3	2.1	
			1:30 p.m.	.....	.....	5,668,000	8,100	.....	69.2	7.3	21.8	1.8	
			5:15 p.m.	.....	.....	5,684,000	14,330	.....	63.2	7.7	28.4	.7	
			17, 11 a.m.	.....	.....	5,114,000	6,950	.....	.....	.....	.....	.....	
			18, 11 a.m.	.....	.....	5,080,000	7,900	.....	63.8	6.2	28.6	1.4	
			19, 12 m.	.....	.....	4,896,000	7,630	.....	.....	.....	.....	.....	
			22, 12 m.	.....	.....	5,103,000	6,300	.....	68	5.8	25.3	.9	
			26, 12 m.	.....	.....	5,001,000	9,210	.....	.....	.....	.....	.....	
			May 2, 11 a.m.	.....	.....	5,472,000	8,000	.....	.....	.....	.....	.....	
			13, 12 m.	.....	.....	6,120,000	9,000	.....	.....	.....	.....	.....	
2	C. P.	9	May 17, 11 a.m.			5,600,000	7,000	98	73	7	19	1	Negative.
			12 m.	4	400	.....	.....	.....	.....	.....	.....	.....	
			12:30 p.m.	.....	.....	5,581,000	4,900	98	70	8	20	2	
			18	.....	.....	5,400,000	8,500	98	73	6	18	1	
			22	.....	.....	5,024,000	6,300	97	72	8	18	2	
3	T. M.	8	May 27, 11 a.m.			5,537,000	7,300	97	71	10	17	2	Negative.
			27, 12 m.	1	125	6,040,000	5,500	102	.....	.....	.....	.....	
			27, 12:30 p.m.	.....	.....	5,921,000	5,000	99	70	9	20	1	
			28	.....	.....	5,973,000	7,300	98	70	9	19	2	
			29	.....	.....	5,498,000	7,200	94	74	8	18	0	
4	P. S.	7	June 1			5,960,000	6,300	99					Negative.
			May 25, 11 a.m.	.....	.....	5,223,000	6,000	95	75	5	19	1	
			25, 12 m.	2	200	.....	.....	.....	.....	.....	.....	.....	
			26	.....	.....	5,248,000	7,310	94	73	6	20	1	
5	F. L.	6	May 27, 11 a.m.			5,198,000	6,700	96					Negative.
			27, 12 m.	1	125	5,152,000	6,500	91	73	7	19	1	
			28	.....	.....	5,713,000	4,300	89	70	9	20	1	
			29	.....	.....	5,081,000	3,200	92	.....	.....	.....	.....	
6	D. L.	14	May 27, 11:30			5,602,000	5,800	94	74	8	17	1	Negative.
			27, 12 m.	1	125	.....	.....	.....	.....	.....	.....	.....	
			28	.....	.....	5,713,000	7,800	93	72	9	17	2	
			29	.....	.....	5,600,000	7,400	96	.....	.....	.....	.....	
7	J. F.	11	June 1			5,554,000	6,800	95					Negative.
			May 27, 11 a.m.	.....	.....	6,048,000	6,900	98	73	6	19	2	
			27, 12 m.	1	125	.....	.....	.....	.....	.....	.....	.....	
			28	.....	.....	6,003,000	6,200	95	73	9	17	1	
8	A. R.	10	June 29			5,712,000	2,100	99					Negative.
			May 17, 11 a.m.	.....	.....	5,981,000	7,300	98	.....	.....	.....	.....	
			17, 12 m.	2	200	5,732,000	6,200	100	77	5	17	1	
			18	.....	.....	5,513,000	9,000	98	73	6	21	0	
			22	.....	.....	4,800,000	4,100	84	.....	.....	.....	.....	
			27			5,271,000	8,100	89	70	8	21	1	
			31	.....	.....	5,612,000	7,900	97	.....	.....	.....	.....	

TABLE III.—CASES OF NORMAL INDIVIDUALS GIVEN ANTITOXIN.—Continued.

No.	Name.	Age.	Date and Hour.	Antitoxin.		Red Corpuscles.	Leucocytes.	Hæmoglobin. Per Cent.	Leucocytes. Per Cent.				Stained Specimens.
				C.c.	Units.				P.	L.	S.	E.	
9	N. W.	12	May 18, 11 a.m.			5,116,000	7,300	96	74	6	18	2	} Negative.
			18, 12 m.	3	300	.....	.....	.....	.....	.....	.....	.....	
			19	.....	.....	5,200,000	6,350	95	76	8	13	3	
			22	.....	.....	4,640,000	8,250	90	74	5	19	2	
10	A. B.	9	May 25, 11 a.m.			5,098,000	8,950	94					} Negative.
			25, 12 m.	2	200	5,217,000	7,200	97	69	9	21	1	
			27	.....	.....	5,187,000	8,400	95	71	6	20	3	
			28	.....	.....	5,024,000	4,700	92	.....	.....	.....	.....	
11	C. R.	11	June 1			5,301,000	6,300	96					} Negative.
			May 25, 11 a.m.	.....	.....	5,501,000	6,000	91	78	2	18	2	
			25, 12 m.	2	200	.....	.....	.....	.....	.....	.....	.....	
			27	.....	.....	5,631,000	7,250	92	76	3	21	0	
12	M. C.	10	June 1			5,472,000	2,500	90					} Negative.
			May 25, 11 a.m.	.....	.....	5,401,000	9,500	90	.....	.....	.....	.....	
			25, 12 m.	2	200	5,650,000	4,900	88	70	8	21	1	
			27	.....	.....	5,580,000	7,300	90	73	9	17	1	
13	J. S.	10	May 26, 11 a.m.			5,622,000	5,100	91					} Negative.
			26, 12 m.	2	240	5,603,000	4,800	94	78	2	18	2	
			28	.....	.....	5,430,000	5,800	94	80	2	17	1	
			29	.....	.....	5,506,000	6,850	94	.....	.....	.....	.....	
14	C. L.	9	May 28, 11 a.m.			6,688,000	4,500	101	79	5	13	3	} Negative.
			12 m.	1	125	.....	.....	.....	.....	.....	.....	.....	
			29	.....	.....	6,431,000	8,300	100	78	3	18	1	
			30	.....	.....	6,018,000	6,800	97	.....	.....	.....	.....	
15	P. T.	8	June 2			6,507,000	4,900	100					} Negative.
			May 28, 11 a.m.	.....	.....	5,830,000	7,300	90	76	6	15	3	
			28, 12 m.	1	125	.....	.....	.....	.....	.....	.....	.....	
			29	.....	.....	5,720,000	8,100	91	71	4	24	1	
			30			5,613,000	4,600	86	78	6	15	1	
			June 3			5,850,000	5,900	92					

Remarks on Table III.—All the above cases, with the exception of I., were seen at the New York Juvenile Asylum. All were males and apparently healthy. The injections were given into the subcutaneous tissue of the abdominal wall. The corpuscles were counted in all the cases within an hour before the administration of the antitoxin. In the first three cases the blood was again counted an hour after the injection, but, as no change was observed, an interval of twenty-four hours was allowed to elapse in all the other cases. A diminution in the number of the red corpuscles was noted in seven of the fifteen cases. (I., II., III., VII., VIII., IX., and XV.). This diminution was most marked between the second and sixth day after injection and ranged between 974,000 and 217,000 per cubic millimetre. The fall of 974,000 was in Case I., the only adult in the series. Case VIII. was the only other one to show any considerable fall (932,000 per cubic millimetre by the fifth day). The diminution in all the other cases was less than 600,000 per cubic millimetre.

The case receiving the largest amount of serum and the greatest number of antitoxin units was the one to show the most marked reduction in the number of the red corpuscles (Case I.). Case II., receiving four cubic centimetres and four hundred units, showed a distinct reduction of half a million. All the other cases received small amounts of serum containing a relatively small amount of antitoxin. Some of these cases showed a reduction in the number of the red corpuscles, some did not. The red corpuscles returned to their normal number in from four to thirteen days. Case I. apparently did not do so for twenty-four days, but an interval of eleven days preceded the last count. The data furnished by the above cases are all too few to enable us to draw any conclusions as to the effect of the amount or strength of the serum upon the corpuscles. Microscopical examination revealed no abnormalities in the red corpuscles.

The leucocytes appeared to be absolutely unaffected by the injections. They rose to a point above normal in only one case (I.). Of the three cases examined directly after the injections, a fall in the number of the leucocytes was noted in only one instance (II.). In determining the presence or absence of a hypoleucocytosis, we are dealing with such small figures and such varying conditions that a large number of mutually agreeing observations are necessary.

In the stained specimens the relative numerical proportions of the various forms of leucocytes were apparently normal in all cases. No variations from the normal in the staining properties of the nuclei or of the granules could be made out.

The hæmoglobin was apparently affected to a less degree than the red corpuscles. It fell below eighty-five per cent. in only one case. But the diminution in the number of the red corpuscles was confirmed by the fall in the hæmoglobin in each case where such diminution took place.

Summary.—1. The red corpuscles of the blood in diphtheria undergo a diminution in number in cases of moderate severity and in severe cases. Regeneration is slow.

2. The leucocytes are increased in number in all but two classes of cases, exceptionally mild cases and exceptionally severe ones. As a rule, the amount of leucocytosis is directly proportionate to the degree of severity of the case. The leucocyte curve shows no correspondence to the clinical course of the disease. The number of leucocytes often remains higher than normal for days after all inflammatory phenomena have disappeared. The leucocytosis is similar in character to that seen in pneumonia and scarlet fever; the increase being in the so-called polynuclear forms.

3. The percentage of hæmoglobin falls coincidentally with the number of the red corpuscles, and to the same relative degree. But the regeneration of the hæmoglobin takes place much more slowly than that of the red corpuscles.

4. In cases treated with antitoxin the diminution in number of the red corpuscles is much less marked than in those cases treated without it; in a majority of the cases no such diminution takes place. The leucocytes are apparently unaffected by the antitoxin. The hæmoglobin is also much less affected in the cases treated with antitoxin, thus confirming the statement as to the red corpuscles.

5. In healthy individuals injected with antitoxin, the red corpuscles show a very moderate reduction in number in about one-half the cases. The hæmoglobin is correspondingly affected. The leucocytes are apparently unaffected by the injections.

6. No peculiar characteristic changes in the morphology of the corpuscles were to be made out.

7. It is improbable that any information of prog-

nostic importance is to be gained by examination of the blood in diphtheria.

8. The antitoxin treatment of diphtheria has no deleterious effects upon the blood corpuscles. On the contrary, it seems to prevent degenerative changes which would otherwise be brought about.

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PUERPERAL ECLAMPSIA.¹

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WHEN Lever² in 1843 pointed out the connection between albuminuria and eclampsia, it was thought that the two conditions occupied the relative positions of cause and effect. After it had been shown experimentally that large quantities of urea could be injected into the veins of animals without producing convulsions,³ Frerichs came forward with his theory of the conversion of urea into ammonium carbonate in the blood and that this latter substance was the cause of the convulsions. Braun⁴ adopted the theory of the nephritic origin of eclampsia, as will be shown by the following quotation from his definition of that disease: "Eclampsia puerperalis is an acute affection of the motor function of the nervous system, characterized by a loss of consciousness and of sensibility, by tonic and clonic spasms, and occurs only as an accessory phenomenon of another disease, generally of Bright's disease in an acute form." This definition clearly shows that Braun was a strenuous defender of the theory that puerperal eclampsia depended upon impaired kidney function for its cause.

As observations began to be made more carefully, however, cases of eclampsia were recorded which could not be explained by the hypothesis of nephritis. Thus Schauta,⁵ in twenty-eight fatal cases of eclampsia, reported three in which the kidneys were quite normal. Ahlfeld⁶ found in seventeen cases two in which the kidneys were normal.

Vinay⁷ reported that the results of microscopic examinations proved that in a rather large number of cases of eclampsia the disease can hardly be attributed to renal lesion. Kaltenbach⁸ says: "The prodromal gastric and cerebral disorders, the rapid and profound disturbances of the action of the brain, the post-partum elevations of temperature, the character and frequency of disorders of the nervous system which follow and which are similar to the neuroses of typhus and diphtheria, probably caused by a toxalbumin, are best explained by accepting the hypothesis of toxæmia."

Rivière declares eclampsia to be a form of intoxication,

¹ Read before Manhattan Medical and Surgical Society Feb. 21st.

² Lever: Guy's Hospital Reports, 1842, quoted by Lusk, p. 570.

³ Hammond: American Journal of the Medical Sciences, January, 1861.

⁴ "Lehrbuch der gesammten Gynäkologie."

⁵ Parvin: "Science and Art of Obstetrics." Braxton Hicks: Obst. Trans., 1867.

⁶ "Science and Art of Obstetrics," Parvin, 1895.

and Auvard adopted⁹ the same theory. This theory of auto-intoxication rests upon the hypothesis that there are constantly developed in the normal physiological processes, and especially in woman during pregnancy, substances which must be destroyed or eliminated by various organs, as the liver, skin, lungs, and kidneys, and that the failure to destroy or eliminate causes auto-intoxication. In this process the kidneys naturally play a very important rôle. We might say then, as Auvard suggests, that there are hepatic as well as renal eclampsias.

Stumpf,⁹ quoted by Winckel, advances the theory that acetone or a body resembling it may cause at once the nephritis and the convulsions, thus explaining those cases in which the convulsion has preceded the albuminuria.

Playfair³ does not consider the albuminuric theory as clearly proven, and Parvin states that while in exceptional cases the kidneys may be normal, yet in the great majority they present changes characteristic of all the forms of nephritis, but that the eclamptic manifestations are not in proportion to the gravity of the lesions found post mortem.

Time of Attack.—Eclampsia may attack the patient before, during, or after labor. It may be preceded for many weeks by a severe albuminuria, or it may come without any or with slight warning. About fifty per cent. of attacks come first during labor; next in frequency are the attacks which precede labor, and least frequently come the attacks after labor.

Prodromal Symptoms.—There are three prodromal symptoms which, one or the other, or all together, are characteristic of this disease. They are headache, epigastric distress, and disturbances of vision. The headache may be very severe and is often extremely so, but frequently it amounts to only a feeling of fulness and a moderate pain either frontal or temporal. The epigastric symptom may amount to almost a crisis, so that it sometimes seems as if the stomach were eliminating the poison. Thus, one of my patients who had convulsions after her second confinement suffered only from the former symptom in her first, but to such a degree that for several days no food at all could be administered. The sensation is at times one of most intense burning. The eye symptoms may amount only to a dimness or haziness of vision, or to complete loss of sight, or only to flashes of light.

The loss of sight may be sudden and complete, and transient, or there may be retinal lesions more or less lasting. In those cases where a sudden blindness quickly passes away the cause is thought to have been an œdema, retinal or central.

The attack itself may be described as a short tonic followed by a longer clonic convulsion, which in its turn gives place to unconsciousness more or less profound, amounting in some cases to a decided coma. The first stage lasts from a few seconds to a minute, the second stage lasts a few minutes, while the last stage may be prolonged for hours or may be followed soon by another convulsion. The convulsions are more likely to attack the patient in her first confinement, and twin or triple pregnancies predispose to the disease.

Heredity has been mentioned as an element in the causation of this disease. Thus Parvin quotes Elliott as reporting the case of a mother and four daughters, all of whom had eclampsia. The evidence seems, however, on the whole rather weak and is negated by my own experience, for I have had under observation two sisters, one of whom has had two normal labors, and the other four. Both sisters came into the

⁷ Parvin, p. 413.

⁸ "Science and Practice of Midwifery," 1889.

⁹ Parvin, p. 413.

world prematurely, while their mother suffered from puerperal convulsions.

It would seem fair to conclude that the occurrence of puerperal convulsions depends upon two elements, viz., the intensity of the toxæmia and the susceptibility of the patient, such susceptibility consisting of the greater or less excitability of the motor centres, and depending upon those blood changes which we know characterize the gravid state. We know too that there is an individual susceptibility characterized by a hyperexcitability of the nerve centres. Then again, the suddenness of the onset of the albuminuria or toxæmia seems to play a rôle in the causation of convulsions. The nervous system has had no time to accommodate itself to the poison circulating through its centres, nor has nature had an opportunity to perform one of those marvels by which compensatory functions and changes come to the aid of damaged organs. In this way one patient may be overwhelmed by the first acute attack, while another, who has had albuminuria before, and who has a chronic nephritis, may escape.

Mortality.—When we come to consider the maternal mortality in this disease, we meet with many and contradictory statements.

It seems pretty certain, however, that it has materially diminished in the course of the last thirty years.

This diminution may no doubt be attributed to the abandonment of the more heroic treatment of former times, to the introduction of antiseptics and cleanliness into midwifery, and to the use of chloroform and kindred agents.

Phillips, in Guy's Hospital Reports for 1871, quoted by Barker, put the death rate at fourteen per cent., and attributed the improvement to the use of chloroform and the abandonment of blood-letting.

Dorn¹ reported 747 cases collected, with a mortality of 29 per cent.

Hofmeier¹ reported from Schroeder's clinic 104 cases, with a mortality of 32 per cent.

Braun¹ reported 73 cases occurring from 1869 to 1878, with a mortality of 26 per cent.

Coming down to more recent times, Zweifel² reports 126 cases, observed in the maternity of Leipsic. Of these 43 were brought into the hospital unconscious; of the others there were: primiparæ, 66, with a mortality of 17 per cent; multiparæ, 17, with a mortality of 6 per cent; but of the latter there were 13 in whom the convulsions occurred before or after, not during, labor, all of whom recovered, while of the 4 in whom convulsions occurred during labor, 1 died.

In the primiparæ, the greatest death rate occurred in those who had convulsions before labor.

Zweifel divides these cases into two classes, those occurring from April, 1887, to January, 1892, which were treated expectantly, and those occurring after January, 1892, which were treated more energetically, as by Dührssen's incisions, forcible dilatation, and accouchement forcé. The expectant treatment consisted in the use of eliminatives, but did not include the protracted use of chloroform nor the use of morphine or pilocarpine, the two former being considered as tending to promote fatty degeneration of the heart and the latter to induce pulmonary œdema. Under the expectant plan 49 cases were treated, with a mortality of nearly 33 per cent; while under the other plan 80 cases were treated, with a mortality of only 15 per cent.

Zweifel does not consider Dührssen's method as free from danger and quotes one fatal case of hemorrhage, while in several sutures were necessary to check the flow of blood.

He also warns against the use of iodoform gauze

for intrauterine tampons as being dangerous, in view of the impaired kidney function. He attributes part of the good results achieved by Dührssen's method to the loss of blood and states that he regrets the disuse of blood-letting in eclampsia, as he has seen much benefit from it, and looks forward to its revival. In this statement he decidedly disagrees with Winckel,³ who states that he has never seen any good derived from it and that he has abandoned it. Perhaps the most important question we have to decide in the treatment of puerperal convulsions, actual or threatening, is the one of active interference. Braun says: "Promote labor only when the life of the mother is in imminent danger." Leishmann says: "If the os is dilated or dilatable rupture the membranes and wait." Forcible dilatation and accouchement forcé are procedures which can scarcely be admitted as warrantable under any circumstances.

Kaltenbach¹ regards the Cæsarean section as preferable to accouchement forcé after Dührssen's incisions.

We must not forget, he says, that the convulsions may cease and pregnancy go on to term. Leishmann does not mention the induction of premature labor at a favorable time in the interest of the mother and child, when convulsions are threatening.

Playfair quotes Gooch as saying, "attend to the convulsions and let labor alone."

Schroeder says: "Especially no kind of obstetric manipulation is required for the safety of the mother," but admits that it may be advisable to hasten labor to save the child.

Forcible dilatation and turning are, says Playfair, strongly contraindicated. He does not mention the induction of premature labor as a prophylactic measure. Ahlfeld² and Charpentier state that accouchement forcé should be reserved for exceptional cases in which medical treatment has failed. In support of this statement they quote the following statistics: After spontaneous labor in eclampsia the mortality is 18.96 per cent.; after induced labor 30.74 per cent; after accouchement forcé 40.74 per cent. Dührssen's claim that convulsions cease in 90 per cent. of cases after the uterus has been emptied by his method is not confirmed by Zweifel, who found that they persisted in 48 per cent.

Barker states that induction of labor is justifiable when the life of the mother seems imperilled, and that it may be necessary also in the interest of the child. He says that he has never regretted advising it and feels that valuable lives have thus been saved.

Lusk is an advocate of active interference in threatened or active convulsions. He especially recommends the induction of premature labor at a time favorable to mother and child, when the condition of the patient demands it. In the actual presence of convulsions he does not so strongly advocate the acceleration of labor, but admits that the weight of authority is against him and says that non-interference has been uniformly disastrous in his experience, while some have been saved by active interference. Lusk quotes Flaeschler's statistics based upon the observation of one thousand pregnant women as showing that only about one in eight of pregnant women having albuminuria will have convulsions.

Blood-Letting.—Blood-letting has very few advocates to-day, save as a measure to be appealed to in exceptional cases, to relieve œdema pulmonum or to avert a threatened apoplexy. We have already alluded to Zweifel's approval of it and his regret at its disuse, and to Winckel's abandonment of it as useless.

Playfair,³ Ahlfeld,² and Kaltenbach¹ make about the

¹ Lusk, p. 569.

² Centralblatt für Gynäk., No. 42, quoted from American Journal of Obstetrics, February, 1896.

³ Parvin.

² Med. Times, 1872.

³ Parvin.

same statements regarding it, namely, that it may be beneficial in exceptional cases. In fact there is only now and then an indorsement of this procedure based upon a limited experience. It is quite possible that the advocates of blood-letting do so in ignorance of the fact that the great majority of women who suffer from puerperal eclampsia should get well under rational and conservative treatment.

I cannot but believe that many who appeal to radical measures in this disease before having exhausted less heroic ones, do so with an exaggerated idea of its actual normal mortality, if I may use the term.

Treatment by Drugs.—Chloral and chloroform are admitted by all to be of great benefit in the treatment of eclampsia, but the danger of using chloroform in any but a careful manner has been pointed out by Kaltenbach,¹ Ahlfeld,¹ Dührssen¹ and Runge, as tending to promote a rapid fatty degeneration of the heart.

Pilocarpine has been abandoned, I believe, by all as tending to produce oedema of the lungs and other internal effusions. Clarke, of Oswego, and G. Veit, of Bonn, advocated large doses of morphine administered hypodermically, as much as a grain being recommended to be used for one injection, to be repeated as required. This recommendation is in a line with that by Loomis in 1873,² that uræmic convulsions should be treated by morphine hypodermically administered. Used in more moderate doses than those recommended by Clarke and Veit, and especially combined with veratrum viride, it has many advocates.

The Treatment by Veratrum Viride.—We come now to the consideration of the treatment of eclampsia by veratrum viride. In the July number of the *Southern Medical and Surgical Journal* for 1859 Dr. Baker, of Eufaula, Ala., strongly advocated the use of this drug in puerperal convulsions and reports one case of his own and several from the practice of colleagues, in which it had been used with prompt success.

Norwood's tincture was used and given in doses of fifteen drops, followed by doses of ten drops every two hours as long as required, the aim being to reduce the pulse in frequency to fifty or sixty a minute and to diminish arterial pressure. Dr. Baker especially notes the tolerance to large doses exhibited by patients suffering from eclampsia and the consequent absence of dangerous symptoms unless the very large doses originally recommended by Norwood have been used; still he recommends that the initial dose of ten to fifteen drops should be followed by frequent doses of five drops, as being equally efficacious and less liable to produce disagreeable symptoms. He speaks of being frightened at first by the depression which sometimes follows very large doses, but declares that the patients always recover. Since Dr. Baker's paper many observers have lent the weight of their approval to this treatment. In the Transactions of the American Gynecological Society for 1887, Jewett says, "Experience seems to justify the statement that no convulsions will occur while the patient is sufficiently under the influence of veratrum to hold the pulse below sixty. Dr. T. G. Davis,³ of Bridgeton, N. J., has reported six cases successfully treated by the use hypodermically of six minims of Norwood's tincture and one-third grain of morphine combined, the injection to be repeated as required, the aim being of course to reduce the pulse in frequency and tension. There seems little doubt that in this way all may be attained that is achieved by blood-letting, without the disadvantages of the latter method.

Dr. Reamey, of Cincinnati, reported to the American Gynecological Society at Baltimore in May, 1895,

six cases of puerperal eclampsia treated successfully with veratrum viride, with or without morphine. Dr. Reamey had given as much as twenty-five minims hypodermically and believed that morphine controlled its unpleasant effects. Love, of Orange, N. J., has also strongly advocated the use of veratrum viride in this disease in large doses, and claims never to have been obliged to have recourse to radical measures for the induction or acceleration of labor in eclampsia and to have carried his cases safely through. He has employed large doses, even a teaspoonful frequently repeated. These large doses when given per os, generally produce vomiting, and probably are not entirely absorbed, while, when doses of more than fifteen minims have been used hypodermically, especially without the controlling influence of morphine, distressing symptoms have sometimes been met with. These symptoms have, however, seldom if ever led to disastrous results. It would seem, therefore, generally best to combine a moderate amount of morphine with the veratrum and to use the latter drug hypodermically in small doses of five minims, as being more certain in effect and permitting quicker repetition.

When given in this way one need not hesitate to repeat the injection in half an hour, while if given by the mouth it would not be safe to repeat the dose until a much longer time had elapsed.

At a meeting of the Society of the Alumni of Bellevue Hospital held on October 2, 1895, Dr. C. C. Barrows¹ gave the histories of two cases of puerperal eclampsia treated by rapid delivery followed by the hypodermic use of veratrum viride in doses of five minims. He attributed excellent results to the use of the drug and this opinion was indorsed by Dr. Edgar and others in the discussion which followed the reading of the paper.

Cases.—As illustrative of what I have written, but not at all conclusive with reference to methods of treatment, I will briefly allude to two cases which have occurred in my practice within a short time.

CASE I.—Mrs. A—, primipara, twenty-four years old, first consulted me in June of last year, with reference to her confinement which was due about September 15th. The patient gave a history of diphtheritic nephritis in childhood, with a second attack in her sixteenth year. The urine was found to be free from albumin and remained so until July 28th, when a considerable quantity showed itself. The amount of albumin increased so that in a few days it amounted to one-half in volume. The quantity of urine voided in twenty-four hours varied between twenty and forty ounces. There was general anasarca and almost constant headache, and ocular symptoms were complained of. The patient was apprehensive, as she had lost two friends from eclampsia and dreaded its advent in her own case.

The usual diet and tonics had been prescribed, and small doses of veratrum viride given. On August 15th, about three or four weeks before the end of normal pregnancy, premature labor was induced and on August 16th within twenty-four hours the mother gave birth to a well-developed child weighing eight pounds. The puerperium was uneventful and the mother nursed her child.

CASE II.—Mrs. K— first came under my observation about the end of November, 1895, and expected to be confined about January 6, 1896. This was her second pregnancy, her first confinement having been two years before. Albuminuria had shown itself only a few days before her first confinement, which had been a little premature. The child had presented by the breech and was still-born after a protracted labor. For several weeks afterward the patient had suffered from the most intense nausea and a burning sensation in

¹ Loomis: New York Medical Journal, August, 1873.

² New York Medical Journal.

³ Philadelphia Medical News, 1893.

¹ New York Medical Journal, November 23, 1895.

the epigastrium, which her attendant had attributed to uræmia. During her second pregnancy the urine remained free from albumin until December 8th, when it appeared coincidentally with uterine pains and threatened premature confinement.

The pains subsided but the albumin persisted, though in moderate amount. There were absolutely no other uræmic symptoms, but on December 14th, one week after the first appearance of albumin and about three weeks before full term, the patient was rather precipitately delivered of a healthy living child. The placenta came away spontaneously and there was no untoward symptom until 6 A.M. on the 15th of December, twelve hours after delivery, when the patient was seized with a convulsion which was soon followed by another. One-quarter of a grain of morphine was at once injected by the nurse. When I saw the patient at 9 A.M., three hours after the first convulsion, they had not returned, but she was delirious and could be restrained only with difficulty. The pulse was tense and over 100 beats per minute. I immediately injected fifteen minims of Norwood's tincture hypodermically.

In half an hour the pulse had fallen to 60 and was soft, and the skin had become moist.

Consciousness returned in a few hours and the patient made a good recovery. Smaller doses (five minims) of veratrum were given at intervals as demanded by the patient's condition, and other measures, such as the use of chloral by rectum and large saline enemas, were employed with great benefit. The albumin disappeared eight days after confinement.

The Induction of Premature Labor.—It seems advisable to say a few words as to the method of inducing premature labor. Many methods have been recommended, such as the prolonged douche, the use of electricity, forcible and quick or slow and gradual dilatation of the cervix, the tamponade of the vagina, and, last, the introduction of some substance or instrument into the uterus with a view to promote its contraction. Among the latter one of the most recent methods was that of Pelzer who advised the injection of glycerin. This method and its modification, by means of which the glycerin is injected into a condom attached to a catheter, after the latter has been introduced into the uterus, may be useful in certain exceptional cases but have many disadvantages, and the injection of glycerin is certainly not without danger. It seems to me that except in case of urgency, which does not exist when labor is induced as a prophylactic measure, all other methods must yield to the introduction under the most careful antiseptic precautions of bougies or catheters into the uterus, combined with tamponade of the vagina. The patient and the vagina having been thoroughly cleansed, the cervix should be exposed by speculum and one or more bougies of about 22 F. in size, which have of course been carefully sterilized, introduced along the anterior uterine wall for about eight inches.

It is well to introduce more than one bougie, in order to ensure more prompt uterine contraction. A small strip of iodoform or other gauze may be now passed up just through the internal os and packed around the bougies, while a larger piece of gauze is used to tampon the vagina snugly but not uncomfortably. When the cervix has been found to be well dilated, after about twelve hours, the bougies and tampons may be removed or they may be left until expelled by the labor pains. If further stimulus to contraction seems desirable the vagina may be again tamponed.

Résumé.—From the foregoing it would seem that one is justified after weighing all the best available opinions in concluding

That puerperal eclampsia is due mainly to the non-

elimination from the system of the pregnant woman of toxins which are the direct and natural product of the physiological processes incident to her condition, or to the conversion into toxins of such products and their non-elimination, and that the nervous tension of the pregnant woman predisposes to the disease.

That while albuminuria during pregnancy should lead to grave apprehension, yet many women who present this symptom escape convulsions (about seven out of eight), while convulsions may be met with in women whose urine has remained free from albumin until the onset of the convulsions.

That he who saves four out of five women who have been attacked by eclampsia before or during labor may consider that he has been fairly successful.

That we have medicines powerful for good, and that they should be given a fair trial before resorting to accouchement forcé in actual convulsions.

That at a period when the foetus is viable, especially at the end of the eighth month, if the patient suffers from severe premonitory symptoms, such as anasarca, severe and persistent headache, and the eye-symptoms, and particularly if the evidences of nephritis have persisted for some time in spite of treatment, premature labor should be induced in the interest of the mother and child.

That in the actual presence of convulsions we should endeavor to overcome them by the use of proper medicines and remedial measures, notably by the use of veratrum viride, morphine, chloral, and chloroform, rather than appeal to the rapid emptying of the uterus.

That in veratrum viride we have a remedy powerful for good when properly used, but that of Norwood's tincture it is better not to inject more than five to ten minims for the initial dose, to be followed by doses of five minims at intervals as required to hold the pulse, and that it is well to combine it with morphine.

ACUTE AND CHRONIC CORYZA AND ITS SIGNIFICANCE IN CHILDREN.

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Of the many diseases and affections in children and infants, what is more common than coryza, acute and chronic? The question of what serious consequences may follow such a condition in children if left to itself, is one to which of late a great deal of attention has been given. It would seem that the best answer is to be found in a monograph recently published by Dr. Emanuel Finck, of Hamburg.¹

In the following lines it has been the endeavor to set forth the most salient points of the above-mentioned publication.

It is a well-known fact that the nose as a respiratory organ modifies the air passing through it in three ways: (a) It warms it; (b) it moistens it; (c) it filters from it dust and most of the other impurities.

Mackenzie demonstrates that air passing through the nose is warmed one degree more than air passing through the mouth.

Block has found that the inspired air on its way through the nose gains five-ninths of the difference between its temperature and that of the body; hence, that the lower the temperature of the inspired air prior to its entrance into the nose, the warmer it becomes by its passage through it.

For instance, if the air inspired has a temperature of -8°C. , by the normal breathing it will be increased to 25°C. , since the difference between its temperature and the body heat amounts to 45°C. In the nose the

¹ "Die Bedeutung des Schnupfens der Kinder," von Emanuel Finck. Halle-a-S.: Karl Marhold.

inspired air is moistened, owing to the presence of mucus on the surface of the normal respiratory tract. This thin layer of mucus suffices to retain at least the larger per cent. of dust and micro-organisms entering the nose during inspiration.

According to Jonathan Wright, eighty per cent. of the bacteria present in the air are arrested in the nose and, as Hajek has shown, a large number of them may be destroyed, as the normal nasal secretion possesses certain germicidal properties. It was found that the spores of anthrax are killed by it in three hours, and that nearly all germs that produce affections of the respiratory organs are destroyed in the same manner. It is readily understood, therefore, that any cause which alters the character of the normal nasal secretion facilitates the entrance into the body of the germs of infectious diseases—an important point, considering the fact of the greater susceptibility of children compared to that of adults to diseases of this kind. As is known, a child can acquire an acute coryza even so early as its birth, if the mother be suffering from a purulent vaginal discharge; also if in bathing the child unclean sponges are brought into contact with its face.

The inflammation of the nasal mucous membrane results in a partial or complete obstruction of the nasal passages, so that the child is compelled to resort to mouth breathing; and breathing of this character for children is surrounded with many dangers.

In the first place it interferes with the child's nutrition. If the baby is nursing at the breast it must continually release the nipple in order to breathe through the mouth; in consequence of this it grows impatient, and finally can no more be induced to take the breast and rapidly shows signs of emaciation. Further, this mouth breathing seriously disturbs the sleep.

Babies under normal conditions sleep with closed mouth; also when awake in the first months of life they are not able to breathe through the mouth. They learn this kind of respiration only gradually; consequently, when nasal breathing is made impossible through the coryza, the child cannot enjoy a sound and refreshing sleep. Dyspnoea sets in and the child awakes with a loud cry. This disturbance of sleep is an essential cause of the great debility observed in babies with acute coryza. Chronic coryza in children is followed by consequences not less serious than those of the acute form. These consequences consist chiefly, first, in a hypersecretion with a changed quality of the secretion; second, in hypertrophy or atrophy of the mucous membrane. The hypertrophy of the nasal mucous membrane is a hindrance to nasal breathing. This form of respiration only is adapted to the requirements of the organism and to its protection against injurious germs contained in the air inspired. If the lumen of the nasal cavities remain stenotic a long time, owing to a hypertrophic rhinitis, the result must be a rarefaction of air behind the stenosis proportionate to the latter and to the force of inspiration and aspiration of blood to the mucous membrane lining the pharyngeal space. This hyperæmia is not alone confined to the mucous membrane coating the pharyngeal space, but extends through the entire respiratory tract, even as far as the alveoli. Experience teaches that almost all children suffering from chronic coryza are affected with bronchitis, which is but the natural consequence not only of the narrowing of the nasal fossæ, but also of the changed character of the nasal secretion, which now allows the air to enter the respiratory tract in an unchanged condition. Under such circumstances it is obvious that a sufficient oxidation of the blood cannot take place. This lack of oxygen is indicated in children which have a marked stenosis of the nose even in their appearance—a pale, livid face and

bluish-tinged mucous membranes. If the child at the same time be of a neuropathic disposition attacks of pavor nocturnus may occur. The popular explanation assigning bad dreams as the cause does not seem satisfactory from a scientific point of view; for whence come these disturbing dreams? In sleep the child breathes only superficially and if the nose is in any way obstructed, after a few hours a light carbonic-acid poisoning must set in, followed by a sensation of oppression and heavy dreams. In a similar way can we explain the occurrence of enuresis nocturna, found so frequently in children affected with chronic coryza. A much more serious result of a long-existing nasal stenosis is deficient development of the thorax. Owing to the superficial breathing, the lung does not attain that degree of expansion on which depend, on the one hand, sufficient oxidation of the blood, and, on the other hand, a sound and normal development of the thorax. In most children of this kind we find that the thorax is flattened, but in many of them, especially in those of rachitic tendency, the deformities of the thorax are much more marked. The lower part is retracted on account of the increase of the endothoracic pressure, and remains so permanently; whereas the upper part is dilated, owing to the forced respiration.

It is easy to understand that under these circumstances the vertebral column is likely to be involved. Cases have been reported in which one nasal passage was obstructed, the consequence being a scoliotic deformity of the vertebral column. The correctness of this statement has been proved in two ways. Ziem obliterated by means of suturing one of the nasal orifices in kittens, and observed as a result a scoliosis. Further, the treatment of nasal obstruction improves very rapidly certain forms of kyphosis, scoliosis, and deformities of the thorax. If the nasal passages of a child are obstructed at the time when it learns to speak, this obstruction will form a great impediment, for the air which normally escapes through the nose during the act of speaking is here forced back against the larynx, and this throws increased work on the latter. Consequently we have a relaxation of the laryngeal muscles and an early fatigue of the voice. A symptom almost constantly present in children suffering from chronic coryza is impairment of hearing more or less pronounced. A hyperæmia and in most cases a hyperplasia of the naso-pharyngeal space necessarily obstructs the ostium pharyngeum tubæ, and interferes with the supply of air to the tympanic cavity. In children this occurs much more frequently than in adults, since the peculiar form of the pharyngeal opening of the tube favors such a condition.

In not a few eye affections of children can the causes be traced back to a chronic coryza. Ziem even asserts that two-thirds of all eye diseases are due to nasal affections. He has shown that purulent catarrhal inflammation of the lachrymal canals is produced by the entrance of pus during the act of blowing the nose. Von Hasner found that among fifty-nine cases of diseases of the lachrymal duct fifty-one showed a pathological condition of the nasal cavities. J. Michel and Seifert observed among thirty eight cases of dacryoblenorrhoea thirty-seven with affections of the nose. Farravelli and Krüch found among cases of diseases of the lachrymal sac thirty showing nasal catarrh. It is an indisputable fact that the impeded nasal breathing gives rise to a disturbance of brain functions. Children which show evidence of chronic coryza are prone to forgetfulness and headache and make slow progress in school, although their mental abilities may be normal. In every chronic coryza, no matter whether it be of atrophic or hypertrophic form, the character of the secretion is changed, both in quality and quantity, and, as already mentioned, loses

its germicidal properties. This may account for the fact observed by many practitioners that tonsillitis and diphtheria occur relatively often in such children. One of the constant symptoms of scrofula, the swelling of the cervical and submaxillary glands, occurs by the invasion of micro-organisms into those peripheral endings of the lymph tracts which have a direct or indirect communication with the above-mentioned glands. Since these endings are situated in the nose and mouth, the fact is obvious that chronic coryza must play a not inconspicuous rôle in the etiology of scrofula. If the significance of the foregoing facts be fully appreciated, we will no longer treat these symptoms alone with iron, cod-liver oil, etc.; but above all endeavor to re-establish the normal condition of the mucous membrane of the nasal passages, the result of which will be a disappearance of all scrofulous symptoms.

Finck made an exhaustive investigation regarding the relations of chronic coryza to retro-pharyngeal abscesses in children, with the result that in all cases, except those dependent upon caries of the vertebrae, chronic coryza was present. In conclusion, it may be said that Strümpell, Weichselbaum, and others have made the observation that there exists a connection between an abnormal condition of the nasal mucous membrane and cerebro-spinal meningitis.

VIENNA, March, 1896.

Progress of Medical Science.

Syphilitic Spinal Disease.—Dr. Sottas has published an elaborate study of syphilis as it affects the spinal cord. From the *International Medical Magazine* we learn that the author has formulated the following conclusions as resulting from his observations on this important subject: 1. Syphilis can act on the nervous system in two ways: First, directly; in attacking the parenchyma, it determines thus at the onset of the affection the first vague nervous troubles of the secondary period, and later, perhaps, certain systemic affections, as tabes. This mode of action is not clearly explained, for there are no anatomical characteristics which permit us to recognize the origin of the affections which are attributed to it. Second, indirectly, in producing an inflammation of the vascular, lymphatic, and connective-tissue elements. The alteration of the parenchyma is secondary to these lesions. The reality of this process cannot be disputed; it is affirmed by the aspect of the inflammatory lesions, which, although not special to syphilis, are nevertheless to a certain point characteristic of this affection. The process can strike all parts of the cerebro-spinal system, but is limited sometimes exclusively to the cord. 2. Syphilis of the cord appears at a period near that of infection, with a maximum between the end of the first year and the end of the sixth, and is much more frequent in men. 3. The inflammation begins with the vascular walls and perivascular regions and involves especially the small vessels of the periphery of the cord. In the large vessels it involves the internal and especially the external tunic, developing about the vasa vasorum. From this point it involves the perivascular lymph space, afterward the lymphatic system of the meninges, and finally the entire arachnoid cavity. The infection spreads by the circulatory system and rapidly in the lymphatic system, where it assumes an independent form. At this period the lesions are constituted by: An inflammation of the vascular walls, which attains its maximum in the veins and small vessels; a diffuse general infiltration of the connective tissue of the meninges; an irritation of all

the surfaces bathed by the cerebro-spinal fluid (surfaces of the meninges, ventricular walls). These inflammatory lesions are characterized by a tendency to nodular formations (miliary gummata of the meninges, of the vessels, of the cord). 4. The alterations of the nervous parenchyma, of the essential elements, and of the neuroglia are secondary; they may result from imperfect nutrition on account of the vascular lesions of the cord and of the nourishing membrane, or from an invasion of the medullary parenchyma by the specific infiltration. The first is the more important cause. 5. According to the intensity, the distribution, and the rapidity of evolution of the primary lesions, the anæmic necrosis of the nervous tissue appears abruptly as a transverse softening, which may be located at different points of the cord or predominate in one or the other vascular department; or else it appears slowly, and then the destruction is accompanied by a process of substitutive reaction of the neuroglia, which replaces the destroyed elements. This period of substitution is favored by the partial return of the circulation (collateral circulation, development of the vasa vasorum, formation of new capillaries in the obliterated vessels), and terminates in the neuroglia sclerosis. The connective tissue which enters the cord with the vessels is also thickened. 6. Although the necrobiotic lesions followed by sclerosis constitute the principal alteration, there are certain medullary and especially radicular changes, which result from the invasion of the nervous tissue by an infiltration extending from a point in the meninges or from a perivascular sheath. This process can in certain cases assume a considerable importance. 7. While the lesions preserve the same characters, they may vary in their distribution. They are generally diffuse, but they sometimes assume the aspect of a transverse lesion, more or less intense, more or less limited, and located at different heights of the cord. They can be distributed more irregularly in a considerable extent of the cord. In every case they are more marked in the marginal zone. The dorsal location is the most frequent. Be the lesions confluent or be they disseminated, the result is always the same, and they produce the effect of a transverse lesion, accompanied by a secondary degeneration ascending and descending. The lesions involve especially the territory of the postero-lateral spinal vascular system. They may predominate in certain regions of the cord—the lateral columns, the posterior columns, the gray substance of the anterior horns—and thus simulate certain systemic affections. 8. The ordinary clinical evolution is the following: At the period of formation of the primary vascular lesions and of those of the meninges, there are diffuse premonitory phenomena. At the period of softening and of degeneration of the nervous elements there is an attack of paraplegia, followed by paralytic phenomena and grave trophic troubles. At the period of sclerosis there is the chronic spastic paraplegia. The abrupt onset can be manifested without being preceded by a prodromic phase, or in other cases the spastic paraplegia comes slowly without passing through the acute stage. 9. Death may occur either in the first period of the affection from the localization or extent of the lesions, or more slowly from the progress of the affection or from a complication. The ordinary termination of the affection is a spastic paraplegia persisting in a chronic state after an amelioration more or less marked. The complete recovery is possible only in certain conditions, when the primary vascular and meningitic lesions have been arrested before the final destruction of the nervous parenchyma. The reorganization of the necrosed nervous tissue, if it is possible, is manifested only in a limited degree. 10. In certain conditions the primary inflammation is accentuated in the meninges, producing a meningitis or a pachymeningitis, or else it as-

sumes the form of a circumscribed gummatous neoplasm. 11. The iodo-mercurial treatment is demanded at the appearance of the first symptoms. It acts only on the primary inflammatory productions and is without influence on the necrobiotic lesions once established. 12. The medullary syphilis is always a serious affection. Death may intervene in spite of treatment, especially in the acute forms. Outside of certain rare fortunate cases in which complete recovery is obtained, the amelioration never goes beyond a certain limit, which is fixed, on account of an incurable sclerotic cicatrix of the cord.

Prolapse of the Umbilical Cord.—Dr. Brothers proposes the Trendelenburg posture for this complication (*American Journal of Obstetrics*). This can be improvised by placing an ordinary chair upside down at the foot of the bed, the back of the chair making an incline for the legs and hips to rest upon. Dr. Brothers has used this method successfully three times. Version can be performed much easier with the patient in this position.

The Maternal and the Fœtal Blood at Birth.—Drs. Elder and Hutchison have reported before the Edinburgh Obstetrical Society the result of a series of observations on the blood of mothers and healthy children immediately after birth. They obtained the blood from the umbilical cord when it was cut and from the lobe of the mother's ear during the latter part of the first or during the second stage of labor. They arrived at the following conclusions (*Edinburgh Medical Journal*): (1) The blood of the newly born child is relatively richer in red corpuscles than that of the adult by 350,000 to 500,000 per cubic millimetre. (2) For a short time after birth—up to about two days—the red corpuscles seem to increase in number. This is probably due to the fact that the total volume of blood is less, for the reason that the fluid lost from the body during this time is in excess of that absorbed. Thus, concentration of the blood is produced. After the second day or so the red corpuscles gradually decrease. (3) The number of red corpuscles varies much more than in adults, probably because of greater variations in the total volume of the blood. (4) At birth there is always present a considerable number of nucleated red corpuscles. They vary, however, in number in different cases. (5) About the sixth month of intrauterine life the number of nucleated red cells is very much greater than at birth. They probably rapidly decrease in number during the later months of pregnancy, and altogether disappear from the blood in a few days after birth. (6) The blood of the newly born child is relatively much richer in hæmoglobin than the blood of the adult. (7) The individual red corpuscles are richer in hæmoglobin than those of the adult. (8) The blood of the mother at parturition is anæmic. (9) In any individual case the blood of the mother is considerably poorer in red corpuscles per cubic millimetre than that of her child, and it is still more deficient in hæmoglobin. (10) Both the blood of the mother and that of the child contain a larger number of white corpuscles than normal adult blood. The blood of the mother may be quite as rich in white corpuscles as that of the child. (11) The blood of the child contains a distinctly larger proportion of lymphocytes and a distinctly larger proportion of neutrophile leucocytes than the blood of the adult; the number of eosinophile cells seems to be slightly deficient. (12) At the sixth month this excess of lymphocytes is probably even more marked than at birth; they probably decrease during the later months of pregnancy. (13) After parturition the number of white corpuscles in the blood of the mother (at least of those who suckle their children) decreases markedly in a few days. The great difference between the constitution of the blood

of the mother and that of her child would altogether dispose of the idea of any mixing of their bloods, even if histological investigation had not already proved that this did not occur. There can be no doubt that the excess of hæmoglobin and consequent preponderance in oxygen-carrying power on the part of the blood of the child must be one of the most important means by which its metabolism is carried on as it is, and yet, although this excess of hæmoglobin has been long known, its importance is not usually drawn attention to in this connection. When it is remembered that the child's blood can be oxidized only indirectly through the blood of the mother and is consequently in a possibly comparative state of cyanosis, it can be seen that a great quantity of red corpuscles is valuable for the child to compensate for this. This great excess in red corpuscles and hæmoglobin is also found in children with congenital malformations of the heart and cyanosis. The excess of hæmoglobin and of red corpuscles in the blood of the child in utero also shows that the life of the child is to a certain extent parasitic, *i.e.*, that it has a certain amount of independence. In cases of anæmia the blood of the child does not seem necessarily to suffer *pari passu* with that of the mother, but on the contrary the child seems to get more than its share.

Rectal Examination of Pregnant Women.—Dr. Beckman has tried this method with great success in one hundred parturient women, the details of pelvis and cervix being easily made out (*The Medical and Surgical Reporter*). The duration of the pregnancy and the state of the bladder could be determined in seven per cent. of the cases, and the fontanels and sutures could not be felt in twenty-eight per cent., but this was less important, since the position of the fœtus could easily be detected by external examination and especially by auscultation. It was always possible to distinguish the occipital from the frontal portion of the head. The advantage of rectal examination is that infection through the genitals is avoided, the only objection being that sometimes examination through the vagina may become necessary, and that infection may occur through the examining finger, though the latter is easily disinfected, since the rectum does not contain specific microbes. The author considers rectal examination of great value to midwives, enabling them to determine if the presence of an obstetrician will be necessary. Zweifel's experience in the Leipsic obstetrical clinic showed that students instructed in this method of examination could determine all the necessary details without recourse to vaginal examination. Ries believes that midwives should be forbidden to make examinations through the vagina, as their duty is only to assist at normal births. Kroenig is inclined to permit vaginal examinations only (1) when it is difficult to determine through the rectum what part of the fœtus is presenting; (2) when the midwife is not able to bring about relaxation of the cervix; and (3) when the pains last more than two hours.

Menstruation.—Prof. A. F. A. King, of Washington, D. C., published a paper in the *American Journal of Obstetrics*, in which he attempted to prove that menstruation had not existed in the original woman, but had gradually developed as a result of deterioration in the race produced by physical and mental indulgence. The age of puberty varies in different countries, ranging from the tenth to the twelfth year in warm countries to fifteen and eighteen in northern regions. Raciborski demonstrated many years ago that the average duration of menstrual life is thirty-three years, and therefore a woman should cease menstruating from the forty-fifth to the forty-eighth year. It is never necessary to make a vaginal examination for painful menstruation on a girl at the ordinary age of puberty.—PAUL F. MUNDÉ (*Med. Brief*, April, 1896).

MEDICAL RECORD:

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SHALL NEW YORK HAVE A GREAT MEDICAL LIBRARY?

NEW YORK has now reached that stage of development as one of the imperial cities of the world when it is imperative that every thoughtful citizen should consider well the nature, present condition, and future prospects of those elements in its organization on which its true glory and greatness will depend in the coming century. Thus far our institutions, whether religious, charitable, political, or educational, have too often had a spontaneous origin and an unsymmetrical growth. The foundations on which they were constructed have proved inadequate and hence unstable, and in their development they have failed to meet the necessities of the next generation. But the time has come when it is evident that, if New York is to secure a commanding position among the capitals of the world as a great centre of moral, social, scientific, and intellectual influence, it must not only create new organizations adapted to meet the ever-increasing demands of a higher civilization, but it must also strengthen the foundations and enlarge the capacity of many existing institutions.

These facts apply with full force to the medical institutions of this city. Without any special effort, but in the natural course of events, New York is rapidly becoming the centre of medical learning on this continent. Its general and special hospitals, its schools for undergraduates and graduates, its laboratories and libraries embody those conditions and advantages which are essential to meet all the requirements of scholars devoted to the cultivation of every department of the medical sciences. And the question which now confronts our profession is: How shall these conditions be made most available for the demand which will be made upon them in the near future? There is but one feature of this subject which we shall discuss at this time, and we select that because it is most urgent.

The New York Academy of Medicine has made an appeal to the public for an endowment fund of \$100,000 for its library. The claims of the Academy upon the public for aid in its efforts to make the library worthy of the city are very modestly set forth. It is asserted "that the Academy has earnestly, persistently, and successfully exerted itself to promote the public health: 1, by affording information and aid on important sanitary subjects connected with the public streets

and water supply of the city; and 2, by combating the malign influences of infectious diseases in the city and country at large through co-operation with the health department of the city and the medical bodies in other States of the Union. In the recent cholera invasion a committee of the Academy labored long and untiringly, both in the city and at quarantine, under adverse circumstances and at a great personal loss, to prevent the entry into the city and country of this terrible destroyer of human life and prosperity. The medical profession is engaged in ceaseless and gratuitous labor in behalf of the stricken poor, and has never been niggard in its financial or physical contributions to their benefit."

We do not hesitate to add, in much more emphatic language, that New York owes to the Academy, as the chief incorporation of the medical profession, a debt which money can never discharge. To that profession she is indebted for the only condition on which her present and future greatness must depend, viz., a healthy residence for an enormous population. To-day the citizens of New York enjoy greater protection from contagious and infectious diseases, from foreign pestilences, and from local sources of sickness, than any metropolis of equal size in the world. And this immunity is daily increasing through the labors of the health department, the most perfectly organized branch of the city government. This department was created and has been administered by representatives of the Academy of Medicine.

And what does the Academy now ask of the citizens of New York? Not pecuniary rewards for its past services, but larger means of usefulness. It asks only that it may be assisted in its efforts to make New York a great centre of medical learning. Already its medical schools are filled to overflowing, and the time is not distant when, if all its vast opportunities for medical instruction are properly utilized, it will attract not only thousands of students from all parts of the country but medical writers and authors. But one of the important elements in the foundation of a great and attractive centre of medical education is a public library in which the student and ripe scholar alike find ready at hand every kind of information they may seek. To create such a library has been the aim and effort of the Academy for nearly half a century. And these efforts have been crowned with a remarkable degree of success, considering the limited means at its command. The library contains at present forty-five thousand volumes, and during the past year was consulted by upward of ten thousand readers.

But, well equipped as the library is, it comes far short of the demands which are made upon its collection by medical scholars. It must be remembered that in no department of human knowledge is scientific investigation making such rapid advances as in medicine. The collected literature of antiseptic surgery, of bacteriology, of medical electricity, and of hypnotism, for the last decade, would make a large and costly library. Worthless as much of this literature may be intrinsically, yet no reference library can afford to be without a single publication on these as on all medical subjects. It should be impossible for any person to seek

in vain for an original article on any medical or allied subject in the Academy's library. But to meet the demands of such a library for constant accessions to its collection, both of current serial literature and books and pamphlets, a large endowment fund is absolutely necessary. The desire to create such a medical library, which will meet every want of the student now and henceforth, is the aim of the Academy, and to accomplish this purpose it makes its appeal to every one who has the best interests not only of the city but of humanity at heart.

HOW SPECIAL SKILL IS ADVERTISED IN THE NEWSPAPERS.

THE true inwardness of the prevalent professional advertising in newspapers is so apparent to every ordinary student of human nature that none of the usual excuses are of any avail. The oft-repeated explanation that it is impossible to prevent it is very properly received with the smile that adjusts a strained courtesy with an obvious untruth. While it may appear to the offender as the only means of prying his conscience to a proper level of rectitude, it nevertheless leaves an ugly crack in his general character. The fact is that in estimating the evolutionary processes which from a newspaper point of view make certain men the most famous discoverers and the most successful operators of their class, we are necessarily forced to consider the controlling influences of the weaker rather than the modest incentives of the stronger sides of human nature. These conditions are so well understood that every man whose operation or whose method of treatment of disease is figured and described is very properly open to the suspicion of having met the reporter more than half way in an apparently laudable ambition of enlightening the public. With every disposition to be reasonably liberal in the interpretation of motives, with every willingness to admit that there are always exceptions to every rule, that there are not a few medical men whose opinions on general questions affecting public health are eagerly sought by the daily press, that there exists the usual amount of nonsense concerning the more absolute and more literal interpretation of ethical rules, we on the other hand fully believe that the burden of explanation of every newspaper report of a medical man's personal exploits rests entirely and solely with the party thus advertised and thus directly implicated. We speak advisedly on this point, and can, if need be, prove our position by very direct testimony. It is an insult to ordinary intelligence to suppose that a detailed account of a surgical operation can be made by any newspaper reporter who, by the merest chance, may have forced his unwelcome presence into a hospital *clinique*. The newspaper man, bright as he may be, is never sufficiently educated in his anatomy and is never able to give a scientifically accurate and detailed account of the surgical technique that necessarily belongs to the proper performance of the most ordinary operation. There is only one man who can do this satisfactorily, and he is the operator himself. More than this he, in the great

majority of cases, does give it, whether he is willing to admit doing so or not. Too much credit cannot be given to the enterprise of the daily press, but every sensible medical man knows its limit in regard to the possibility of accommodating the ordinary every-day knowledge of affairs with the carefully written technical accounts of the latest "most wonderful and most dangerous operation." The usual method of such reports is to describe the procedure in necessary detail, to illustrate the operation from actual photographs, and at the end make it appear that the operator was unwilling to be interviewed, was annoyed at the publicity of the report, and with transparent modesty was more than sorry that his "humble efforts to advance his glorious art" should in such an unseemly way be heralded by the press. This is done every day with the traditional stupidity of the ostrich which, although hiding its head, leaves the less desirable parts of the body better exposed to view and more open to attack.

The newspapers are governed by legitimate principles in obtaining news. There is always something with which to make a proper start. Very little missionary work is done in the way of hunting up obscure but deserving genius. Such game, as a rule, distributes its own scent, and is never better satisfied than when the pack is in full cry. Examples of this are frequent enough with every outsider who views the matter objectively. The laws of cause and effect are never violated. The fox in the chicken coop is seldom a mere coincidence. Only recently it has been found that a very worthy stickler for etiquette was guilty of actually paying for an account of his professional movements in the society column of a leading London court journal. It is the false pretense of the thing that carries its condemnation on its face. Fortunately for all concerned, the man who does it gets his labor for his pains. The casual amusement of the public is one thing, and the contempt of the silent majority in his profession is altogether another thing. The latter can never be reached nor measured, but like all other quiet forces sooner or later makes itself felt in the directions of professional ostracism and professional ruin.

The real motive for professional advertising is always self-interest. Backing all attempts in that line is the desire to make special bids for business. It is in imitation of the quack who aims to be the only one who may be skilled in the treatment of a given case. The ego is the pivotal point around which all other minor considerations turn. We in this way hear so frequently of the special operations that cannot be performed by any one but the subject of the report, and the cures for consumption, cancer, eye strain, and hydrophobia which are beyond possible imitation by others of the profession. There is every difference between the man who speaks for himself and the one who is content to voice the opinion of his profession as a body concerning matters of public health and public safety. In the latter instance he is a mere exponent of general and well-recognized professional opinions, his individuality is entirely lost in the cause he represents, and his only desire the laudable one to reflect due credit upon his fellow-workers. The mo-

ment this principle is lost sight of, his real motives have but one interpretation and his ostensible excuses have but one construction.

A NEW DANGER IN TALL BUILDINGS.

MR. CHARLES F. WINGATE, the well-known sanitary engineer of this city, in a letter to the *Sun* calls attention to a new source of danger in the so-called "sky scrapers" in what he describes as draughts of sewer gas from the escape pipes of overtopping buildings into the windows, chimneys, and light shafts of adjacent houses.

"In a recent notable case," he writes, "the entire family of the superintendent of a large office building, occupying spacious rooms on the roof, surrounded by loftier buildings, but with a magnificent outlook over the harbor, have suffered from severe forms of zymotic disease, including repeated attacks of malarial fever, so that the family have been nearly decimated and have been forced to abandon their apparently ideal quarters. Growing plants were destroyed by the virulent odors which penetrated their rooms, so that it was impossible to open windows, or to occupy the apartments for living-purposes."

This view of the subject is an entirely new one, and, being presented by a careful and competent observer, deserves to be considered in the light of a possibly ever-present and powerful factor for evil in all neighborhoods invaded by these unsanitary abominations. It is quite possible, now that attention has been drawn to the facts in question, that many well-founded complaints will be made which may claim the attention of the health department in the direction of some necessary legislation on the subject. The health department has it in its power not only to verify or disprove the existence of the conditions presented by Mr. Wingate, but to extend its observations upon the possibility of the existence of like conditions in every part of the city in which similarly deleterious down draughts are likely to be produced.

News of the Week.

A Medical Mayor.—Dr. Daniel A. Currie has been elected mayor of Englewood, N. J. Our congratulations are tendered accordingly.

Appendicitis from Chewing-Gum.—A young man in Peekskill was recently operated upon for appendicitis, and in the inflamed and ulcerated appendix was found a piece of chewing-gum which had been swallowed accidentally a few days before the disease became manifest.

The Late Dr. J. West Roosevelt.—The directors of the New York Physicians' Mutual Aid Association have heard with deep regret of the death of Dr. J. West Roosevelt, an honored member of the association. His learning, his probity, and his manliness were qualities which endeared him to all with whom he came into contact. They acknowledge with deep appreciation his generosity and kindness in be-

queathing to the association the amount of his claim, \$1,000, as an addition to the Permanent Fund of the association, and feel that in no surer way could a benefaction be made, for all time, a blessing to the needy members of his profession in this State. It was ordered that the name of Dr. J. West Roosevelt be placed on the list of benefactors of the association, and that notice of this action be sent to the medical journals.

Dr. Leszynsky Vindicated.—The charges of mismanagement made by Dr. William M. Leszynsky against the president and board of managers of the Hebrew Sheltering Guardian Society Orphan Asylum, situated at West 150th Street and the Boulevard, which resulted in the resignation of the entire medical board, have been sustained by the investigating committee of the State Board of Charities, which has recommended measures for the better government of the institution.

Reward for the Discovery of a Cure for Tuberculosis.—It is said that Mme. Audriffred has given to the Paris Academy of Medicine a sum equivalent to \$160,000, on condition that the same be securely invested and the income be paid yearly to the man who discovers a specific remedy for consumption, whether a Frenchman or a foreigner, when it can be definitely decided that such a remedy has been discovered.

Typhus Fever is reported by Miss Clara Barton, president of the American Red Cross Society, to be prevailing to a frightful extent in Marash, Syria. In Zeitoun also there are from forty to fifty deaths daily from this disease.

Tuberculosis in England.—According to Dr. Murrell, from 50,000 to 60,000 people in England and Wales die annually from pulmonary tuberculosis, and another 50,000 from other tuberculous diseases. From 1848 to 1880, 1,702,002 deaths were registered due to phthisis, the majority being young adults. No other disease claims an equal number of victims.

Dr. Francis J. Quinlan has been appointed laryngologist and rhinologist to St. Vincent's Hospital, New York City.

Depilatory Action of the "X" Rays.—Prof. John Daniel, of Vanderbilt University, writes in *Science* that, being asked to undertake the location of a bullet in the head of a child, he and Dr. W. L. Dudley decided to make a preliminary test of photographing through the head with their rather weak apparatus before undertaking the surgical case. Dr. Dudley lent himself to the experiment, and a plate holder containing the sensitive plate was tied to one side of his head, with a coin between the plate and his head, and the tube was set playing on the opposite side of his head. The tube was about one-half inch distant from his hair, and the exposure was one hour. The plate developed nothing; but twenty-one days after the experiment all the hair came out over the space under the "X" ray discharge. The bald spot was two inches in diameter, which was exactly the size of the "X" ray field close to this tube. The skin looked perfectly

healthy, and there had been no pain nor other indication of disorder. Professor Daniel thinks this incident may possibly be confirmatory of one theory which has been offered as to the nature of the "X" rays. The suggestion, beginning with Professor Roentgen himself, has more than once been made that they are longitudinal rather than transverse vibrations. It is difficult to distinguish a longitudinal displacement of the ether from an electric current, as far as it goes. A well-known method of depilation is that by electrolysis, or sending a current to the roots of the hair by a needle. If any such quasi-electric current has resulted from the "X" rays, the effect upon the hair might be thus accounted for. The intensity of the discharge in this case was not sufficient to heat the tube except very slightly; and the occasional small electrostatic spark from the surface of the tube to the hair, but which was hardly noticeable, would also, the writer thinks, not account for this effect.

The Extermination of Tuberculosis in Cattle.—The New York State Board of Health has decided that the only effectual way to eradicate tuberculosis in the herds of cattle is to kill the diseased animals, and it proposes to petition the legislature to appropriate enough money to enable the health authorities to pay the owners a fair price for all diseased cattle destroyed. It will ask next year for an appropriation of \$300,000 to carry on the work.

Hospital for Contagious Diseases on Staten Island.—The Richmond County Medical Society has issued an appeal asking for contributions to a fund sufficient to erect a hospital for the treatment of contagious diseases on the northwest portion of the Smith Infirmary grounds.

Typhoid Fever in Rahway.—There are upward of forty cases of typhoid fever in Rahway, N. J., and it is believed that the cause lies in the pollution of the Rahway River.

The Philadelphia County Medical Society and the American Medical Association.—At a business meeting of the Philadelphia County Medical Society, held on April 15, 1896, the following preamble and resolutions were adopted:

"Whereas, The American Medical Association completed its organization and commenced its actual existence in the city of Philadelphia during the first week of May, 1847;

"Resolved, That a committee of three be appointed by the chair to publicly urge that the association celebrate in 1897 its fiftieth annual meeting with ceremonies appropriate to its long and successful career.

"Resolved, That the delegates of the Philadelphia County Medical Society to the meeting of the American Medical Association at Atlanta be instructed to extend to the association a cordial invitation to hold its semi-centennial meeting in Philadelphia, the city of its birth."

Accordingly, the president of the society, Dr. J. C. Wilson, Dr. John B. Roberts, and Dr. W. M. Welch were constituted a committee to effect the purposes of the resolutions.

Dr. E. B. Landis, a graduate of the University of Pennsylvania, who went to Corea in 1890 to become physician of the port of Chemulpo, recently returned to Philadelphia on a visit, bringing with him a valuable and interesting collection of Corean ethnological objects for the Museum of Archæology of the university. Dr. Landis has been made surgeon in charge of the mission at Chemulpo and has been elected a member of the Royal Asiatic Society. At the conclusion of the recent war with Japan he was decorated by the Emperor of China with the Order of the Double Dragon, third division, first class, for services rendered upon the battlefield.

The Election for President of the Royal College of Physicians, held on Monday, March 30th, resulted, as already announced, in the selection of Dr. Samuel Wilks. The votes on the first ballot were as follows: Dr. Wilks, 76; Sir W. H. Broadbent, 20; Drs. John Ogle and W. H. Dickinson, 9 each; Sir W. Roberts, 7; Drs. Pollock and Church, 6 each; Sir W. Priestley, 3; Sir Dyce Duckworth, Dr. Powell, and Dr. Allbutt 1 each, and one blank paper. As no fellow had obtained a two-thirds majority, a second ballot was taken between the two highest, with the result that Dr. Wilks received 114 votes, and Sir W. Broadbent 22 votes. Dr. Wilks received his M.D. degree from the University of London in 1850. The office of president of the Royal College of Physicians would seem to be an honor to be bestowed on the great men of the profession, yet curiously enough few of those in the past have had reputations that lived. "On examination of the list of past presidents," says the *British Medical Journal*, "it is undeniable that but few of them are known outside the walls of the college; indeed, with the exception of Linacre, Caius, and Glisson, and perhaps Sir Hans Sloane and Sir George Baker, down to the end of the seventeenth century, it is safe to say they have left no public mark. It will possibly be a surprise to some to learn that the immortal Harvey was never president; it is true that in 1654 he was elected to the office, but he was then advanced in years and in failing health, and declined the honor. Among other names which we do not find on the list, but which would have added lustre to it, may be mentioned Sydenham, who was not even a fellow, and Heberden, who have both left imperishable names in medical literature, while the names of those great popular physicians, Radcliffe and Mead, are far better known than those of most on the list."

The Plague in Hong-Kong.—There were seventy-five cases of plague reported in Hong-Kong during the week ending April 7th, as against forty-seven cases during the previous week.

Medico-Legal Women.—The Society of Medical Jurisprudence at its April meeting voted in favor of admitting women to membership in the society.

The Tsarevitch, Grand Duke George of Russia, who has pulmonary tuberculosis and has been living on the Riviera, where he was believed to be improving, is reported to be now much worse, and fears are felt that he can never return to Russia, even if he lives for a few years longer.

The Strangers' Hospital, Rio Janeiro.—We have just received the annual reports of the Strangers' Hospital, Rio Janeiro, for the years ending June 30th, 1894 and 1895, respectively. During the half year ending December 31, 1893, there were only 25 patients admitted, but from January to the end of June, 1894, the great amount of sickness prevailing in the port, aggravated as it was by the exigencies of the revolution, taxed the capacity both of the hospital and of its staff almost beyond due limit. In this period 172 patients were admitted, of whom 149 had yellow fever. There were 53 deaths, including 45 from yellow fever, 2 from pernicious malaria, 2 from tetanus, and 1 each from heart disease, enteric fever, disease of the kidney, and gangrene of the pharynx. From July 1, 1894, to June 30, 1895, there were 104 patients admitted, with 13 deaths, 9 of which were due to yellow fever. The matron and three of the nurses were attacked with yellow fever, which, unfortunately, proved fatal to one of the nurses (Miss Clayton). The hospital was founded with the object of providing prompt and skilled attendance for a limited group of English and American subscribers, their families and employees, in times of illness, especially during the recurring epidemics of yellow fever, but it has now acquired more of a public character than was originally intended.

The Metric System.—A bill was passed in the House of Representatives a few days ago providing that all the transactions of the government and of all departments thereof, involving weights and measures, except the surveys of the public lands, should hereafter be effected according to the metric system. The bill also provides that from and after the first day of January, 1901, the metric system should be the only legal system of weights and measures recognized in the United States. The measure is not to become a law, however, for after the bill had been passed the vote was reconsidered and the bill was sent back to the committee.

The Cholera has reappeared at Alexandria, Egypt, and several natives as well as a resident English merchant have died of the disease.

A Gift to Columbia.—The chemistry building for Columbia University is to be erected as a memorial to the late Frederick Christian Havemeyer. President Low has received a letter presenting the building, which is to bear the name of Havemeyer Hall. The gift is made by the sons and daughters and nephews of Mr. Havemeyer.

The Medical and Surgical History of the Rebellion.—Mr. Broderick, of Kansas, has introduced a resolution into the House of Representatives instructing the superintendent of documents to receive subscriptions for the Medical and Surgical History of the Rebellion and for the Index Catalogue of the Surgeon-General's Office at the estimated cost of reproducing these volumes from the stereotyped plates. Whenever the number of subscribers for either of the works is four hundred the public printer is to reprint and deliver them to the superintendent of documents for sale

to the subscribers. The bill has not yet passed the House and is unlikely to receive much attention during the present session, at least, of Congress.

The Prevention of Bovine Tuberculosis.—The French Government has decreed that all cattle imported into France from foreign countries must be tested with tuberculin at the frontier before being admitted. In those cases in which the characteristic reactions denoting the existence of a tuberculous process are revealed the animals are, after being marked, refused entrance into the country unless the owner gives his consent to immediate slaughter. The tuberculin test is not applied to cattle which are formally declared to be imported for slaughtering purposes. In these cases, however, proof must be forthcoming within fourteen days that the beasts have been killed.

Long Island Association of Alumni of College of Physicians and Surgeons.—There has recently been organized in the city of Brooklyn an alumni association of the College of Physicians and Surgeons, New York, which will be known as the Long Island Association of the Alumni of Columbia University (Medical Department). The following officers were elected to govern the affairs of the association for its first year: Charles Jewett, M.D., *President*; H. Beekman Delatour, M.D., *Vice-President*; E. S. Hodgskins, M.D., *Treasurer*; C. F. Barber, M.D., *Secretary*; George Wackerhagen, M.D., Ernest Palmer, M.D., H. A. Fairbairn, *Directors*. Its object is both scientific and social.

Barbarous versus Scientific Methods in the Disposition of Capital Criminals.—Under this title Dr. J. S. Pyle, of Canton, O., returns to his project of utilizing criminals condemned to death for the purpose of scientific experimentation. His argument is that "a human being whom justice has condemned to suffer death, has forfeited every naturally inherited right and indebted himself to society for the loss of one or, perhaps, more of its members and the expenses of a fair and impartial trial. This latter justice exacts to the same extent as it does the death penalty, and, if the purport of the law is followed, the right to experiment upon capital criminals cannot be denied. . . . Why a capital criminal should not be used in the interest of suffering humanity is hardly to be understood. Can intelligent people exhibit more sympathy to criminals of this class than to the patient sufferers dying daily from diseases that might be prevented by the knowledge gained from such experiments? Can a sentiment be respected which removes human sympathy from the suffering, law-abiding citizen to the capital criminal? Can the execution of a death sentence conducted in the same manner as a modern surgical operation be truthfully represented as more brutal and less sympathetic than hanging or electrocution? The facts are that in no way would it approach the frightfulness or brutality exhibited on the gallows or in the electric chair." We fail to find in Dr. Pyle's article any new arguments that lead us to modify a previously expressed opinion that the proposition is one that shocks human sentiment.

Jefferson Medical College.—The trustees of Jefferson Medical College have purchased properties at the northwest corner of Tenth and Walnut Streets adjacent to the present college and hospital buildings, with a frontage of 118 feet on Walnut Street and 107 feet on Tenth Street. It is proposed to erect upon the new site the most complete hospital building in the country and to alter the present college in correspondence.

The Homage Which Vice Pays to Virtue.—The question of medical advertising has recently been brought up in an English court, with the result of putting some discomfiture upon certain guardians of the British medical conscience. A physician in Blackpool was taken to task by the *British Medical Journal* for permitting his name to appear in the prospectus of a hotel as its physician, the editor expressing the opinion that "the medical man in question has not only disparaged the honorable traditions of the medical faculty, but contravened the well-understood rule of modern practice," and adding "that so reprehensible a departure from professional rule, in face, too, of the protesting dissent of the local practitioners, and in the absence, moreover, of our (self-)solicited opinion, is wholly incompatible with the honor and dignity of the profession, and justly subjects him to medical reprobation." This public reprimand was very naturally resented by the sufferer, and he sued the editor for libel. The case was tried at the Manchester assizes, and the defence called a number of medical witnesses to show that the reproof was justifiable. Among these was Sir Dyce Duckworth, treasurer of the Royal College of Physicians and a member of the Medical Council, a body whose function it is to determine the degree of respectability of medical practitioners in the United Kingdom, and whose members can see moles in other persons' eyes at very long range. This witness gave it as his expert opinion that "it was objectionable to advertise a medical man's name in connection with a hotel, and it was undesirable, even in the case of a hydropathic establishment." But he is a medical examiner for a life insurance company, and the counsel for the defence called attention to the fact that his own name, together with that of the hospital with which he is connected, and his private address appeared in the prospectus of this company, which was widely circulated and placed in large numbers on office counters, and even hung in picture frames upon the walls of hotels and other public places. When asked if this was not advertising, he said that it was not, adding that "his private address was given for the convenience of those who had to see him." The jury was too democratic and too free from hypocrisy to see a difference between the two forms of advertising, and promptly gave a verdict against the editor of the *British Medical Journal*. In some caustic comments on this case the *Medical Press* says that it "has done good in one sense, it has shown the public that whenever a practitioner holding the position of Sir Dyce Duckworth allows himself to be advertised in a shameless manner nothing is said of it by his competitors, but when a hapless medical man in a small country town adopts any species of self-advertisement

the hands of the powers that be are held up in horror at the iniquity of the offence, and he is condemned accordingly. The truth of these facts became so apparent at the trial during the cross-examination of Sir Dyce Duckworth that a lay contemporary waxed merry over the inconsistency which was displayed." The same editor and the same witness have also allowed their zeal for ethics to be smothered by their zeal for publicity in another direction. The witness honored us last summer by a flying visit to these shores, and the fact was announced in an item in one of the leading London journals. The editor recently went to the Riviera for the benefit of his health, and this interesting fact was announced in the *Times*. A confrère, thirsting for knowledge, made inquiries concerning these little items of news, and was informed by the publisher that such notices were always charged for at the rate of three lines for a guinea, and ten shillings and sixpence for every additional line. In the vocabulary of the unregenerate announcements of this kind which are paid for at the regular rates are usually called advertisements. Casuistry is truly a wonderful science, which seems to reduce itself, in the minds of certain of its professors, to the question of whose ox is gored.

The Société for Medical Progress of the West Side German Dispensary held a meeting April 11th. Specimens were presented by Dr. Augustin Goelet; also papers on the management of "Infant-Feeding" by Dr. Louis Fischer and on "Septic Endometritis" by Dr. S. Brothers. The subjects were discussed by Drs. Dessau, Agrimonte, Zwisohn, Gordon, Valentine, and others.

Antimikrobia is a new compound composed of cod-liver oil and ozone and advocated by Dr. Erich Langheld in a paper before the Congress of Internal Medicine at Wiesbaden as a promising remedy for tuberculosis. The remedy is administered subcutaneously.

College of Physicians of Philadelphia.—At a meeting of the surgical section of the College of Physicians of Philadelphia on April 10th Dr. Edward Martin exhibited a man in whose case he had two years before evacuated three pints of pus from an abscess of the liver consecutive to dysentery, with perfect recovery. He presented also an old man from whom he had removed both testicles some eighteen months previously for hypertrophy of the prostate, with admirable results. The man had suffered with prostatic symptoms for perhaps a dozen years and the cystitis and irritability of the bladder were most pronounced. He was partially uræmic when he came under observation, but immediate improvement followed the operation and has since been maintained. Dr. John B. Roberts showed two cases of fracture of the patella, one of which was treated by means of Levis' modification of Malgaigne's hooks and the other by a horizontal purse-string suture. Dr. W. H. Noble presented a man who four years ago had received a bullet wound of the left superior maxilla and in whom recently a tumor developed in the right

upper jaw which upon removal proved to be an osteosarcoma. By using an artificial plate for the roof of the mouth the man had no appreciable difficulty in speaking and presented but little deformity. Dr. Noble showed also two cases in which saddleback noses in syphilitic subjects were greatly improved in appearance by the insertion of a suitable silver plate through a median incision. He exhibited further a man from whom the left cornu of the hyoid bone had been removed. It seemed that the bone had been fractured by a fall upon the edge of a watertrough and the detached fragment had begun to cause irritation. Dr. T. S. K. Morton reported a case of osteomyelitis in which early operation was performed before the occurrence of suppuration, although bacteriological examination of the removed structures disclosed the presence of streptococci. Dr. W. J. Taylor exhibited a ruptured liver from the body of a boy who had been underpinned by a wagon overturned by a trolley car. The lower lobe of the right lung was also ruptured. Notwithstanding these serious injuries, the boy lived for nearly twenty-four hours after the accident.

Wills Eye Hospital.—Dr. James C. Bloomfield has been elected resident surgeon at Wills Eye Hospital and Dr. A. G. Thomson an assistant surgeon.

Club Practice in England.—The London correspondent of the *Sun* says that the agitation in medical circles in England against the growing evil of club practice has reached an acute stage. Clubs for obtaining medical attendance at contract rates are becoming very common. These clubs undertake to supply members with all necessary medical attendance for a fixed annual fee, which in many cases is as low as sixty-two cents. It will readily be seen that the service which a professional man can render for such a pittance is nominal rather than real. A doctor must have some thousands of patients on his list in order to make a bare living. It would, of course, be physically impossible for him to do much more than put in a very brief appearance at the actual deathbeds of his subscribers. His presence at any less pressing emergency would be quite out of the question, and so it has proved according to the testimony at various coroners' inquests. Medical men of all classes are taking up the question, and contract medical service at present rates is being severely discountenanced.

The Red Cross in Abyssinia.—A Red Cross expedition has been fitted out in Russia to give succor to the soldiers of King Menelek's army. The expedition, which consists of sixteen surgeons and some seventy attendants, nurses, interpreters, etc., is fully equipped with medicines, surgical instruments, comforts of the most approved modern kind, and provisions for the use of the members for a hundred days. It is now at Odessa waiting permission of the Italian government to proceed to Massowah and thence to Abyssinia.

Dogtail Sutures.—It is said that the tendons found in the tail of a dog make better sutures than either catgut or kangaroo tendon, when properly prepared in sublimate.

Winter Holidays.—Sir T. Spencer Wells writes in the *British Medical Journal* of a winter holiday which he passed in the island of Jamaica and in Florida. Jamaica, he says, is a beautiful island with a delightful climate, warm sunshiny days, and cool nights; not so warm as during the same season in Ceylon, rather warmer than the Canary Islands and Madeira, and much warmer than Algiers, Corsica, or the Riviera. He recommends a visit to Jamaica to tired-out London doctors who can spare the time and do not fear seasickness.

Not a Health Resort.—The death rate among the European residents of the island of Lagos, off the west coast of Africa, is one hundred and fifty-four per thousand according to statistics given in a colonial-office report recently issued.

Guy's Hospital is in a good way of having a large re-endowment fund. The response to the public appeal in connection with the festival dinner, at which the Prince of Wales is to preside, has been unexpectedly large.

The Plague at Hong-Kong.—A report dated March 2d, received by the Marine Hospital Bureau from Dr. W. F. Arnold, U. S. Navy, stationed at Hong-Kong, China, says that the plague has assumed epidemic proportions at that place. The isolation of suspected individuals has ceased to be practised, and all bills of health of the port state its prevalence, giving details of the precautions taken in cases where important mail steamers were concerned. It was also very prevalent in Canton and high up West River. Surgeon Arnold says that the disease is very fatal. With the exception of about a dozen mild cases that came about a month ago, at least ninety-five per cent. of observed sufferers have died, and that usually within the first four days of illness.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for the two weeks ending April 18, 1896. April 8th.—Passed Assistant Surgeon L. L. Young, detached from the Naval Hospital, Norfolk, and ordered to the *Albatross*. Passed Assistant Surgeon E. S. Bogert, detached from the *Albatross*, ordered home, and granted three months' leave. Assistant Surgeon J. M. Moore, detached from the *Vermont* and ordered to the Naval Hospital, Norfolk. April 17th.—Assistant Surgeon C. M. De Valin ordered to examination for promotion.

An A. M. A. Badge.—The craze for badges and buttons has seized upon some members of the American Medical Association, and it is proposed to get up a badge whereby the members of that body may be distinguished on sight from the outside world.

A Forecast.—The American Medical Association will hold its annual meeting, beginning May 5, at Atlanta. Considerable interest is felt in certain quarters as to the result of the meeting, and if straws tell which way the wind blows it will be a stormy session.—*Vermont Medical Monthly*.

Charity versus Feasting.—A Russian journal is quoted by *La Médecine Moderne* as publishing the following story: It was proposed to celebrate the twenty-fifth anniversary of the scientific career of Professor Korsch, of Odessa, by a banquet, which was to be given by his students and friends. When one hundred and fifty names had been subscribed, and the total subscriptions amounted to one thousand roubles, the professor proposed, instead of having the banquet, to devote the sum to the payment of the tuition fees of poor medical students. This proposition cooled the ardor of the subscribers to such an extent that all but seventeen of the hundred and fifty withdrew their subscriptions, and the total amount left was hardly ninety roubles. If these are the facts, Professor Korsch lost his birthday dinner, and the poor medical students gained but little by it.—*Boston Medical and Surgical Journal*.

Deadly Water.—A St. Louis doctor writes in the Sunday papers warning his fellow-citizens against the drinking of water in large quantities. As if there were any danger of that.

The Coming Meeting of the American Medical Association at Atlanta promises to have a larger proportion of working scientists than has been present at any meeting of the association for the past five years. The San Francisco and Baltimore meetings displayed decidedly retrogressive tendencies. The officers elected at these meetings were certainly not in many instances the best representatives of either the association or the profession. One of the trustees elected has frequently been a tool of the politicians in placing ward heelers in medical offices. His greatest feat since his connection with the association journal has been an unsuccessful attempt to suppress discussion of the dispensary abuse. Such an attempt evinces a contemptuous disregard of the best interests of the profession that should merit removal. The outrageous way in which various sections elected executive committees in defiance of the constitution indicates the loose way in which the business of the association has been run. The Atlanta meeting should adopt some method whereby the secretary is something more than a figurehead, since on him rests the responsibility for many of these blunders. The place of meeting of the association will undoubtedly aid any attempt at reform in the bad business methods which have of late obtained. It is not probable that the beneficent rule prohibiting speaking from the platform will be as blatantly violated as it was in Baltimore and San Francisco. The programme announced, while of a high character, has been far exceeded in previous years.—*Medical Standard*.

The American Climatological Association will hold its thirteenth annual meeting in Lakewood, N. J., on May 12th and 13th.

Dr. Grace, the Champion Cricketer.—The subscriptions received by the various committees for raising a testimonial to Dr. W. G. Grace, the English cricket champion, now amount to nearly \$50,000.

Water Supply of the Lake Cities.—The *Indiana Medical Journal* says that Buffalo, with an abundance of pure water within easy reach, is short of pure water, and, like Chicago, is in the condition of the ox that drinks and passes water in the same pool. Duluth is another lake city which has suffered severely from self-pollution of its water supply. There is no excuse for any lake city being short of water or drinking its own sewage.

The University of Maryland is to have a new hospital built after the most approved modern plans.

The Supply of Cod-Liver Oil is in danger of giving out, as it is said the catch of Norwegian fish is diminishing each year and also that the yield of oil is less in proportion to the number of fish caught.

The Tsetse-Fly Disease.—In 1894 Surgeon-Major Bruce—who had already done good work in Malta fever—showed that tsetse-fly disease, that scourge to the traveller and the farmer in Africa, is associated with the presence in the blood of affected animals of a protozoal organism resembling, if not identical with, trypanosoma Evansi, the cause of the surra disease in India. In a recent report he gives a description of the hæmatozoon of the tsetse-fly and of the disease with which these organisms are bound up, as it affects a variety of domesticated quadrupeds—the dog, the horse, the ox, and the ass. He has failed as yet to get an explanation for the fact that the tsetse fly and the disease depend on the presence of large game in the endemic districts; but he clearly proves that the fly itself is not pathogenic, and that it merely acts as a passive conveyer and planter of the pathogenic protozoal germ. The ordinary and natural source of the germ he has not discovered. He points out the similarity, if not identity, of the symptoms of surra and fly disease; and, as it is known that the former is caused by a trypanosoma, he considers that the probabilities are that the diseases are the same—possibly slightly modified by local conditions. Lingard, however, hesitates to admit this; he points to the fact that, while in Africa the ox is liable to fly disease, in India bovines are immune from surra. Bruce suggests that some local peculiarity in Indian cattle may account for this—that their immunity from trypanosoma disease may be of the same nature as the immunity enjoyed by the Algerian sheep from anthrax, a view which receives some support from the circumstance that fly disease is a milder affection—at all events a less acute affection—in the ox than in some other domesticated animals. We trust that ere long we may hear more from Surgeon-Major Bruce on this subject; meanwhile, we congratulate him on what he has already done—an admirable piece of work which possesses not only great pathological interest but which may prove to be of no small economic importance.—*British Medical Journal*.

Congress of Hydrology and Climatology.—The fourth session of the International Hydrological, Climatological, and Geological Congress will be held at Clermont-Ferrand at the end of September, 1896.

A Correction.—In the report of the meeting of the Practitioners' Society held March 6th it was stated that Dr. C. S. Bull read a paper before the Ophthalmological Society in London; the body before which the paper was read was the American Ophthalmological Society and the place of meeting was New London.

The Association of American Medical Colleges will hold its annual meeting in Atlanta on May 4th. On invitation of the American Academy of Medicine, the association will meet with that body to discuss several papers on medical education at 9 A.M. The regular official session will be held at 4 P.M. The president of the association is Dr. William Osler, of Baltimore, and the secretary Dr. Bayard Holmes, of Chicago. Fifty-five colleges have paid their dues for the past year and are members in good standing of the association.

Chinese Decoration of Dr. Atterbury.—By a recent edict of the Emperor of China, Dr. Boudinot C. Atterbury, of Peking, has received the decoration of the Double Dragon for his services to the wounded during the late war with Japan. Dr. Atterbury is the first of American doctors to be thus honored.

Scarlet Fever Hospital.—The bill to enable Mrs. Minturn's scarlet fever and diphtheria hospital to receive a site from the city of New York at East Seventeenth Street and the East River was passed in the Assembly on Thursday last by a vote of 89 to 42. The bill now goes to Mayor Strong for his approval.

The Société de Médecine de Paris celebrated the centenary of its foundation on March 21st.

The Cleveland Medical Society is indeed flourishing. Of this no further proof is needed than the statement that at each of the meetings of February 28th and March 13th twenty new members were elected. That the society should be compelled, by the abundance of scientific material offered, to hold weekly meetings in March is also significant.—*Cleveland Journal of Medicine.*

The Bill Abolishing the Office of Coroner in New York has been killed in the Assembly. A substitute bill has been recommended by the judiciary committee, which retains the coroner but abolishes the coroner's jury.

Hospitals in Pittsburg.—It is announced that Henry C. Frick, chairman of the Carnegie Steel Company, will build a hospital for children on Squirrel Hill, Pittsburg, within the next year, at a cost of \$500,000. The building will be erected on a plot of forty acres which Mr. Frick owns. The hospital will be placed under the control of the Episcopal Church. The Pittsburg correspondent of the *Cleveland Journal of Medicine* says that there are at present six large hospitals (one of which is homœopathic) in the two cities of Pittsburg and Allegheny, besides several smaller ones. This number is to be increased by two new ones, St. John's in lower Allegheny, and St. Margaret's in Pittsburg. This last-named hospital was provided for by the late John Schoenberger, a wealthy ironmaster, who left \$800,000 for the pur-

pose, stipulating in his will that the hospital should be under the control of the Episcopal Church and modelled after St. Luke's Hospital of New York. He also bequeathed a large tract of land upon which to erect the hospital. Plans for an up-to-date hospital on the pavilion plan, costing \$300,000, have been approved, and it is expected that work will be begun in the spring. So, if the full bequest of \$800,000 is realized, \$500,000 will be available for an endowment fund. Pittsburg has no hospital for contagious diseases, however.

Charity Punishable in Cuba.—Dr. Alejandro Echemendia was arrested recently at his home, in Sancti Spiritus, Cuba, charged with treating a wounded patriot, who was also taken to prison by the police. Investigation the following day showed that the man was not a rebel, but a laborer who was hurt in an accident. The doctor was attending him through charity. Both were released.

Obituary.

MARIANI SEMMOLA, M.D.,

NAPLES.

PROF. MARIANI SEMMOLA, of Naples, whose illness we mentioned last week, died on April 5th. He was born in Naples, January 31, 1831, and studied in the university there. After obtaining his degree he studied in Paris under Roger, Trousseau, and Bernard. In 1865 he was called to the chair of pharmacology and therapeutics in the University of Naples. In 1850, when but twenty years old, he presented to the Academy of Medicine of Naples a memoir on Bright's disease, in which he demonstrated the effect of nitrogenous and non-nitrogenous food upon the excretion of albumin in those suffering from this disease. He was subsequently the author of many treatises and monographs upon albuminuria, diabetes, diseases of the liver, and general therapeutics. An essay published in 1877, upon "Old and New Medicine," was translated into nearly all the languages of Europe, including Portuguese and Greek. His works were always so speedily translated into German that many thought he was of that nationality. He was the founder of the *Archivio Medico Italiano*. His last work, completed only three weeks before his death, was a treatise on diseases of the liver, written for the "Twentieth Century Practice." Professor Semmola was associated with Charcot in treating the Emperor Dom Pedro, and was decorated by his grateful patient with the grand cordon of the Imperial Order of the Rose. The municipality of Rio Janeiro also sent him a congratulatory address and voted him a gold medal. Two years later he was called to Constantinople to see the ex-Khedive of Egypt, and while there received from the Sultan the grand cordon of the Imperial Order of the Osmanie. The Tzar of Russia also made him an officer of the Order of St. Stanislas, presenting him with the insignia accompanied by an autograph letter. He was a member of the Legion of Honor of France and an officer in an Italian order of merit. In 1886 he was made a life senator of the kingdom of Italy. He was known personally to most of the leaders of medical thought throughout the world, and his was a familiar figure at every international medical congress, from that at Brussels in 1875 to that at Rome in 1894.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, April 13, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Rupture of the Quadriceps Tendon; Suture; Recovery.—DR. ARTHUR L. FISK presented a man, sixty-four years of age, whom he had seen in January, 1895. While engaged in unloading a large block of marble, the man suddenly slipped and fell backward. It was found that he could not stand, and he was taken to the Manhattan Hospital. When seen by the speaker on the following day, there was a rupture of the quadriceps tendon with complete loss of motion, and a sulcus above the patella as large as the fist. The man would not consent to operation for a week, and then objected to general anæsthesia, so the operation of suturing had been done under cocaine anæsthesia. On incision the gap between the ruptured parts had been found filled with clotted blood. This was evacuated. The suture was effected by the use of six stitches of kangaroo tendon and a superficial suture of catgut for the fascia and skin. The limb was put up in plaster of Paris. The man now had perfect use of the limb and was able to carry on his work without any inconvenience. The speaker said that he had used a one-per-cent. solution of cocaine and had injected it freely, so that the anæsthesia was good; but the muscular sense had not appeared to be completely dulled, and he would recommend that these operations should not be done without a general anæsthetic.

An Analysis of Cases of Floating Cartilage of the Knee Treated by Operation between 1885 and 1895.—DR. PERCY R. BOLTON read a paper with this title. He said that this particular period had been selected, partly because previous cases had been pretty well reviewed and partly because this period represented a more nearly perfect surgical technique. The total number of cases which were considered to have been reported in sufficient detail to warrant attention was seventy-two. Of these twenty-three were pedunculated and forty-nine non-pedunculated. Besides bodies detached by slight injury, portions might be chipped off from the ends of the bones as a result of severe injuries. This was exemplified in the following case: A heavy blow on the end of the femur caused ecchymosis and effusion into the knee-joint. An incision revealed a foreign body, three-fourths by half an inch, composed of articular cartilage and attached by periosteum to the condyle, from which it had been chipped off by the severe traumatism. The majority of the cases were examples of bodies detached by a process the nature of which is as yet unknown. In 1860 the cases occurring up to that time had been collected. Of the one hundred and thirty-five that had been operated upon by direct incision, there were 74.8 per cent. of successes, 21.4 per cent. of deaths, and 3.8 per cent. of failures. Muller, in 1886, had collected one hundred cases with ninety-six recoveries and four deaths. Between 1885 and 1895, Dr. Bolton said, he had found no fatal results recorded. Sixty-seven cases had been tabulated with reference to the function of the joint after operation. It had been found that in twenty-two per cent. there had been some disability, in thirteen per cent. more or less limitation of motion, and in four per cent. ankylosis. The treatment of the pedunculated bodies, involving as it did greater manipulation of the joint and more chances of infection, should be placed in a separate class. Sixty-two out of the seventy-two cases analyzed in this paper made

a complete recovery; in sixteen per cent. more or less disability was acknowledged. Of the ten unfavorable results six occurred after the removal of pedunculated bodies, and four after operations for the removal of non-pedunculated bodies. Of the six unfavorable results three were unavoidable from the operative procedures required, and three were due to disease existing prior to operation and persisting after it. Of the four imperfect results after the removal of non-pedunculated bodies, in one there was slight stiffness; another recovered with very slight disability after the removal of a loose cartilage one inch in diameter; another had some stiffness after the removal of a large foreign body from a joint the seat of a chronic effusion; and the fourth case required amputation through the thigh as a consequence of suppurative arthritis. As there had been no effusion at the time of operation, no drainage had been employed. In three of these four imperfect cases the patients probably recovered the use of the joint ultimately; in the fourth case alone could one say that the result might have been avoided. From a study of these seventy-two cases it was evident that a loose body in the knee could not be looked upon as a trifling condition. In most cases the incision was made on the inner side of the patella. Small non-vascular pedicles were divided without ligature; small vascular pedicles were tied off; and the larger pedicles were tied in two, the bleeding stump cauterized, and the synovial membrane sutured over the stump. Irrigation and drainage appeared to be of service in those cases in which there was already a chronic synovitis, or in which much manipulation was required, or when there was free hemorrhage into the joint as a result of free dissection. In other cases drainage did not seem to be required.

DR. FISK said he had had the misfortune to see two cases in which the joint had been opened, one accidentally and the other for a gunshot wound of the knee. The first case was that of a young man in whom the knee had been injured by being caught in some moving cogwheels. He had opened and irrigated the joint thoroughly and inserted drainage. At first a bichloride solution, 1 to 20,000, had been used for irrigation, and the tubes had been removed on the fourth day. The wound had healed readily and the boy had left the hospital with an excellent knee. The other case was one in which a bullet had been accidentally discharged into the knee and had become embedded in the condyles. Dr. Roger, of Denver, had made a transverse incision across the joint and sawed through the patella, thus exposing the joint. The ball was removed and the joint irrigated, but the patella was not again sutured. He had not been able to ascertain the ultimate result of that case. Allingham, in his book on the treatment of affections of the knee, advised an incision on the inner side of the patella. He reported a number of cases of "football knee" in which the semilunar cartilages had been torn off. In these cases the portion of cartilage had been removed and the joint closed by suturing the synovial membrane, and the muscular and skin layers separately. This author claimed that the same care should be taken in closing the wound in the knee that would be exercised in closing the wound after an abdominal section. If effusion occurred after the operation, the wound should be opened with a probe at the lower portion and the fluid allowed to escape. By the application of a little pressure all further trouble would be averted.

DR. ACHILLES ROSE said that in Germany there was much litigation over accidents, and in a journal devoted to the special consideration of this subject there had been published a very interesting article on the etiology of floating bodies in the knee-joint. Dr. Schiller had collected all the cases that he had been

able to find between 1883 and 1893. Of these one hundred and forty-three cases thirty-nine were of pathological origin, eighty-five traumatic, and in nineteen the origin could not be determined.

DR. JAMES P. TUTTLE said that four or five years ago he had had occasion to look up the matter of traumatism in the production of these floating bodies, and he had found that the majority of writers seemed to believe that most of the cases resulted from the gouty or rheumatic diathesis. He had seen personally three cases, in none of which could he find a rheumatic condition. All gave a history of more or less severe traumatism to the knee at some antecedent period. In two of the cases the bodies had been pedunculated, and had been crushed off with forceps. In the fourth case, after a severe crushing injury to the knee, a soldier had been treated by Dr. Nathan S. Smith, who had broken up the ankylosis. Many years after this the patient began to notice small floating bodies near the condyles. On examination, the speaker said, he had found three small floating bodies. After consultation it had been first decided to try immobilization. This having failed after several months of trial, a small incision was made and one of the most troublesome of these bodies removed, with the result that the pain and disability had been completely relieved. He felt that the evidence was to the effect that where multiple foreign bodies had been treated by operation there had been more or less limitation of motion, whereas in the cases in which there was only one body the results had been excellent.

THE CHAIRMAN said that in two cases in which he had operated upon two pedunculated bodies in the upper sac, the results had been good. One was a tubercular fringe in a joint otherwise healthy. The patient had remained in good health since then. The other was a mere fibroid thickening of the capsule of the joint. He would like to emphasize the point that had been made about the importance of suturing the different layers separately in closing the wound. Welch had shown the danger of carrying sutures through the deeper layers of the skin, owing to the existence of bacilli which could not be destroyed.

The Treatment of Sero-Cystic Formations along the Funo-Testicular Tract.—DR. THOMAS H. MANLEY said that in many cases of hydrocele after simple tapping it was known that a cure would follow. In his own experience, however, fully one-third had relapsed. In cases not desirable for radical operation, the practice of making local applications of muriate of ammonia and vinegar might be tried. This method had received the sanction of high authority in the past. With proper sterilization of the scrotum, acupuncture should not do any harm if ordinary care were observed. Although some surgeons still persisted in employing the trocar, it was not a procedure to be recommended at the present time. It was slovenly and dangerous. The artificial establishment of acute adhesive inflammation by the introduction of various chemical agents was a most unsurgical procedure, which was often ineffectual and not altogether free from danger. The orchitis which sometimes followed such treatment had been known to cause very marked atrophy of the testicle. Volkmann's method of incision had the distinct advantage of allowing the surgeon to determine exactly the condition within the sac. Personally he preferred the method of resecting the entire tunica vaginalis except the basic attachment of the testis. In these operations one must guard especially against infection and undue hemorrhage. For drainage he used catgut. A light, comfortable dressing should be used. He had treated in the past few years thirty-one cases by the open method, all successfully.

DR. J. P. TUTTLE said that there were many patients

who would submit to the injection method, but would not give their consent to the open operation, or who could not remain in bed for two weeks. He felt convinced that failures with the injection method were largely the fault of the person making the injections. In the first place one often failed to adopt proper aseptic precautions prior to making the puncture, and often omitted to secure thorough emptying of the sac. The quantity of fluid injected was also important. He did not approve of the use of iodine. It was his plan to use pure carbolic acid, for when diluted it failed to produce a cure. After the second or third day the hydrocele so treated would swell up almost as large as before from inflammatory effusion. This secondary effusion should be removed, and then careful pressure should be applied. This would usually effect a cure. He had injected as much as seventy-five to eighty minims of pure carbolic acid without any unpleasant consequences, and had rarely had occasion to do it a second time. It was much better to empty these hydroceles by means of an aspirator than by a trocar. After this method of treatment there was no pain except that produced by distention, and this could be removed by the secondary tapping.

THE CHAIRMAN said he would also speak in favor of the injection of carbolic acid, for he felt that certainly three-fourths of the cases could be cured by this method. The failures occurred chiefly in those cases in which there was more than one cavity. The existence of this condition could be determined at the time of the operation, and then each cavity should be injected separately. Where the sac had a very thick wall, it was better to excise the sac. It should be remembered that recurrences were not uncommon after Volkmann's method, and that they had been reported even after von Bergmann's method had been employed.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 16, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Scleroderma.—DR. F. X. DERCUM, of Philadelphia, before proceeding to read his paper upon this subject gave place to DR. BAILEY, who presented a patient with a condition which he thought fell under the generic term scleroderma. She was a Swedish woman, twenty-eight years of age. Her mother had had a similar condition for a year, and then had recovered completely. During her illness there was general swelling all over the body, inability to help herself, confinement to bed. One brother had also been similarly affected in childhood, and was unable to walk until ten years of age, but finally completely recovered. The patient denied having had specific disease. Eight years ago she was admitted to the Presbyterian Hospital suffering from general œdema and hardness of the skin. The diagnosis was made of erysipelas of the face. Six years ago she entered the same hospital for a similar condition, induration and thickening of the skin. Five years ago she had a third attack, when the skin was hard and thick and motion in the knees and elbows impossible. In 1893 she was admitted to another hospital, unable to move the knees and several other joints. She had received various treatment—iodide, iron, strychnine, thyroid extract, massage, etc. She had improved during the last three years, and thought her improvement due chiefly to massage. Dr. Bailey had been unable to discover any gain from thyroid. There had been no pain except in damp weather. The sweat and sebaceous glands had not been impaired. When shown, the patient's condition was much improved, but the skin on the face, arms, and legs was drawn and tense; there was stiffness of the

joints, particularly at the wrists, elbows, and knees; and in places were hard tumor-like bodies in the skin. Near the eyes the surface was flushed. The skin over the body was normal, but there was some stiffness of the vertebral joints.

DR. DERCUM then proceeded to read his paper, which treated chiefly of the histories of three cases which had come under his personal observation. He did not venture a theory as to the nature of scleroderma, contenting himself with a statement of the clinical facts, which in his cases seemed to point to an impression upon the nervous system as the starting-point—in one instance through a trauma of the head, in another to repeated chilling on entering an icehouse. He did not, however, claim that it was a nervous disease.

Scleroderma might show itself in diffuse or local form, and in different cases the amount of thickening, induration, and discoloration, which were the main dermal phenomena, varied. Its possible relation to the class of cases of which myxoedema was a type was mentioned.

Case I. was that of a German, forty-three years of age, a machinist, whose trouble began with a scalp wound of the occipital portion of the head, inflicted by a falling body. He was unconscious for a few seconds, was taken to a hospital, and remained there four or five days. The wound healed promptly, but he was afterward referred to the nervous department for headache. Dr. Dercum found that the patient complained of severe pain at the site of the injury, and he therefore was disposed to think a local pachymeningitis had been set up by the accident. The accident occurred in May, 1894, and the man reported at irregular intervals until the fall of the same year. Dr. Dercum, having been absent, now saw him again and noticed that his appearance had markedly changed. His face was much fuller and the neck was swollen; there was also swelling over the shoulders, less in the skin of the forearm and back. His first thought was of myxoedema. On being questioned, the man stated that the pain in the head had persisted since the accident; he had noticed that the skin of the face and neck had become thick and hard, and that this thickening and hardening had extended to the shoulders and their neighborhood. Dr. Dercum related in detail the further course of the case. At this time the skin was not pigmented, but it became so later, and subsequently as improvement took place the pigmentation became lighter and finally disappeared together with the thickening and hardness of the skin. Among other symptoms were interference with motion in the joints, sweating, and coldness of feet; these symptoms were aggravated in a warm room. The morbid processes appeared to be limited to the skin and subcutaneous tissue. The urine contained an unusual proportion of solids, the phosphates being in excess. A careful examination of the blood was made. The leucocytes were markedly in excess.

Case II. was that of a female, aged thirty-one, mother of one child, family history negative. About three years ago she noticed that her hands were swollen and red, and that she was stouter than formerly. The swelling was particularly noticeable in the evening, for then she had to transfer her finger rings to the smaller fingers. This condition began in January, and in February the feet had become so swollen that it was difficult for her to put on her shoes. A yellowish-green hue existed around the nails, and the fingers became stiff, so that she could not close the hands. In May there was slight pain in the left wrist, and the finger tips were dry and scaly. During the summer slight puffiness of the face appeared, and extended down the neck and along the arms. The skin of the left face, arms, and hands became reddish and there was pain in the

joints. The change in the surface tissues antedated the pains by six months. The pain in the joints was described as a soreness. Sweating was noticed. The urine was negative. Pigmentation developed in different places—on the hands, buttocks, abdomen, etc. The gait became restricted, but in no sense spastic. Menstruation was suspended for months. Visceral examination was negative. There was sharp pain over right occipital region, where a raw surface formed. The total solids passed in the urine daily was less than five hundred grains, the phosphates being in excess. Microscopical examination showed no evidence of renal disease. The specific gravity of the urine was low. Under dietetic and hygienic treatment this became normal, and the urine increased both in quantity and in the proportion of its solids. The blood showed an increase of leucocytes. Thyroid treatment was also given, and to this the patient attributed a diminution in the thickening of the skin. At the present time the skin had almost its normal appearance and there was improvement in the other symptoms, including motion in the joints. Permanent stiffness, however, remained in certain of the finger-joints, and the cause of this was explained by Roentgen-ray pictures, which showed light in the movable joints while the shade of the bones was continuous across the joints which remained immovable. With the improvement menstruation was re-established.

Two points of interest in this case were: 1, almost universal disappearance of superficial fat as the case progressed; 2, evidence by Roentgen-ray pictures of involvement in joints of other structures in addition to skin and subcutaneous tissues. Pain was also a marked feature in the case, and was of different kinds: 1, pain in joints, not depending on movement; 2, pain depending on movement; 3, pain suggesting neuritis. Then there were the trophic changes, including an ulcer of the ear and occiput.

Case III. occurred in a Swiss woman, aged thirty-two, and began about four years ago in the fingers and then in the hands, which became swollen and indurated. She had been in the habit of going into an icehouse frequently, and this was supposed to be the exciting factor. First one hand, then the other, became affected, and three years ago telangiectatic spots appeared on the face. When seen by Dr. Dercum the patient's face was markedly altered, the skin was drawn, there was inability to open the mouth widely, the superficial fat had disappeared almost entirely from the body. This patient felt worst in cold weather. At one time the thyroid gland was swollen. The urine was similar to that in the second case, its specific gravity being diminished to 1.009 and the total solids being less than five hundred grains. The amount of urea was considerably less than two hundred grains. The only nervous symptom of consequence was recurring mental depression, twice resembling mild melancholia. The parts most involved were the face, arms, hands, and neck.

The author referred briefly to the features of scleroderma as seen in cases described by other authors, and said, with regard to the influence of thyroid, which was used freely in the second case, that it seemed to have had the effect of hastening the disappearance of fat. Whether, like myxoedema, it was dependent upon some change in a ductless gland, we could not yet say. In the first case severe nervous shock seemed to have had some influence, but if shock were a cause scleroderma ought to be as frequent as traumatic neurasthenia. In reality it was known to be very rare.

DR. A. JACOBI was requested to open the discussion. He thought the disease was a very rare and a very interesting one. It was so rare that even in the large monograph of Levine, which appeared last year, fewer than two hundred cases were recorded. Yet

most members had probably seen one or more cases. He had had three, and had seen as many as three others. One of his was that of a man in the last stage, seen fifteen years ago, and, differing from many cases, the pigmentation persisted. The subcutaneous tissue had all gone, and he was so much emaciated and so stiff that he had to be lifted from bed. Of the other two cases the one seen in 1874, in a girl of nine years, was the most typical. She had been puny from birth. In the first year of life she had had tonic convulsions, particularly of the lower extremities, slight talipes equinus, and could hardly walk. When he saw her she was much emaciated; along both brachial plexuses were streaks of brownish discoloration raised a little above the adjoining skin; no fat appeared to be left. Similar brown spots were present on the face, scapulae, thorax, gluteal regions, on the thighs, etc. The appearance of the face was characteristic. The skin on the nose and at places on the cheeks could not be raised. She died a year later of pneumonia. The third case was that of a man with various pains and nervous phenomena. He showed one spot of discoloration about two inches long, raised above the surrounding skin. Other symptoms had led Dr. Jacobi to suspect incipient tabes dorsalis. He put him on mercury and iodide of potassium alternately, and the scleroderma disappeared.

In some cases of scleroderma there were so many nervous phenomena that they appeared to point to the nervous system as the commencement of the disease in those particular instances.

Scleroderma and Facial Hemiatrophy. — DR. CHARLES L. DANA said the only case of undoubted scleroderma among his patients was in a person sent by him a dermatologist for facial hemiatrophy. Until then the scleroderma had not been diagnosed. He had seen two or three cases of the associated conditions subsequently, there being a probable diagnosis of scleroderma in the atrophic stage. The relationship between the facial hemiatrophy and the scleroderma seemed to be close, if they were not identical. Scleroderma seemed also to bear a close relationship to Raynaud's disease. He felt sorry that Dr. Dercum had not advanced some bold theory as to the etiology. One of three possible explanations which came to his mind had not even been mentioned, namely, microbic origin. The others predicated the possible origin in a ductless gland or in degeneration of some nerve centre.

DR. BENJAMIN SACHS said his first case of scleroderma was in a widow, aged forty-five, who had been under his observation and that of one or two dermatologists a number of years, and all of them agreed in the diagnosis. Treatment for several years was absolutely useless until they became acquainted with the remedial properties of the thyroid gland. A week after beginning the use of this the skin became again elastic, and she was able to take the needle into the hand and sew, which she had not been able to do for seven years. This case led him to use thyroid gland as an antifat measure long before its effects in this direction had been recorded. Each time the thyroid-gland treatment was discontinued there would be a relapse. This patient had the appearance of double facial hemiatrophy. There was also the slowness of mental action noted in myxœdema. Another case was in a patient who came for treatment of locomotor ataxia.

DR. N. E. BRILL did not think the disease of bacterial origin. The future alone could show what biochemical change could produce such effects on the nervous system as were seen in some cases of scleroderma.

DR. JOSEPH E. COLLINS thought the careful examinations of the blood made in two of the cases would probably place this among the most pregnant contributions to the pathology of scleroderma. Those findings would seem to point to none of the sources of origin mentioned by Dr. Dana as possible—microbic,

ductless gland, nervous lesion. They pointed rather to a humoral origin.

DR. COLLINS thought there was a closer resemblance to acromegaly than to myxœdema, which latter alone had been mentioned to-night. The author's statement that if scleroderma were dependent upon trauma or cold, it would be very common, was no argument against such relationship. If it were, one might say with equal force that if nephritis were dependent upon exposure how common must be nephritis. It was only when certain conditions existed in the economy, whether referable to the nervous system, to the organ in which the disease appeared, or to the general metabolic condition, that the existence of the facts postulated could bring forth the disease. Though these facts were as common as cold, and the disease as rare as scleroderma, yet they should be regarded as cause and effect. His opinion was that scleroderma was a tropho-neurosis dependent on some humoral condition of the blood, and that it might be favored by inherited or by acquired conditions and exist in association with locomotor ataxia, facial hemiatrophy, or Raynaud's disease, the facts productive of one tending to the production of the others.

DR. ARTHUR BOOTH described a case of scleroderma in the practice of Dr. Jackson. The thyroid gland was somewhat enlarged and the pulse rapid, but there were no nervous phenomena.

DR. SHERWELL said dermatologists were in the habit of looking upon scleroderma as of nervous origin to a certain degree. He had himself a case associated with double facial hemiatrophy, if one could use the word double in this connection.

DR. DERCUM closed the discussion.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE PLAYFAIR TRIAL—APPEAL GRANTED—COLLEGE-OF-PHYSICIANS PRESIDENCY—DR. WILKS ELECTED—SMALL-POX AT GLOUCESTER—MIDWIVES BILL—MEDICO-CHIRURGICAL—INFANTILE DIARRHŒA—FOREIGN BODIES IN BRONCHIAL TUBES.

LONDON, April 3, 1896.

ON Monday leave to appeal was granted to Dr. Playfair, so the case is not fully disposed of. Nevertheless, many papers have treated the trial as if further litigation was impossible, and both the public and the profession have displayed intense interest in the questions involved—most of all in that of the inviolability of professional secrecy, and this is the one question which makes this *cause célèbre* of vital interest to every medical man. Dr. Playfair was accused of violating a recognized rule of medical ethics by communicating to third parties things that came to his knowledge in the course of professional attendance on a married lady. That lady was, it is true, connected with his wife's family by marriage and on terms of social friendship with his family. It was, therefore, urged that the right to protect his own wife and daughters justified him in divulging a professional secret. This, however, was brushed aside by the verdict of the jury, which awarded the unprecedented damages of £12,000 for the slander. The medical point is that Dr. Playfair removed a substance which he held to be a portion of recent placenta, and, as the lady's husband had been abroad sixteen months, the inference was obvious. He was supported by several obstetricians, but Dr. Spencer, professor of midwifery at University College, pronounced the substance blighted ovum, and he declared it might have re-

remained in the uterus eighteen months. This raises a question which will no doubt stimulate further research by obstetricians. It will be seen that a number of legal issues as well as pathological questions are involved, for the elucidation of which we look to the courts on the one hand and research on the other. But the question of professional secrecy has overwhelmed all others in public interest, and it is almost surprising to see how widespread was the assurance of the public that no doctor would betray the confidence of a patient. The general feeling is strongly that under no circumstances should a doctor betray his patient's secret—at any rate, short of the order of a court of justice, and some seem to hold that even such an order should be disobeyed at the risk of imprisonment. Women seem more outspoken against Dr. Playfair than men. His professional brethren, too, seem to have little sympathy with him. On the question of damages it is thought that the appeal court will reduce the amount, which is more than double what was asked for. There are many other points of interest, but which can very well wait until the appeal is decided.

On Monday the fellows of the Royal College of Physicians elected Dr. Wilks to the presidency. They could not have a better representative of the best minds in their order. The name of Samuel Wilks is known wherever pathology is studied. Guy's is a great school, but has no greater man among its teachers than the learned, acute, industrious physician who succeeds Sir R. Reynolds. As I reported, the ex-president declined to be re-elected. He has suffered from recurrent influenza, but the meeting was glad to be assured that he is now so much better that he might have been able to be present had the date been a week or two later. He was very cordially thanked, as he well deserved to be. An address he had prepared was read by the registrar.

Small-pox continues to scourge Gloucester. Out of six hundred and ninety-three patients one hundred and eighteen have died (up to the 26th ult.). Of ninety persons dying in the hospital it was ascertained that seventy-four had not been vaccinated and the remaining sixteen had not been re-vaccinated since infancy. Only one re-vaccinated person had been admitted. She had been inoculated about fourteen years ago, and contracted the disease while nursing small-pox patients. There were one hundred and seventy-two fresh cases last week. And yet the anti-vaccinationists still attempt to influence the people of Gloucester against the protective. But the consequences of their previous folly are being brought home with such force by the epidemic that the faddists are not listened to so much as under less alarming circumstances.

The Local Government Board has sent Dr. Parsons to advise the city authorities and the vaccination commission has sent down Dr. Coupland to make an independent inquiry into the epidemic. Perhaps this commission, which has now been sitting some seven years, will now hasten its report, that Parliament may have time to consider the question this session. It is remarked that this is the centenary of Jenner, who at one time in his life resided in Gloucester.

The opposition to the midwives bills so successfully carried on by Dr. Rentoul cost him more than £300. Some subscriptions were raised, but he is still £130 out of pocket. It is for the general practitioners, on whose behalf he fought, to reimburse him, and they should do it without delay. The advocates of the midwives soon raised £1,000. Surely the practitioners, whose living was in jeopardy, can spare a few pence each. Another bill is coming on and must be fought.

At the last meeting of the Royal Medical and Chirurgical Society Dr. Hayward and Dr. Buttar, in a paper on "Infantile Diarrhoea," suggested that microbes might be arranged as (1) irritant, (2) toxic,

and (3) infective, the ultimate effect in each instance being brought about by the harmful products of their activity; and this classification was a help in deciding when antiseptics might be expected to be of service. The best success was obtained by employing them in some of the acute forms of summer diarrhoea, and in chronic diarrhoea when bacterial agency might be suspected. Experimental researches by Dr. Hayward and Dr. Buttar as to the influence of drugs on the growth in artificial cultivation of proteus, bacillus coli, and the bacillus isolated in the Portsmouth epidemic by Dr. Klein were brought forward. Some considerations in diagnosis, prognosis, and treatment in infantile diarrhoea concluded the paper. Dr. Dawson Williams said the question raised long ago by Pasteur, whether an animal could live upon an absolutely aseptic diet had curiously enough been solved only the other day. Discredit had fallen on intestinal antiseptics because those who had first used them had talked of intestinal antiseptics, which it was impossible to obtain. In acute summer diarrhoea he found antiseptics of no use, but in the more chronic forms of diarrhoea they were of great value. Naphthalin was useful. He had obtained good results from salol, but the effects of that drug, so far as the intestine was concerned, were the same as those of carbolic acid; and he thought that better results could be obtained by the use of carbolic acid itself. He differed from the writers who said that this drug was most useful in the upper intestinal canal, for, on the contrary, he had found carbolic acid most useful in cases which were presumably instances of colitis. Dr. Kingston Fowler said he was called to see a woman who suffered from severe diarrhoea and a peculiarly offensive odor, which not only impregnated the stools but apparently came off from every part of the surface of the patient's body. He suggested that salol should be given in cachets, but the salol was given in tabloids. In three days the patient was practically well and fetor had disappeared from the motions, but in the latter all the tabloids were discovered undissolved and unchanged. The President (Dr. Dickenson) had observed in the form of diarrhoea associated with very fetid motions that the greatest benefit follows the administration of creosote. Dr. Hayward in reply said that the insolubility of tabloids had driven him back to the administration of fluid drugs.

Mr. R. J. Godlee read a paper on the "Effects Produced by the Retention of Foreign Bodies for Lengthened Periods in the Bronchial Tubes," and gave outlines of half-a-dozen typical cases. Several fellows also mentioned cases, and it seemed to be generally agreed that so long as the body remained there was danger, and as symptoms sometimes came on gradually we should not be too sceptical when the history of a foreign body having entered was forthcoming. Careful inquiries should always be made as to the possibility of a foreign body having been inhaled in cases of unilateral bronchiectasis. Dr. Norman Moore mentioned that Richard Morton in his "Phthisilogia," published about 1690, referred to a case of a man who, when nailing some things on a wall, sucked in three small nails. It was a week before he showed any symptoms and he died in a month. From the description of the necropsy one could gather that the bronchi were considerably dilated and that there was extensive purulent pleural effusion. A man was admitted into St. Bartholomew's Hospital who had "lost down his throat" the end of a clay pipe. He was attacked by coughing and died from hemorrhage. At the post-mortem the end of the pipe was found sticking in the tissue behind the tonsil, and it had induced sloughing which opened into the tonsillar artery. Another man entered St. Bartholomew's Hospital and one side of his chest was found to be resonant, but no

breathing was heard. He died in three days, and the thick end of a pipe was found lodged in one of his bronchi. There was no history of how it got there. Gangrene of the lung proceeded very rapidly in that case. Mr. Warrington Howard spoke of the necessity of persistently endeavoring to remove the foreign body when once it had gained entrance, and remarked that the passage of a foreign body through the nose was one way in which it might reach the larynx. He had recently removed such objects as a screw and the leg of a small china doll from the nostril of a child. Mr. Godlee warned against the danger of inverting a patient unless tracheotomy had been done or everything was ready for the operation.

WORKINGS OF THE MEDICAL-PRACTICE LAW IN MARYLAND.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Last week, in passing a house a few blocks from my office, I noticed a new doctor's sign, and how astonished was I when I read on it the name of a barber who keeps a shop only a couple of squares farther on—my old barber, "*quo tondente gravis juveni mihi barba cadebat!*" I hastened on to the place where the man keeps his shop, led by a painful curiosity and by a superfluous load of hair, and there was the new doctor with his staff of assistants performing delicate operations on the scalps and faces of his customers. "Hair cut, doctor?" he asked. "Hair cut, doctor," I answered. In short, the fellow—an ignorant, illiterate Russian barber, whose functions in that country include putting on cups and leeches, making enemas and blood-letting among the peasants and lower classes—seeing that a barbershop at reduced rates did not pay well enough, bethought himself all of a sudden of supplementing his emoluments with those derived from the practice of medicine, and accordingly went and swore before the authorities that he practised medicine in this city before 1892, paid a dollar, and obtained a license to practise medicine. And this man is not the only "doctor" of this description in the city. I know at least four or five of them in the quarter where I live, who, having been barbers and "leeches" in Russia and having been employed, may be, by some physician as a sort of nurse, after they had picked up a few prescriptions came over here and swore that they were doctors, and were licensed to practise medicine. One of these, an absolutely illiterate man, whose skill in the art of writing is limited to the half-dozen prescriptions which he knows and which he scrawls in an abominable handwriting and with horrible spelling, recently got a city appointment as vaccinator. But it is only these infamous quacks who find it so easy to obtain a license to practise medicine in Baltimore. For while any unscrupulous charlatan is at once enrolled among the "regular" practitioners if he only perjures himself, if a graduate of one of the three or four best medical colleges of the country comes here, with a bachelor diploma besides his medical one and with a State board diploma from a State that maintains the highest standard of medical education of any State in the country, he is told that his credentials count for nothing, and that he has to pass an examination if he wants to practise here. And supposing that this unfortunate graduate is not just out of college, perhaps has passed a year in a hospital, and has forgotten the common and botanical names of drugs, or perhaps never took the trouble to memorize them; and has also forgotten whether the bromides, *e.g.*, are classified by some particular text-book under hypnotics or depresso-motors or antispasmodics, he is very likely to fail on a paper that gives only six questions on every

subject, some of which are of the kind just mentioned. In fact a professor of one of the colleges here assured me that their best man failed at the State-board examinations, while very indifferent men passed.

This is the way the regular medical profession is protected in Baltimore, a city that claims to be an important centre of medical education.

A SUBSCRIBER.

PHYTOLACCA VERSUS ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article in your issue of March 28th, by Dr. E. Alexander, of Juarez, Paso del Norte, Mexico, entitled "The Successful Treatment of Diphtheria without Antitoxin," is one of the class of articles frequently met with in medical journals. I remember an argument between a reputed learned physician and myself twenty-five years ago upon the efficacy of vaccination as a preventative of small-pox, and with another upon the point as to typhus and typhoid fever being identical diseases.

Dr. Alexander informs the readers of your valuable journal that he has "treated hundreds of cases of malignant diphtheria during the past several years with from two to four drachms of fluid extract of phytolacca and one drop of tincture of aconite in a four-ounce mixture, with prompt and complete recovery in all cases." In addition to this general medication Dr. Alexander lays great stress upon the use of a gargle of peroxide of hydrogen or a solution of carbolic oil, eucalyptol, and iodine. At this distance from Dr. Alexander's field of practice I am not competent to judge as to the influence of climate, soil, hygienic surroundings, etc., upon the diphtheritic germ; but if the microbe he has to deal with is similar in character to the one we meet here in malignant diphtheria, there is something wrong. For instance, several years ago I had in my practice an epidemic of diphtheria, among the rest a family having a number of children, of whom two had died. One evening at 4 P.M. I was at the house. A bright little girl came to me, and taking her upon my knee I petted her while giving directions for the night's treatment of the sick. The next morning when making my call the father met me at the door and said another one was dead, and upon inquiry I learned that it was the child I had nursed the evening before. The child had retired in perfect health, and from the first apparent symptom in two hours was dead. In this locality we regard such cases as malignant. Just what effect phytolacca with one thirty-second of a drop of aconite would have had upon this child I am not prepared to say.

I have used nearly all the drugs that have been recommended for diphtheria, and believe that the only one from which any benefit was derived was mercury in some form; all others are accessory.

In 1878 I read a paper upon the subject of diphtheria before the Lancaster City and County Medical Society, taking the ground that diphtheria was a systemic disease produced by a specific virus which was inoculable, that the disease was protective, and advocated inoculation as a preventive measure. Some time after that date I find the following entry in my note-book of cases: "Mr. H. S—, five children; one, four years old, ill with diphtheria. January 28, 1879, removed membrane from throat, abraded the arm of three of the children, and introduced the poison the same as vaccine virus. The eldest boy was not at home. The arms in four days showed signs of inflation at the point of inoculation; upon the fifth day the arms were quite sore and the throat reddened and there was chilly feeling; but none of the children contracted the

disease. The eldest boy, who was not inoculated, contracted the disease and died at his grandfather's." He was exposed the same as the rest. This procedure I have carried out since when a favorable opportunity presented, and in all the cases I have inoculated four days before the outbreak of the disease the patients were rendered immune; but in all cases in which the disease appeared upon the first, second, or third day there was no effect from the inoculation.

We have had an epidemic of diphtheria during the last winter, and my practice has been as soon as the diagnosis was made to use antitoxin. I also do not fail to inoculate the well children. I do not pretend to say that this inoculation is the best thing to do, but it was the best means I had at hand. The ideal measure is to inoculate an animal and take the product to inoculate or vaccinate the patient. Antitoxin is practically the same thing. The virus is injected into an animal and the serum of the blood is the antitoxin. Why not employ the product of inoculation instead; for instance, inoculate an animal and use the product to vaccinate the human subject? This is much cheaper and more easily used.

M. L. DAVIS, M.D.

LANCASTER, PA.

ANTISEPSIS AND ASEPSIS IN LONDON.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The remarks of Mr. Gabriel W. S. Farmer upon asepsis as practised in London, quoted in your editorial of April 11th, indicate that England has not changed for the better since I was there in 1891. But your own comment that "in London surgeons are far from being careful, proving that Lister, their own townsman, is too near to affect them by his example," seems to me to err in two directions: in the assumption that Lister does set a shining example and that his confrères refuse to be influenced thereby. I had the honor of seeing Lister operate in his own amphitheatre, and it remains one of the most interesting and memorable experiences of my life; but so far as asepsis goes, I recall that the example then set by the apostle of surgical cleanliness was imperfect, judged from either an American or a German standpoint.

There were a number of us waiting at Kings College Hospital, a German and several American surgeons, so that when Sir Joseph arrived, quite a retinue accompanied him to the theatre. With a geniality and *bonhomie* which won, I think, all our hearts, the great teacher addressed us, giving the history of the case on which he was about to operate, one of supposed stone in the kidney. The patient was then brought in, and we all began to look about for the antiseptic technique. It consisted in this: Sir Joseph kept his walking coat on, the same in which he had driven to the hospital, rolled up his sleeves about half way to the elbow, washed his hands with soap and water, and swished them around in a basin of double cyanide solution. His assistants, the house staff (undergraduates, to judge them by their looks), followed this example closely; kept on their ordinary coats, rolled up their sleeves, sluiced their hands with the cyanide solution, and were ready. I could not help seeing that the fingernails of the operator and staff were not carefully cleaned, and also that some of them needed such cleansing.

No spray was used. The instruments, whether previously boiled or not I do not know, reposed in what I took to be a carbolic solution. The field of operation was sponged with the cyanide and the operation began.

With beautiful skill the kidney was rapidly exposed, and searched with a needle for stone. None

being found, the wound was washed with the cyanide and closed by tiers of catgut, whether with drainage or not I fail now to recall. Cyanide gauze dressings followed, and the operation was completed.

We were assured that the results obtained under this technique were excellent, which was a poser for the Americans present, and also, I fancy, for the German.

So that when you speak of "surgical misdemeanors in the very home of the prophet," it is only fair to admit that in this matter the master is not above his disciples, and that it may be precisely by force of his authoritative example that English surgery is open to such criticism as that of Mr. Farmer.

At any rate, the example was followed in London five years ago. Sterilization of dressings was unknown, apparently. Clean operating-gowns one saw nowhere. Isolation of the field of operation by sterilized towels or sheets must have been thought too finicky and *doctrinaire* to merit trial. Operations were done in dirty theatres or in wards. The Samaritan and Soho Square Hospitals for women had apparently no operating-theatre, in our sense of the word. The patient's own room, freely decorated with dusty hangings and in some cases with the framed portrait of the operator, were usually employed for this purpose. One of the most famous surgeons at the former hospital I have seen hand a needle to a spectator to hold, while he changed the grip of the holder, using it at once uncleansed in the abdomen; and his nurse would complacently blow her nose and go on wringing sponges, without repeating the tedious formality of washing. But results were said everywhere to be excellent. In a few cases admittedly sepsis crept in, but that would happen anywhere. Not disputing this matter, it did seem sometimes that in some cases at the Samaritan "crept in" was a weak description of the open and undisguised invasion, the march past with colors and drums, the triumphal entry of infection.

Altogether the impression left by London was deep, but unpleasant.

The world will never cease to bless the great man who inaugurated surgical cleanliness, and one hesitates to speak except in reverence of the historic ritual which stamped out sepsis and made scientific and successful surgery possible; but the truth is beginning to be perceived by the English themselves, that the sooner Listerism in all its forms gives place to modern asepsis, the better for English prestige.

WILLIAM S. CHEESMAN, M.D.

AUBURN, N. Y.

THE DRIFT OF MEDICAL CHARITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Much is being written and more said at the present time about the abuse of medical charities; but if any rational, radical, or consistent measures have been adopted by any institution for weeding out the well-to-do from among its beneficiaries in consequence of these indignant ebullitions, the fact has failed to reach us. Occasionally some tired clinician, who has not availed himself of the opportunity of relieving his irritation in print, and who is trespassing on his own office hours in order to accomplish the treatment of some fashionably attired hospital patient, will visit his wrath on the head of his surprised and aggrieved victim. But the next day he recollects that he is in danger of his colleague's clinic running ahead of his own, so the silks and velvets are greeted with gracious smiles.

The physician with an established practice can view the present condition of affairs with the equanimity of

a Calvinistic divine in the presence of original sin. It is to be thundered against, of course, but then it's the other fellow who is responsible for it. The young practitioner, who is the only sufferer, is bound hand and foot. Not only does his chief hold him responsible for any falling off in the attendance, but the greatest of all the hospital commandments is, "No clinical assistant shall refer patients to his own office;" and woe to the man who is caught in the act. It were better for that man if a Penrose investigating committee had its foot on his neck. The well-to-do patient has taken in the situation and, with his thumbs in his armpits, inquires, "Well, what are you going to do about it? If you don't choose to treat me there are plenty of hospitals that will."

If the present order of things is to be changed, it takes neither a prophet nor the son of a prophet to see that it is not the members of the medical profession who are going to bring the change about. Neither does it require any special gift of foresight to see that the ancient order of things will never be re-established. There are broader and profounder causes at work than professional and institutional rivalries and jealousies to account for the changed character of the hospital clientèle, ones with which the closest corporation of physicians and surgeons could fight only a losing battle. There are signs written large which show that the free hospital and dispensary is soon to stand side by side with the free school, the free library, free pleasure grounds, and our other socialistic institutions. Many of our hospitals are already supported by the State and others largely subsidized, and there is a growing class which demands free treatment as a political right without any sense whatever of pauperization. An interne in one of our hospitals which carries on a large outpractice was called out to see a patient for some very trifling cause, and the woman was told that the next time she sent there would be no response. "You are paid by the State and you have to come when I send for you," was the reply. How many times in a month is a doctor thanked for his services? Occasionally a grateful patient offers a small fee. "There, doctor," said a woman as she pressed a dime in her physician's hand, "that is for you. 'Tain't for the hospital; I want you to keep it yourself. You deserve it for all you've done for me." But these occasions are rare. The patient thinks you are well paid by the experience he affords you, and he walks off with his self-respect and self-complacency intact.

If you ask the bank clerk and travelling salesman and the would-be lady in furs and feathers why they come to the hospital instead of going to a doctor's office, they tell you it is because they want the best treatment. They know if their case is a serious one they will have a free consultation over it of the leading specialists. It seems to be only the class for whom dispensaries were originally intended who still have any prejudice against them. "There, honey," said an old colored aunty as she handed out a quarter, "that's all yo're goin' ter git. If I could affo'd to pay mo' I'd have a doctah." "Does yez thenk Oi'd come to tin-cint docthors ef Oi hed the money to pay betther ones?" asked an irate daughter of Erin. Ignorant foreigners, used to the summary methods of their native institutions, imagine that you look upon them merely as interesting subjects of scientific experiment, including vivisection, and will often suffer long before they will take advantage of the aid provided. It is the keen and thrifty native who appreciates the advantages of hospital treatment, or that other class who, in the struggle to keep up an "appearance," have to choose between the doctor's and the milliner's bill.

But while it is easy to see whither the public and the hospital are both tending, it is not so easy to say

what is to become of the thousands of physicians who are being turned out yearly from our colleges and universities. That salaries will have to be provided ultimately in every branch of the hospital service is a statement that admits of no denial. But co-operation and concentration in medical work, as elsewhere, means a reduction in the number of laborers, and the increasing army of the unemployed here have the same privilege as the twenty-five hundred starving physicians of Paris.

Medical charity is not a question that can be solved by itself. It is part and parcel of a larger problem at which the whole of civilized humanity is working just now. But one cannot help speculating how philanthropic old ladies and ambitious testators, with their traditional ideals of amelioration, will feel when they begin to realize what radical social tendencies are being fed by their self-denials and intended benefactions. Would it not be well to suggest to some of them that they divert a part of the funds into endowing a Home for Indigent and Indignant Physicians and Surgeons or into founding a Society for the Suppression of Medical Students?

HELEN MURPHY, M.D.

PHILADELPHIA, March 14, 1896.

NOTES ON THE LECTURES OF BENJAMIN RUSH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An extract from the *Journal of the American Medical Association* in your issue of April 4th calls attention to "a volume of notes in the handwriting of a medical student who attended the lectures of Dr. Benjamin Rush in 1784," which has recently become the property of the Rush Medical College, Chicago.

There is in my possession a bound volume of three hundred and eighty-eight pages, in excellent preservation, written in a plain hand, entitled "A Course of Lectures on the Theory and Practice of Medicine, by Benjamin Rush, M.D., Professor on Theory and Practice of Medicine in the College of Philadelphia. Read in the College from November 1, 1790, to February 1, 1791."

The volume was copied for my grandfather, the late Dr. Thomas O'H. Crowel, of Catskill, N. Y., in 1791, and is inscribed as "a littler copy from a similar volume, belonging to Elihu H. Smith," a native of Litchfield, Conn., who contributed the following:

"Preface. The following Volume consists of Notes taken down at the reading of the different Lectures. In copying them, I have omitted many things which were imperfectly obtained; Some entire dissertations, which might be procured more at large in books; and the Histories of diseases, wherever they could be supplied by Dr. Cullen's First-lines of the Practice of Physic. The work now stands as a monument of the joint labours of my fellow-student, Mr. Robert Johnston, and myself. And it is not without some pride that I thus unite my name with his, whose Talents for Observation, and Abilities for Medical Researches, promise him a distinguished rank among the Great Physicians of the Nineteenth Century. E. H. Smith."

Dr. Smith entered upon the practice of his profession in New York City, displayed great ability, became associated in the editorship and publication of a medical journal, the title of which I cannot recall, and while still a young man, fell a victim to yellow fever, which prevailed in epidemic form with intense malignity.

An index, in red ink, in the writing of Dr. Crowel, includes one hundred and thirty-five subjects, among which are amnesia, anger, breeding-sickness, costiveness, dropsy, epilepsy, fear, grief, hydrophobia, in-

flammatory fever, love, lust, madness, and so on, to the end of the alphabet.

WM. C. WEY, M.D.

ELMIRA, N. Y., April 11, 1896.

Therapeutic Hints.

Chronic Diffuse Nephritis.—Chronic diffuse nephritis is more frequent in males than in females, and occurs chiefly in persons past middle life. Constitutional syphilis, intemperance, and privation are counted among the most prolific causes. My personal experience has led me to think that the disease is especially frequent among brain workers, among men whose nervous systems are continually on an overstrain, who have large business responsibilities, and who, as a rule, lead temperate lives.—DR. BIERWIRTH (*New York Medical Journal*, April 4, 1896).

Miliary Tuberculosis.—Reported cases of cures of general miliary tuberculosis involve an error of diagnosis. The prognosis is absolutely fatal, but the almost always present impossibility of unimpeachable diagnosis makes a positive prognosis out of the question. The treatment is entirely symptomatic. Palliative treatment is frequently indicated and all means and measures of treatment—hygienic, dietetic, and medicinal—are addressed directly or indirectly to the increase of the tolerance of the patient.—PITT (*Medical Review*, March, 1896).

Interstitial Keratitis from Syphilis.—Protect the eyes by means of smoked glasses. If iritis be present instil atropine; wash the eye with a four-grain solution of boric acid. Mercurial ointment, inunctions of one drachm, should be rubbed into the abdomen twice daily. If the patient does not stand inunction, give one-forty-eighth of a grain of bichloride of mercury with eight drops of tincture of chloride of iron. If the disease progresses, hot-water compresses will be found to be of advantage. If great pain be present in the frontal or temporal region, leeching the temple may be resorted to and gives prompt subsidence of the symptoms.—NORRIS.

Coryza.—

℞ Ichthyol. i
Ether, ...
Alcohol āā i
Distilled water 97
M. S. To be sprayed into the nose.

—DR. VUENSCHÉ (*Le Progrès Médical*).

Threatened Abortion.—Suppositories of opium, one grain in each, one to be given at night and in the morning, together with the fluid extract of viburnum prunifolium in doses of one drachm four times a day.—HIRST.

Herpes Zoster.—

℞ Starch ʒ iv.
Zinc oxide ʒ i.—ʒ iv.
Camphor gr. iv.—gr. xij.
Opium gr. iv.

M.

For the accompanying neuralgic pain a pill of the following composition may be administered three or four times a day:

℞ Extract of stramonium, ... āā gr. ʒ.
Extract of hyoscyamus gr. ʒ.
Extract of belladonna gr. ʒ.

M.

—ROBIN.

Pediculi.—Oil of sassafras will destroy pediculi and their ova.

Antitoxin.—The dose of antitoxin used depends upon the time of making the injection, the body weight

of the individual, and the gravity of the disease; also whether it be used for the purpose of immunization or for cure. I should also add it is necessary to know the strength of the antitoxin to be used.—ROSENTHAL (*Atlantic Medical Weekly*, March, 1896).

Locomotor Ataxia.—Tabes began with lancinating pains in 67 per cent. of cases; bladder symptoms in 22 per cent.; disturbances of the sexual functions in 15 per cent. On the whole, the knee-jerk was absent in 92 per cent. of cases; lancinating pains present in 88 per cent.; pupil symptoms in 70 per cent.; impotence in 58 per cent.; "girdle" sensation in 31 per cent.; optic atrophy in 6.7 per cent.; and crises in only 5 per cent.—DR. LEIMBACH (*Deutsche Zeitschrift für Nervenheilkunde*, Band vii., Heft 5 und 6).

Acute Bronchitis.—

℞ Bromoform gr. cxij.
Codeine phosphate gr. xv.
Compound syrup of squill ʒ iiss.
Syrup of lactucarium ad ʒ iv.
Powdered gum arabic q. s.
M. et fiat emuls. S. Two teaspoonfuls every two hours.

—DR. BABCOCK (*Medicine*, March, 1896).

Bronchitis and Asthma.—

℞ Potassii iodidi ʒ ij.
Ammon. carb. ʒ i.
Tinct. lobeliae ʒ ij.
Spts. chloroformi ʒ iv.
Vir. ipecac ʒ i.
Inf. senegæ q. s. ad ʒ vi.
M. S. A tablespoonful in a wineglass of water every four hours.

—*American Medical Review.*

Hemiplegia from Diphtheria.—Nevertheless, rare exceptional cases do occur which offer difficulties in diagnosis, such as those which arise after slight preceding symptoms, with hemiplegias and monoplegias, ushered in by apoplectic attacks. Such cases are, however, in contradistinction to the typical picture of diphtheritic paralysis, the greatest rarities, and will scarcely come to the observation of even very experienced physicians.—VON ZIEMSEN.

Pruritus Vulvæ.—Local applications of warm chloral solution (one per cent.) twice daily; ten-per-cent. solutions of chloral; corrosive sublimate, 1 to 500; and an ointment containing one part of olive oil, three of menthol, and six of lanolin. If these are not beneficial, the galvanic or faradic current may be applied. Excision of the affected parts is a last resort.—MARAIN (*Centralb. für Gynäkol.*, 1895, No. 49).

To Prevent Lacerations of Perineum.—1. Guide the head forward along the pubic bones. 2. Hold head back during several pains, thus allowing the muscles of the perineum time to relax. To overcome the powerful force of the abdominal muscles, tell the patient to breathe very quickly; this causes them to lose their power.—MCKELWAY.

Suprarenal Capsules.—Recent experiments apparently prove that the suprarenal capsules are nervous ganglia. Their total extirpation invariably causes death within two, three, or four hours.—*Lancet-Clinic.*

Chronic Lead Poisoning.—1. Remove source of poison. 2. Relieve colicky pains by the administration of belladonna and opium. 3. Relieve constipation by giving one grain of calomel every hour for five hours, to be followed by a full dose of Epsom salts and by rectal injections. If this should fail give croton oil. 4. To eliminate the lead give potassium iodide in ten to twenty grain doses three or four times daily. 5. If patient is apoplectic, bleed. 6. If patient is anæmic, give iron. 7. Restore functions by the use of strychnine and electricity.—WOOD.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 18, 1896:

	Cases.	Deaths.
Tuberculosis.....	212	141
Typhoid fever.....	5	3
Scarlet fever.....	115	8
Cerebro-spinal meningitis.....	4	5
Measles.....	531	36
Diphtheria.....	239	38
Small-pox.....	0	0

Requirements for Medical Graduation and Medical License in the Different States.—Mr. James Russell Parsons, Jr., director of the examination department of the Board of Regents of the State of New York, has kindly furnished us with the following official report founded on the statutes at present in force in the different States:

1. Of the one hundred and forty medical schools in the United States, there were only fourteen in 1894-95 which absolutely required a four-year course of medical lectures, four of these schools being in New York State. Details with reference to the length of courses for graduation in this and in other countries were given in my 1894 report, a copy of which is sent herewith. Since that date other schools, such as the medical department of the University of Denver, the University Medical College of New York City, Eclectic Medical College of New York City, Syracuse University of Syracuse, and the medical department of the University of Buffalo have adopted four-year courses. Following is a list of the medical schools which have adopted four-year courses, with date of adoption, as given in the report of the examination department for 1894:

College of Physicians and Surgeons (New York), 1894-95.

New York Medical College and Hospital for Women, 1894-95.

New York Homœopathic Medical College and Hospital, 1894-95.

Woman's Medical College of New York Infirmary, 1894-95.

University of Pennsylvania, 1893-94.

Women's Medical College of Philadelphia, 1893-94.

Harvard University Medical School, 1892-93.

Boston University School of Medicine, 1890-91.

Department of Medicine and Surgery, University of Michigan, 1890.

Homœopathic Medical College, University of Michigan, October, 1891.

Northwestern University Medical School (Illinois), 1893-94.

Meharry Medical Department of Central Tennessee College, 1893-94.

Johns Hopkins Medical School, 1893-94.

Leonard Medical School (North Carolina), 1882-83.

2. The present New York medical law, as amended by laws of 1896, ch. 111, which took effect March 21, 1896, will require as a condition for admission to the licensing examination and as a condition for an M.D. degree, four years' study of medicine and four satisfactory courses of medical lectures for matriculants after January 1, 1898.

3. The constitution of the Association of American Medical Colleges, including sixty-three medical schools in the United States, will require of candi-

dates for an M.D. degree in 1899 or thereafter, four years' study of medicine and four courses of lectures of not less than six months each, with the following exemptions:¹

a. Graduates of recognized colleges and universities who have completed the prescribed course in chemistry and biology therein.

b. Graduates and matriculates of colleges of homœopathy.

c. Graduates and matriculates of colleges of eclectic medicine.

d. Graduates and matriculates of colleges of dentistry requiring two or more courses of lectures before conferring the degree of D.D.S. or M.D.

e. Graduates and matriculates of colleges of pharmacy.

f. Graduates and matriculates of colleges of veterinary medicine.

All students are required to comply with the provisions of the entrance examination and prove their fitness to advanced professional standing by an individual examination upon each branch below the class he or she may desire to enter.

4. In twenty-one States at present writing diplomas do not confer the right to practise medicine, an examination being required in all cases. Following are the States referred to:

Florida, Rev. Stat. 1892, § 806.

Delaware, Laws 1895, ch. 4.

Georgia, p. 85, 1894.

Louisiana, Laws 1894, ch. 49.

Maine, Laws 1895, ch. 170.

Maryland, Laws 1892, ch. 296; Laws 1894, ch. 217.

Minnesota, Statutes, § 671.

Mississippi, Code, § 3,243.

Montana, Pol. Code 1895, § 600.

New Jersey, Laws 1894, ch. 306.

New York, Laws 1893, ch. 661.

North Carolina, Code, § 3,121.

North Dakota, Rev. Pol. Code, § 275.

Oregon, Laws 1895, p. 61.

Pennsylvania, Laws 1893, ch. 52.

South Carolina, Laws 1893, ch. 25.

Texas, Civ. Stat., § 3,632.

Utah, Laws 1894, ch. 77.

Virginia, Laws 1894, ch. 7.

Washington, Laws 1889-90, p. 114.

West Virginia, Laws 1895, ch. 7.

Indian Territory (Cherokee Nation).

In some tables Alabama and Massachusetts are classed with the States in which diplomas confer no right to practise, but there are certain exceptions in the Alabama law (see Civil Code, § 1,296), while in Massachusetts (Laws 1894, ch. 458) graduates of Massachusetts medical colleges are exempt from examination.

5. The thirteen following States require either approval of medical diploma or examination by State or other duly qualified boards:

California, Code.

Colorado, Gen. Stat., vol. 4, p. 625, § 2,547 f.

Connecticut, Laws 1893, ch. 158.

Illinois, Laws 1885, p. 225.

Iowa, Code, § 2,546.

Kentucky, Laws 1893, ch. 179.

Missouri, Rev. Stat., § 6,871.

Nebraska, Laws 1891, ch. 35.

South Dakota, Laws 1893, ch. 133.

Tennessee, Laws 1889, ch. 178.

Vermont, Statutes 1894, § 4,633.

Rhode Island, Laws 1895, ch. 1,353.

Indian Territory (Choctaw Nation, Creek Nation).

Territory of New Mexico, Laws 1895, ch. 7.

Territory of Oklahoma, Statutes 1893, § 352.

¹ That is, admission to advanced standing.

6. Ten States require only presentation of diploma or other certificate of qualification to unqualified local officers:

Arkansas, Laws 1893, ch. 75.
Idaho, Code, § 1,298.
Indiana, Burns An. Stat., § 7,319.
Kansas, Gen. Stat. 1889, § 2,450.
Michigan, Howell An. Stat., § 2,287 f.
Nevada, Gen. Stat., § 4,974.
Ohio, Rev. Stat., § 6,992.
Wisconsin, S. and B. Stat., § 1,423, § 1,436.
Wyoming, Code, § 1,925.
Territory of Alaska.
Territory of Arizona, Laws 1893, ch. 66.
District of Columbia.

7. Though in all States except New Hampshire, in which no registration is required, certain attempts have been made to regulate the practice of medicine, yet these attempts are crude and imperfect in the ten States which require only the presentation of authority to practise to unqualified local officers. The New York plan, now adopted in twenty-one States, is the most effective.

New Hampshire has no legal requirement.

Twenty-one States require examination in all cases.¹ Alabama and Massachusetts also usually require it, but certain counties are excepted in Alabama (Civil Code, § 1,296, 1886), and in Massachusetts graduates of medical colleges in the State (Laws 1894, ch. 458). Neither requires diploma or special training before examination.

Florida, Rev. Stat. 1892, § 801 f, passed 1889. Board of three examiners in each judicial district. Diploma required. No further conditions.

Delaware, Laws 1895, ch. 40. Two State boards, regular and homœopathic. Diploma, study four years, including three regular courses of lectures in different years. Competent common-school education.

Georgia, Laws 1894, p. 85. Three State boards—regular, homœopathic, and eclectic. Diploma from college requiring three full courses of six months each.

Louisiana, Laws 1894, ch. 49. Two State boards, regular and homœopathic. Diploma of college in good standing, as determined by board. "A fair primary education."

Maine, Laws 1895, ch. 170. Diploma not required. Applicant to give proof of "possessing a reasonable amount of average knowledge in the branches of science he desires to practise in." General subjects of examination named.

Maryland equals New York (1890), Laws 1892, ch. 296. Two State boards, regular and homœopathic. Diploma (or license in foreign country), study of medicine three years, three courses of lectures in different years. Competent common-school education.

Minnesota, Kelly Rev. Stat., § 671 (passed 1887, ch. 9). Examination after three courses of lectures of six months each. Laws 1895, ch. 89, adds that after January 1, 1899, four courses are required. No diploma.

Mississippi, Code 1892, § 3,243 f (essentially the same as Laws 1882, ch. 19). State board of health grants license. Application to state details of preparation. No requirements in law.

Montana, Pol. Code 1895, § 600 f (passed 1895). Diploma after January 1, 1898, four courses of six months each.

New Jersey, Laws 1894, ch. 306 (equals Maryland and New York 1890). Diploma or foreign license, four years' study, three courses in different years. "Competent common-school education."

¹ Unless stated no further conditions required, and one State board of examiners only.

New York, Laws 1890, ch. 507. Three State boards—regular, homœopathic, and eclectic. Diploma or foreign license. Three years' study, three courses, competent common-school education. Amended, Laws 1895, ch. 636, requiring higher degree of previous training, gradually increasing till in 1900 a full high-school course is necessary.

North Carolina, Code, § 3,121 (passed 1858-59, ch. 258). Examination on specified branches. No details.

North Dakota, Code 1895, § 275 f (essentially the same as Laws 1890, ch. 93). Examination after three courses of six months each (equals Minnesota).

Oregon, Laws 1895, p. 61. Applicant to state details of training. No requirements in law (equals Washington).

Pennsylvania, Laws 1893, ch. 52. Three State boards—regular, homœopathic, and eclectic. Diploma or foreign license after four years' study and three courses in different years. "Competent common-school education" (equals New York, 1890).

South Carolina, Laws 1893, ch. 325. Diploma.

Texas, Civil Stat., § 3,632 (passed 1876, equals North Carolina).

Utah, Laws 1894, ch. 77. Diploma from chartered medical colleges in good standing.

Virginia, Laws 1894, ch. 70. Laws 1883, ch. 65, also require examination in all cases.

Washington, Laws 1889-90, p. 114 (March 28, 1890). Applicant to state details of training. No requirement in law.

West Virginia, Laws 1895, ch. 7.

Amputation of the Leg at the Knee-Joint.—Dr. W. H. Buechner says (*Journal of the American Medical Association*, March 21, 1896) that the first mention of removal of the leg at the knee-joint dates back to 1581 and the operation was performed by Fabricius Hildanus. The method then seems to have been lost until 1764, when it was again brought to light by Hoin and indorsed by Petit and Brador. It was not, however, until Velpeau popularized it in 1830 that it began to approach the place which it now holds in the domain of surgery. The first American operation by this method was that of Dr. Nathan Smith in 1824.

Books Received.

While the MEDICAL RECORD is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

BOOKS RECEIVED.

THE HISTOPATHOLOGY OF THE DISEASES OF THE SKIN. By Dr. P. G. Unna. Translated by Dr. Norman Walker. 8vo. 1,205 pp. Illustrated. Macmillan & Co., New York.

HAHNEMANN'S DEFENCE OF THE ORGANON OF RATIONAL MEDICINE. Translated by Dr. R. E. Dudgeon. 12mo, 130 pp. Boericke & Tafel. Philadelphia, Pa. Price \$1.00.

WATER SUPPLY. By William P. Mason. 8vo, 504 pp. Illustrated. John Wiley and Sons, New York.

FEAR. By Angelo Mosso. Translated by E. Lough and F. Kiesow. 12mo, 278 pp. Longmans, Green & Co., New York.

THE NON-HEREDITY OF INEBRIETY. By Dr. Leslie E. Keeley. 12mo, 359 pp. S. C. Griggs & Co., Chicago, Ill.

A HAND-BOOK ON LEPROSY. By Dr. S. P. Impey. 8vo, 116 pp. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa. Price \$3.50.

VOICE BUILDING AND TONE PLACING. By Dr. H. Holbrook Curtis. 12mo, 215 pp. Illustrated. D. Appleton & Co., New York.

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Original Articles.

APPENDICITIS FROM THE MEDICAL STANDPOINT.

By W. N. MCARTNEY, M.D.,

FORT COVINGTON, N. Y.

THE advances made in the diagnosis and surgical treatment of appendicitis in recent years have placed the treatment of this serious malady on a more scientific basis. That immense strides have been taken no one can deny, and yet current medical literature, as it appears in the journals, deals mainly with the surgical aspect of the disease, either almost entirely ignoring or utterly condemning its medical treatment. The practitioner who gives opium in appendicitis is severely criticised for using a drug which "masks the dangerous symptoms" of a malady that is almost certainly fatal if treated medically, and to temporize and treat the patient with hot applications and opium is frequently characterized as unscientific and cowardly. He is too conservative, or not conservative enough, out of date, too timid. He lacks the moral backbone to inform the patient of the necessity for operation, and in his abject cowardice, ignorance, or incompetence, calls the disease inflammation of the bowels, blunts the patient's sensibilities with opium, and the patient, after a fruitless struggle with the inevitable, dies a victim of the timid and temporizing policy of his medical attendant.

On the other hand the skilful, well-educated, scientific physician of to-day, when called to a case of appendicitis, familiar with the pathology, diagnosis, and manifold dangers of this dread disease summons at once a surgeon of ability to decide on the necessity and proper time for an operation, and the surgeon, with the dexterity born in him and perfected by so many hundreds of similar operations, opens the abdomen, removes the appendix, charges a round fee, and the patient makes a rapid and uneventful recovery. Look on this picture, then on that, the "before and after taking" the operative surgeon into counsel. This is at least the note we have heard most frequently of late.

Even some of our most eminent men in the profession, though more courteous in their language, trend the same way. Wyeth, in the *MEDICAL RECORD* of April 28, 1894, says that appendicitis should always be regarded as a surgical disease. Dr. Baruch tried medical treatment four years "and the patients died"; he advises against giving morphine, as it would obscure the symptoms. Duckworth says delay is little short of criminal. R. T. Morris makes it his rule to operate as soon as the diagnosis is made, no matter what stage of the disease (*MEDICAL RECORD*, February 15, 1895). G. R. Fowler states that the cases in which recovery ensues after the disease is well under way are exceedingly rare. Reclus asserts unqualifiedly that the diagnosis once having been made, surgical interference cannot be brought too early into the case. Murphy, in the *Philadelphia Medical News*, as quoted by the *MEDICAL RECORD* of August 31, 1895, says: "The rule

first, last, and always should be, operate on every case of appendicitis, promising or unpromising, at the earliest possible moment," while Roux, of Lausanne, advises us not to allow ourselves to be "intimidated."

These are certainly strong statements, and I may add from strong men. While every one has a right to his own honest convictions, yet some do not stop here, and to characterize the physician who does not immediately become an enthusiastic and out-and-out convert to these extreme views as incompetent, criminal, and cowardly savors of Tillmanism rather than logic, and is begging the question.

That the operation has done much for mankind, that it has come to stay, that it is frequently necessary and sometimes imperative, I fully and freely admit, and I believe that the men who have by earnest labor worked out the pathology and treatment and have improved the technique of the operation should receive all honor for the same, but I protest against the statement, either direct or by implication, that the physician who treats the average case of appendicitis on medical principles without resort to surgical measures is necessarily unskilful, ignorant, incompetent, unscientific, unsuccessful, or cowardly.

The physician fortunately situated near a well-equipped hospital who, when called to a case of appendicitis and recognizing the gravity of the case, sends his patient to the hospital or calls in a surgeon to operate, meets with approval as doing eminently the proper thing, and yet he may with equal fairness and justice be accused of cowardice in shifting the responsibility of a serious case to other shoulders. On the other hand, the practitioner less favorably located, a long distance, it may be, from an operative surgeon specially skilled in abdominal work, and still farther away from a hospital, may "mask the symptoms" with opium without being a coward. Perhaps

"He hath a wisdom that doth guide his valour
To act in safety."

and perhaps experience or common sense, or a modicum of both, has taught him that his patient's chances of recovery were slender indeed were he to wait for an operator from some distant city, doing his surgical work under unfavorable sanitary conditions, at a date much too late, and with lack of proper care in the after-treatment. Suppose, for instance, that the patient lives ten miles away over frozen November roads, in the care of some old lady who does "family nursing." He may not be able to pay for the services of a skilled specialist. The doctor may find it impossible to get medical assistance, and may have no one to leave in charge of the case afterward. He might nurse the patient himself were it not for a dozen or two other serious cases depending solely on an already overworked man. Is the doctor necessarily a coward because his desire for operation is not keen in the face of all these disadvantages and many others I could enumerate?

And the patient, poor fellow, dies as the result. Not necessarily by any means. Perforation! gangrene! suppurative peritonitis! septicæmia! Don't all speak at once. I have heard of these things before. The doctor puts the patient on a light diet, gives opium

freely, applies a turpentine stupe possibly, if symptoms are not sufficiently "masked," gives more opium, and usually the patient recovers. Why? *Vis medicatrix nature*, assisted by the doctor.

During the past six years I have treated in all twenty-four cases of appendicitis. All recovered. Two have since died, one a year later from pulmonary phthisis, from which he was suffering at the time of his attack; the other from meningitis caused by an obscure head injury from being struck by a wagon some months after he recovered from the appendicitis. But all recovered from the appendicular disease. There were twenty males and four females, the ages ranging from fifteen to forty-four years. All of these cases were treated without operation.

But were these twenty-four cases all cases of appendicitis? That would be difficult to prove absolutely, as naturally no post-mortems were held. But I have seen appendicitis when it was a "new" disease. I have made a diagnosis of appendicitis in cases in New York and had the diagnosis confirmed by operation. I have seen operations for appendicitis, have assisted at these operations, have operated myself. I have made autopsies on those who died of appendicitis, and have made more on those who had had it in previous years, recovered, and died from other causes, and I feel competent at least to make a diagnosis of appendicitis in any ordinary case, and I say without hesitation that these twenty-four cases were cases of appendicitis.

These cases were all treated in private practice in villages or the surrounding country. I came here thoroughly imbued with the idea that I must operate for appendicitis, but found the difficulties practically insurmountable in most instances; therefore I treated the cases medicinally. Some of these cases were mild in type, but sixteen were severe. Several had recurrent attacks. Four developed abscess, two opening into the bowel, one into the bladder, and one externally. In a number of cases the temperature ranged 104° F. for days. In one case the bowels were locked for sixteen days, in another for twenty-one days.

Why should every case of appendicitis be operated on? If your patient refuses operation, are you not justified in treating him to the best of your ability without?

The symptoms of appendicitis are vague. Colicky pain, constipation or diarrhoea, nausea and vomiting; nothing diagnostic about these. Then severe pain in the abdomen, usually locating sooner or later in the region of the appendix, and made worse by movement. The patient lies very still, leg drawn up, bowels obstinately constipated—as a rule, not always; fever, rapid pulse, chill, tenderness over McBurney's point, rigidity, and distention of the bowels. Are these symptoms of appendicitis or of the peritonitis which accompanies it so commonly? Are these symptoms of the disease or of nature's defensive warfare against invasion of the peritoneal cavity? The truth lies just here: that the symptoms pertaining to appendicitis proper are largely negative, while the symptoms usually classed as such are merely the evidences of the conservative power of the human system. Nature's bulwark is being thrown up and the peritonitis is a conservative process. When the peritonitis is absent look out for a "fulminating" case, and a dangerous one.

You put your hand in the fire and it burns, pound your thumb with a hammer and it hurts, eat too many hard-boiled eggs and you have a frontal headache. Nature's way of saying "Take care." You get an appendicitis, and a consequent localized peritonitis, and nature puts you to bed, right leg drawn up to relax the abdominal wall and psoas muscle. You don't toss about with peritonitis. It hurts when you move. Nature's way of saying "Keep still." Bowels are con-

stipated. Why? To stop peristalsis. Tympanites comes on—paralysis of the muscular coat, to stop peristalsis and afford pressure.

The general practitioner gives an opiate in full dose. This doesn't quiet the pain. Why? Not enough to mask the symptoms? No, not enough to stop the peristalsis; stop the peristalsis and the pain is checked. And what happens now that the dangerous symptoms are "masked"—sudden death and general desolation? Not generally nor usually. The patient lies absolutely still, with coil after coil of intestine pressed closely against the cæcum and appendix—not round coils, but flattened, faceted coils fitting each other accurately without interspaces and pressed by rigid abdominal walls; later, from tympanitic distention. No peristalsis; absolute adjustment of their serous surfaces, and then a plastic exudate thrown out, gluing them all firmly together in a few hours.

"The great danger is peritonitis," says Wyeth. "The safety lies in the peritonitis" would be more proper. There is no peritonitis in the fulminant cases. Given a peritonitis localized about the appendix, and the adhesions grow firmer hour by hour and day by day. Then what happens? Catarrhal inflammation quietly subsides. Ulcer perforates. Where? Nowhere; up against the next coil of adherent intestine. Foreign body or fecal concretion ulcerates through. Where? Up against a glued-up coil of ileum. It can go back again where it came from; it can remain embedded and encysted in the exudate; it can go on ulcerating through into the coil of ileum, falling into the intestine, discharging when the bowels move, and leaving a small intestinal anastomosis between the appendix and the ileum to heal up shortly.

Suppuration may occur and an abscess in the appendix perforate, or an abscess form around the foreign body. What becomes of it? It may be absorbed, may perforate into and discharge by the bowel, may perforate into the rectum or into the bladder, may form a retroperitoneal abscess, or point externally. On the other hand it may rupture into the peritoneal cavity, but that is just what nature has been guarding against with her plastic peritonitis and you have been aiding her in her efforts to raise a bulwark in that direction.

The appendix may become gangrenous. It sloughs, softens, disintegrates, is discharged through its own stub, "hoist by its own petard." Perhaps it forms an abscess, which discharges offensive pus, perforating in the usual way. This is nature's way, nature assisted by the doctor, and she is often competent to handle a more serious matter than a diseased appendix two or three inches long and the size of a pipe-stem. Then the tympanites subsides. The pain doesn't subside, for the patient has had no pain under opiates. The tenderness disappears and with it the necessity for opiates; after a time the bowels move, unnecessary adhesions are absorbed, and the patient recovers. But in another case nature starts her plastic exudation, the doctor is called in, palpates forcibly perhaps to feel the appendix, makes a rectal examination. No morphine—salines. No improvement on the following day. Another examination, followed by sudden collapse. Then an operation. Gangrene, abscess, perforation, pus among adjacent coils of intestine. The appendix is amputated, the pus wiped out, the abdomen sewed up, and the patient recovers. Surgery has again triumphed. But might not an equally good result have been accomplished without operation? In the vast majority of cases, yes.

In performing autopsies I have been struck by the frequency of evidences of old adhesions about the appendix. In two instances I have found fecal concretions in the near vicinity of the appendix. In other cases I found the evidences of old inflammatory, ul-

cerative, or suppurative lesions. In one case the appendix was entirely obliterated. In one of the cases, in which a fecal concretion was found encysted, the patient, a physician himself, had given me prior to his death from surgical kidney a clear history of an attack of peritonitis beginning in the right iliac fossa twenty years previous.

The twenty-four cases referred to above were treated by opium, lots of it, given early, until pain was relieved, until peristalsis stopped; given without regard to the regulation dose, given until the effect was manifest. Sometimes morphine was used, sometimes opium. Sometimes ice was applied externally, but usually it was not well borne and moist heat was substituted. Turpentine stupes, intestinal antiseptics, liquid diet. When tympanites was not excessive it was let alone, being regarded as a conservative agent. When it was excessive and troublesome I found that turpentine usually failed to give relief, but that a rectal injection of quinine, six or eight grains, dissolved in aromatic sulphuric acid and mixed with acacia water, after the manner of Keith, was usually successful. In most of the cases a boggy tumor formed in the right iliac fossa. This was usually painted with iodine, and the iodides were given internally if it did not resolve. The bowels were allowed to move of their own accord, as a rule.

I speak from personal knowledge of these cases when I say that if every case "promising or unpromising" had been "operated on at the earliest possible moment" some of them would not have survived the operation. I am morally convinced of this, knowing the state of these patients and the surrounding conditions. One was, as stated, in an advanced stage of phthisis; another was a diabetic. In several cases the symptoms were for a time so alarming that I stood ready to operate on short notice, but the confidence born of previous success in treating these cases without operation and the difficulties in the way of operating with inadequate assistance led me to hold my hand.

Perhaps these twenty-four consecutive recoveries constitute an instance of "gambler's luck." If so I shall follow my streak until the luck turns. Possibly, however, nature may have had, under the plan of treatment followed, a fair chance to show what she could do. At least the treatment was a conservative one, following nature's method of cure and based on the principle that the peritonitis was not a dangerous but a reparative process. In recurrent appendicitis I have usually advised operation, but I have noticed that the recurrent cases have usually been mild. Where there was a severe and prolonged attack it has never in my experience been followed by a second attack.

In conclusion I would suggest that:

1st. The symptoms of appendicitis are vague, most of the symptoms so classed being those of a localized peritonitis subsequent to the appendicitis.

2d. That this peritonitis is not a dangerous but a conservative process.

3d. That the proper treatment in non-operative cases is to favor the formation of plastic exudate and to secure firm adhesions.

4th. That the dangerous cases are the fulminant cases, in which no warning peritonitis exists.

5th. That opiates do more than obscure the symptoms and that cases of recovery under this treatment are not "exceedingly rare," but that the medical treatment is rational and more successful than usually admitted.

6th. That it is too soon to lay down, as yet, a dogmatic and arbitrary rule that every case should be operated on, regardless of consequences.

7th. That the physician who treats cases of appen-

ditis with opium is not necessarily a coward physically or morally, and that his medical judgment may sometimes compare favorably with that of physicians who advocate the indiscriminate removal of every diseased vermiform appendix for a good consideration.

THE QUESTION OF POSITION IN THE TREATMENT OF FRACTURES OF THE LOWER END OF THE HUMERUS—THE TESTIMONY OF SIX HUNDRED AND FIFTY CASES UNDER THE CARE OF HARTLEY AND WOODBURY, CURTIS, VAN ARSDALE, AND THE AUTHOR.¹

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UNTIL recent years there was but little difference of opinion regarding the position in which the elbow should be placed in fractures at the lower end of the humerus; the right angle was unanimously advised and employed, and this for the reason that the arm was in the most useful condition possible in case ankylosis ensued. The position was classic, and the injunction to begin passive motion at an early date in order to prevent ankylosis was faithfully followed. In 1880, however, Dr. Oscar H. Allis, of Philadelphia, in a most careful and scientific essay called attention to the change in the axes of the arm and forearm which may take place when the outer condyle slips down or the internal condyle is displaced upward, resulting in a deformity to which the term "gunstock"² is applied. For the avoidance of this Dr. Allis recommended that the forearm be placed in a position of extension. He also strongly emphasized the important principle that no passive motion be made at the elbow until union should be complete. This latter proposition, I believe, admits of no debate in the average case; passive motion before consolidation of the fragments leads to rather than avoids ankylosis. But to the contention that the position of complete or nearly complete extension should be employed in fractures entering the joint I shall ask your attention, and I shall endeavor to demonstrate to you that the position of safety is that of flexion and that this position is attended with sufficiently satisfactory results to warrant its being retained by the average practitioner of medicine.

In order to bring before you the arguments of those who favor complete or nearly complete extension I quote from a valuable paper read by Dr. John B. Roberts, of Philadelphia, before the American Surgical Association³ in 1892. Dr. Roberts said: "A surgeon who fully realizes the probability of impairment of the carrying-function in these fractures can without doubt treat them equally well in either the flexed or the extended position. Accurate readjustment of the fragments and provision for careful maintenance of the coaptation will usually produce good results. Practitioners who have comparatively few cases are, however, less liable than surgeons to appreciate the probability of a 'gunstock' deformity. In the flexed position of the elbow, moreover, the deviation of the axes of the arm and forearm does not exist; hence in this position a slight displacement of the plane of the articular surface of the humerus is easily overlooked.

¹ Read before the Denver and Arapahoe Medical Society, March 10, 1896.

² In a recent communication Dr. Allis writes that the success attained in treating these fractures with plastic dressings convinces him that manufactured splints held in place by roller bandages are largely responsible for this deformity.

³ Annals of Surgery, July, 1892.

For these reasons the extended position is the better for general adoption, since the angularity of the unbroken arm is then noticeable, and any interference with the normal deviation is very apparent." I fully agree with Dr. Roberts in thinking that the surgeon who sees many of these fractures will obtain satisfactory results under any form of treatment which his experience and judgment may lead him to adopt, but for the general practitioner, who sees these cases but seldom, to treat them in extension seems to me unwise, and I am led to this thought by the recollection of the following cases:

CASE I.—In July, 1893, a boy of nine years was admitted to my service at St. Luke's Hospital, New York, with the following history: Some six weeks previously he had fallen, injuring the left elbow. Immediately thereafter he was seen by a physician who told the parents that the elbow was broken. He put the limb up in complete extension, and applied splints which were changed from time to time and which were finally removed at the expiration of five weeks. At this time there was little or no motion at the elbow and despite vigorous measures the range did not increase. Six weeks after the injury, as I have said, the lad came under my care. Examination revealed the following condition: The elbow-joint was considerably thickened, especially in the region of the external condyle; the forearm was completely extended upon the arm, and could be flexed but 10° . Under an anæsthetic attempts to flex the elbow proved unsuccessful, whereupon a four-inch incision was made over the external condyle and the joint entered. The coronoid process of the ulna was found to be broken off and displaced upward and backward, lying posterior to the articular surface of the humerus, thus completely locking the joint. The fragment was removed. The external condyle was the seat of a fracture running downward and inward through the articular surface, the fragment being displaced anteriorly. The anterior surface of this fragment was chiselled away, whereupon the elbow could be completely flexed. The wound was sewn up without drainage, the elbow put up at a little more than a right angle, and an ordinary aseptic dressing applied. Complete primary union resulting, motion was begun at the end of four weeks. The arc rapidly increased and three months later the use of the elbow was very nearly normal.

CASE II.—One month after the foregoing case came under my observation I was asked to see a boy of twelve years whose physician told me that some four months previously the patient had sustained an injury to the lower end of the humerus, the exact nature of which he was unable to make out because of the swelling. He had applied splints in the extended position, removing them from time to time for the purpose of making gentle passive motion. The straight splints were not discarded until union was thought to be complete. At this time, however, the range of motion was very slight and could not be increased. When I saw the lad there was fibrous ankylosis, the forearm being extended upon the arm. Under ether the adhesions were broken up, the forearm brought up to 135° , and a plaster-of-Paris splint applied. Ten days later ether was again administered and the remaining adhesions were so far ruptured as to admit of nearly complete flexion. Plaster of Paris was applied with the elbow at a little less than a right angle, and two weeks later active motion begun. A useful limb resulted.

CASE III.—In March or April of 1891 a young man of twenty years was admitted to my service in the out-patient department of the New York Hospital. He said that he had broken his elbow four months or so before and that it had been treated in one of the metropolitan hospitals in the position of extension. Complete ankylosis resulted. When he came under

my observation there was no motion at the elbow, the forearm being completely extended upon the arm. Operation was advised but refused, and I did not see him again.

CASES IV. and V. are similar to Case III. Each came under my observation in the New York Hospital. In each there was complete ankylosis in the extended position. In both instances the elbow-joint was excised in narrow limits by the attending surgeon on duty—in one case by Dr. R. F. Weir, in the other by Dr. W. T. Bull. Both patients returned to the out-patient department for after-treatment. Each regained good use of the limb; the functions were excellent, considering that the joint had been excised.

These are cases which have been under my own observation, and I am sure that other surgeons can cite additional instances. I am far from saying that the ankylosis was due to the method of treatment; it might have occurred under other forms of management. In the first case the fractured coronoid would have prevented flexion and an operation at the time of injury was demanded; but if ankylosis were inevitable in either case extension was the worst possible position for it. We cannot say in any individual case of fracture entering the elbow-joint that a greater or less degree of ankylosis will not ensue, especially in people at or beyond midlife and in the gouty or rheumatic, and it is precisely for this reason that we should place the limb in the position best suited to its use in case of stiffening, provided that we do not hazard a deformity which will be of greater moment than can be compensated for by this position of election. I have myself long been convinced that the results are sufficiently good when the elbow is treated at or nearly at a right angle. In 1888 I read a paper¹ before the New York Academy of Medicine based on the analysis of fifty cases which had been under my own care. The position adopted was that of 90° or thereabouts. Each case was carefully followed to the end and the result is noted as satisfactory in forty-eight cases out of the fifty. Since the publication of this paper I have treated some seventy additional cases, and while the management has been varied in some details, its principle remains—that of immobilization at or near a right angle and the results are sufficiently good to warrant its continuance.

As I have said, the advocates of the position of extension argue that better coaptation of the fragments is thereby obtained, and experiments² on the cadaver seem to support their views. But it is interesting to note that a series of very careful experiments on the dead body recently conducted by Dr. H. L. Smith,³ of Boston, tends to prove the exact opposite, and that better coaptation is made by complete flexion. Obviously both of these views cannot be right, and, further, I do not think that this is a matter in which we can reason definitely from experiments made after death. These tests cannot take into account muscular action, which is a most important factor in the production of the deformity accompanying fracture, and we cannot transmit on the cadaver the exact violence which produces these fractures in the living. In view of these conflicting conclusions, and in the absence of any considerable number of cases supporting either, I have felt that it might be of interest to bring forward clinical evidence in substantiation of the claim that the position of safety, viz., at or nearly at a right angle, yields sufficiently good results to warrant its employment by the general practitioner.

In our largest cities the out-patient⁴ surgeons see the greatest number of these cases, and in order to supplement my own views I have communicated with

¹ MEDICAL RECORD, December 22, 1888.

² Berthomier: Thèse de Paris, 1875.

³ Boston Medical and Surgical Journal, October 18, 1894.

three of my former colleagues in the city of New York, Drs. Frank Hartley, B. Farquhar Curtis, and W. W. Van Arsdale, each of whom is in charge of large dispensary and hospital services, and the name of each of whom is a sufficient guarantee for the soundness and carefulness of his statements. Their cases added to my own make a total of six hundred and fifty, and are divided as follows:¹

Hartley and Woodbury, ² Roosevelt Hospital.....	250
Curtis, Chambers Street Hospital and the Vanderbilt Clinic.	100
Van Arsdale, Good Samaritan Dispensary	180
The author, Chambers Street and New York Hospitals.....	120

650

The question which I asked each of the gentlemen was as follows: "What position do you consider best adapted to the treatment of fractures of either condyle of the humerus, or of the transverse fracture above the condyles, or of the so-called T-shaped fracture?" Their answers are as follows:

Hartley and Woodbury: (a) Internal condyle—gypsum splints from fingers to shoulder, forearm semi-prone, elbow at right angle. (b) External condyle—the same as the internal, except that the forearm is supinated. (c) Transverse or T-shaped—gypsum splint from fingers to shoulder or with shoulder spica, forearm supine, elbow at less than a right angle.

Curtis: Plaster-of-Paris bandage from fingers to axilla in most cases; occasionally when the superficial soft parts are impaired and need watching, a removable dressing with a wooden or tin splint. In the great majority of cases the limb is put up with the elbow inside of a right angle but not actually flexed, as the latter position would be less comfortable. The hand is in semipronation. When the "carrying-point" is lost and it is difficult to restore it owing to the slipping of the fragments, as usually occurs in fractures of the internal condyle, the limb is put up in full extension and supination with particular attention to the "carrying-point" for about two weeks, by which time the liability to lateral angular deformity has disappeared and yet union is not so solid as to render it impossible to correct any outer displacement which might interfere with flexion. Then ether is again given, the elbow flexed inside of 90°, and a plaster splint applied with careful attention to the position of the fragments. This splint is left in place until consolidation is complete.

Van Arsdale: In all cases flexion to 90° or to 80°; starch or pasteboard dressing until the swelling abates; then the same or plaster of Paris for three or four weeks, according to age (until union is complete).

In my own recent cases I have put the limb up in plaster of Paris at about 90° when first seen, except in those cases in which a tendency to "gunstock" deformity was apparent. In these latter instances I have made the angle 135° for ten days or two weeks, reduction being made under an anæsthetic with careful attention to the "carrying-point," and then changing the angle to 90° or to 80°. I am convinced that the extended position is not necessary to the obtaining of suitable coaptation of the fragments, and I am by no means sure that a moderate degree of cubitus varus is prejudicial to the usefulness of the limb; though I do not know that I am prepared to go quite so far as does Mr. Robert Jones, of Liverpool, who says that neither it nor cubitus valgus is of any consequence from either an æsthetic or a functional aspect.

Of my last seventy cases the result has been satisfactory in all but one. This was a young lady of twenty-four years who came to me one week after an

elbow-joint injury. Examination under ether revealed a V-shaped fracture, each condyle being separated and the lines running to a common point at the trochlear surface. Despite all care the arc of motion was limited to between 90° and 135°.

With forced flexion as advised by Smith,¹ of Boston, and Jones,² of Liverpool, I have had but little experience, not enough to warrant an expression as to its real value.

I have not presented in detail the cases of the men whose opinions I cite, nor my own. What I want to say is simply this: That after having actively managed this number of cases, six hundred and fifty, it is our opinion that the best results are obtained by treating the limb in the flexed position, and that the general practitioner will find the greatest degree of satisfaction in following this form of management.

PRACTICAL PHOTOMICROGRAPHY.

By W. C. BORDEN, M.D., F.R.M.S.,

CAPTAIN, MEDICAL DEPARTMENT, U. S. ARMY.

WITH the extensive use of the microscope in medicine and scientific research the need has been felt of obtaining exact pictorial record of many of the objects seen. Drawings, either free-hand or by aid of the camera lucida, are extensively used, but they are of necessity always more or less diagrammatic and often fail to give the necessary exactness, both from the impossibility of eliminating the personal equation of the draughtsman and from inability to reproduce the appearance of organic structure by line and stipple. Photographic processes, on the other hand, give pictures which in detail of form and structure are second only to the objects themselves; and the value of good photomicrographs as aids in teaching and for comparison, for future reference, and for publication, is generally accepted as unequalled, and their use is becoming more and more common.

But the extensive use of photomicrography has been prevented by several causes. These causes are complexity of apparatus, supposed difficulty of technique, difficulty of obtaining proper and always available light, and supposed large amount of time consumed. In view of these objections and of the value of the results obtained, all simplifications of technique and apparatus are of value and for the practical and more general application of photomicrography, while the results must be of the best, the time consumed must be small, the manipulations must be simple, and the apparatus must be one with which photographs can be taken at any time.

In the early days of photography, when the wet plate only was available, sunlight was necessary to photographic processes, and the traditions derived from its use cause many to still consider it essential to the production of high-class photomicrographs. With the introduction of the dry plate artificial light became available, and in spite of its small actinic power, relative to that of the sun, certain advantages connected with its use have given it many advocates. It is not necessary to enter into an extensive comparison of the relative optical, visual, and actinic value of sun and artificial light. Much has been written in favor of one and derogatory to the other. The fact remains that equally good work has been done with both. But for practical work artificial light has many advantages. Sunlight is uncertain; it varies in intensity from hour to hour of the day and with the time of year. It is apt to be obscured for days together or by passing clouds at critical moments, and, at most, is available

¹ Boston Medical and Surgical Journal, January 4, 1895.

² Provincial Medical Journal, December, 1894.

¹ In each instance the number represents the surgeon's approximate estimate of his own cases.

² Dr. Hartley having charge of the service, the immediate treatment being carried out in all cases by Dr. J. McG. Woodbury.

but for a few hours of the twenty-four. Also the sun is constantly changing its position relative to the instrument, and when used for all except the highest power of the microscope, its image when focused on the plane of the object covers too small a field, and the heat and undesired colored rays have to be filtered out with light and heat filters. It is true that the latter disadvantages can be overcome by suitable but complicated apparatus, but the great objection of unavailability, except at uncertain times, still remains, and in consequence when sunlight is depended on many valuable records are lost from inability to photograph objects at once after their observation. For these reasons sunlight is not available for practical work. Practical work requires a steady, always available light, and these requirements can only be met by some form of artificial light.

Artificial light being necessary, the question of kind arises. So far as results are concerned almost any form may be used, provided it is properly used. Most of the objections made to artificial light have arisen from its improper employment. The main requirements in the light are simplicity and ease of manipulation. These combined with proper adjustment will give an effective light. The electric light, the oxyhydrogen light, the magnesium light, gas light, oil light, and, latest, acetylene light, have all been employed for photomicrographic purposes. The electric, oxyhydrogen, and magnesium lights all require rather complex apparatus, and they are all open to this objection, together with certain other objections pertaining to each. Of the magnesium light it may be said that no practical apparatus for its production has been devised. Electric light necessitates connection with an electric plant. It is expensive and the apparatus required is complicated. In the form of the arc light it gives a very satisfactory and powerful light, and it is probably the best form of artificial light for large institutions when used in the manner hereafter described for oil and acetylene light and with heat filter added. Aside from its power, second only to sunlight, it possesses no advantages over cheaper and more easily handled lights. The oxyhydrogen light is expensive and is troublesome to manage. It requires a complicated apparatus and does not give a light of sufficiently greater power over oil, gas, or acetylene to compensate for the trouble involved in its management.

For practical work there remain, therefore, oil, gas, and acetylene light. These are all easy to manage, they are best used in a similar manner, with similar apparatus, and for advantages of cheapness, steadiness, and controllability are unsurpassed. They differ in illuminating and actinic power, oil light being lowest, and acetylene light highest. Oil and gas light are of very nearly equal power, but they have not generally been considered powerful enough except for low and medium powers. This objection does not obtain when these lights are properly used or when used with orthochromatic plates. The ordinary commercial dry plates are mainly sensitive only to the more actinic rays of the violet end of the spectrum, and oil and gas light being deficient in these rays, photography with such plates and yellow-rayed light necessitates long exposure and generally gives imperfect results. As with sunlight, the difference between the visual and actinic focus enters as a disturbing factor, necessitating troublesome and uncertain adjustments or the employment of specially constructed objectives. Also the violet sensitive plate, owing to the like actinic coloring of many stained objects, often fails in development to give sufficient contrast for printing purposes. The orthochromatic plate does away with all these difficulties, arising as they do from complex conditions of differing visual and actinic focus, of working objectives not suitable for photography, and of plates

sensitive to the light rays of the wrong end of the spectrum. The orthochromatic plate is sensitive to yellow light. In artificial light, oil and gas light especially, yellow rays predominate, and when such light is used the projected image is mainly formed by yellow rays, and if the image is received on a plate sensitive to yellow, the visual and actinic focus will coincide with any objective, whether it is specially corrected for photomicrography or not. Also the yellow sensitive plate is so actinically sensitive to the yellow light that proper molecular change is produced in its silver compounds, causing in development sufficient contrast with almost if not quite all stained objects, and so greatly shortening the exposure that it compares favorably with those made by sunlight. For these reasons oil, gas, or acetylene light, properly used in combination with orthochromatic plates, gives the important necessity, an always available light, and one which is at the same time cheap, steady, easy to manage, and which can be used with ordinary working objectives with the certainty that if they give sharp visual definition they will give good definition photomicrographically.

The remaining desideratum is an apparatus which shall be so simple and easy to manage that it can be connected with the microscope and the projected image photographed with little trouble and with a minimum expenditure of time.

The following is descriptive of an apparatus and method which have been adopted by the writer after much experience in photomicrography. The means and method are believed to be sufficiently simple and effective to warrant the assumption that by them photomicrography may be employed for practical work.

The apparatus consists of a camera hung in a vertical position, of a microscope with substage attachments, objectives and eyepieces, and a stereopticon, such as is used with oil light for projection purposes, in which is placed an oil lamp, or gas or acetylene burner. This apparatus is secured on a low strongly built table, and should either be in the laboratory or in a convenient adjoining room. This furthers its practical use, for when in working a field is found a photograph of which is desired, the microscope has only to be carried to the apparatus, placed in position, the light lighted, adjustments made, and the camera racked into position. With a conveniently placed dark room, the whole photographic operation will take but a few minutes. The working microscope should always be used for photography. By using the same microscope for both purposes the trouble and loss of time incident to changing the slide from one stand to another and refinding a given field is avoided. Every worker, especially in bacteriology, knows the difficulty and time spent in refinding a field once lost. The microscope stand may be of any well-constructed form. Any stand which can be depended upon for clinical or laboratory work can be used for photomicrography. For all-around photographic work it should have a substage ring and adapter for using objectives as substage condensers. A mechanical stage is convenient but not necessary. The microscope is used in the upright position. This position rather than the horizontal is to be preferred for several reasons. The upright position is necessary when movable objects, as colonies of bacteria floating on liquefied gelatin (Fig. 4), are to be photographed, or when, as in clinical photomicrography, photographs have to be made of urinary deposits. In bacteriological work, when bacteria are stained on the cover glass and examined or photographed before the balsam is dry, the cover is apt to slip if the microscope is used horizontally; but this does not occur with the microscope used vertically.

The horizontal position and long extension of camera is necessary for some classes of work, particularly

when large pictures have to be taken and when it is desired to obtain high amplification by extension of camera rather than by high eyepiecing, or when test diatoms have to be photographed with very high amplifications. For practical work, however, up to amplifications of one thousand diameters, and for photographs for illustration or reproduction, which are seldom re-

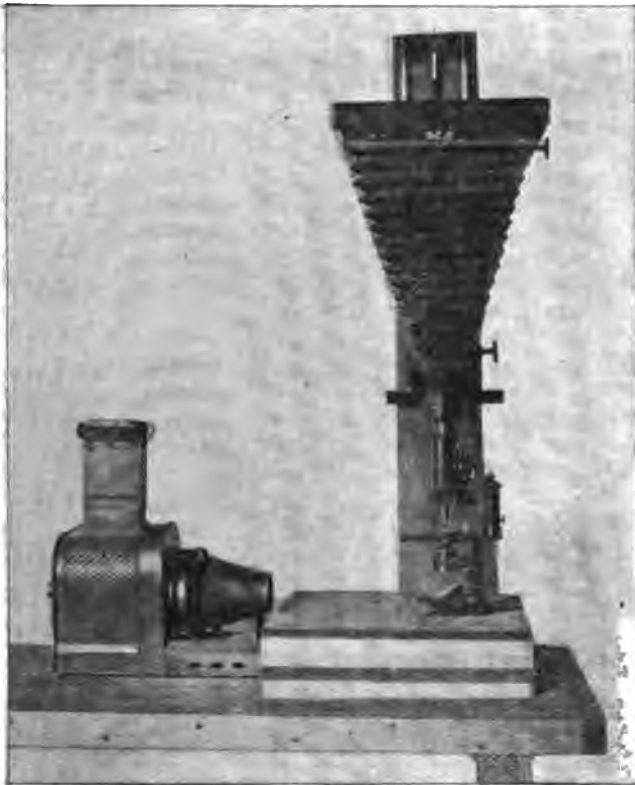


FIG. 1.—Photomicrographic apparatus arranged for use with oil light.

quired of over three and one-half or four inches in diameter, the upright position of microscope and camera is much to be preferred, on account of its ease of application and practical advantages.

The vertical position of the microscope necessitates a similar position for the camera. To allow easy working the camera is hung on a rackwork attached to a rigid upright, which is placed to the right of the microscope so that it will be out of the way while working. Both the upper and the lower ends of the camera are movable on the rackwork. The upper end which carries the screen and the plate holder is movable, in order that different amplifications within limits may be obtained with the same objectives. The lower end is movable that it may be racked up out of the way and allow the operator to manipulate the microscope before attaching the camera (Fig. 2). This is a great advantage, for the operator can seat himself at the instrument, adjust the object to the centre of the field, focus and adjust the substage, and arrange the illumination easily and effectively.

The camera bellows has an extension of two feet measured from the eyepiece of the microscope to the ground glass. This with a continental-model stand, a two-millimetre objective and projection, or working eyepiece No. 4, gives an amplification of one thousand diameters. With lower objectives and less extension of bellows amplifications ranging down to five diameters may be obtained. In focusing the operator can, by standing on a low box, observe the image on the ground glass and manipulate the fine adjustments of the microscope without using a focusing rod, though a suitable rod with cord passing around the milled head of the fine-adjustment screw can be easily attached to the upright if desired.

The Light.—A good and efficient light may be obtained by using an oil lamp, or gas or acetylene burner, properly adjusted in the body of a projection stereopticon with the projection ocular removed.

Of the three acetylene is much the best, and for illuminating and actinic power, combined with simplicity of apparatus and management, it is the best artificial light now obtainable for use in photomicrography. It can be easily and safely generated and stored ready for use, its making and use necessitating little if any more trouble than is connected with keeping an oil lamp in order. After experience with sunlight and various artificial lights I until recently settled down to the use of an oil lamp, believing it or gas to give when properly used the best light for practical purposes. Recently I have been using acetylene generated and burned in an apparatus furnished by Walmsley, Fuller & Co., of Chicago, Ill., and find it unequalled for practical work.

The gas is generated in a small generator and burned in a small burner placed in the lantern body (Fig. 2). If ordinary illuminating gas is used the burner is placed in the lantern in the same way, and when oil is employed a tri-wick lamp with only the middle wick lighted is used in the lantern. The large double condensers of the lantern serve to concentrate the light, while the double lantern body prevents the radiation of heat to the microscope and shuts off all radiating light. These are great advantages, for not only is the illumination improved by the concentration



FIG. 2.—Apparatus arranged for photomicrography with acetylene light. To show the acetylene burner it is placed outside the lantern. The camera is racked up so that the operator may arrange the object and substage.

of light but the microscope does not become heated, and if the room can be darkened, as it should be, by adjustable window shades, the absence of extraneous light greatly facilitates focusing on the camera screen. This method of using oil or gas light renders them sufficiently powerful for practical purposes and with acetylene gives great illuminating and actinic power. With oil light used without a light filter, bacteria can

be photographed with amplifications of one thousand diameters with exposures of from one and one-half to three minutes. Oil and gas lights are themselves so yellow that with them light filters are only required when photographing very difficult objects, such as methyl-blue stained gonococci or Klebs-Loeffler bacilli (Fig. 6). When a light filter is used a light yellow one of an aqueous solution of bichromate of potash placed in a glass trough gives excellent results. With it exposure is somewhat lengthened, being from three to five minutes for amplifications of one thousand diameters.

With acetylene light a light filter is more frequently required. This is due to the greater whiteness of the light and its consequent effect when transmitted through actinic-colored objects. With it most stained sections of tissue photograph well without a filter, the exposure required being very short, usually varying from five to thirty seconds. When a light filter is used the exposure is lengthened, but is short compared with that required with oil or gas light, being about two minutes for amplifications of one thousand diameters (Fig. 3). A good filter for acetylene light is made by dissolving ten grams of potassium bichromate in two

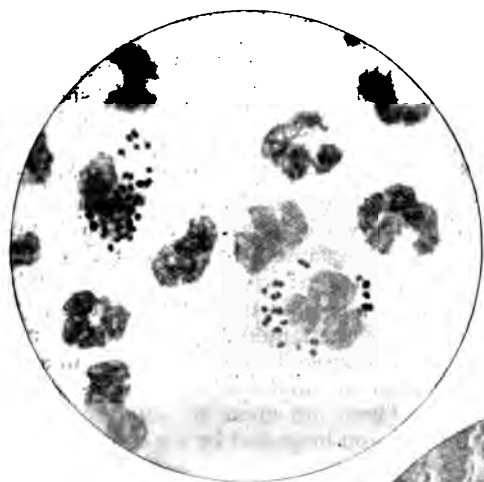


FIG. 3.

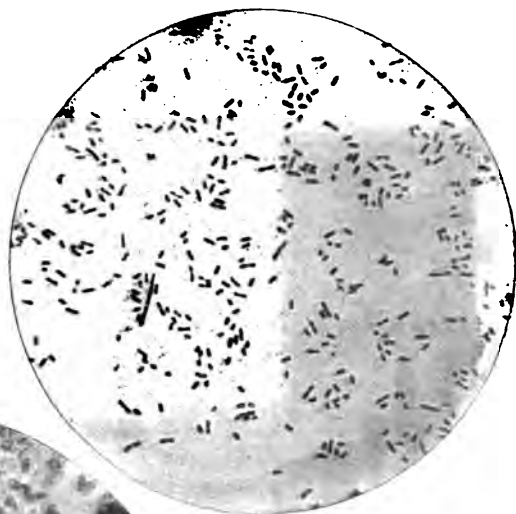


FIG. 4.

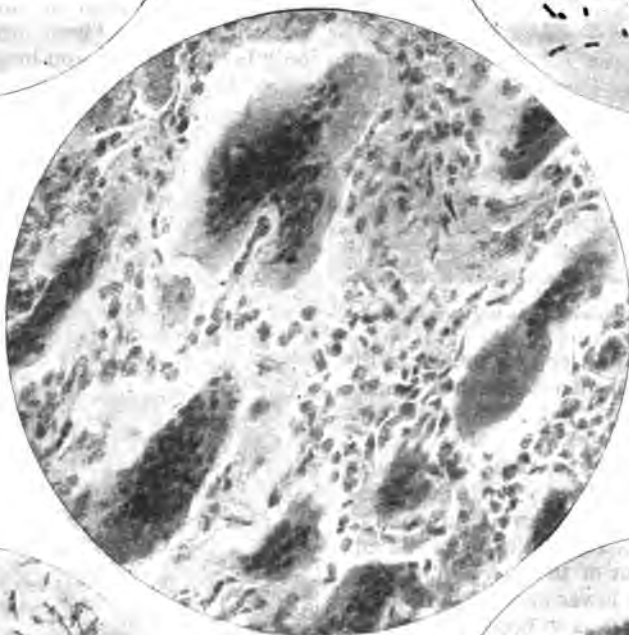


FIG. 5.

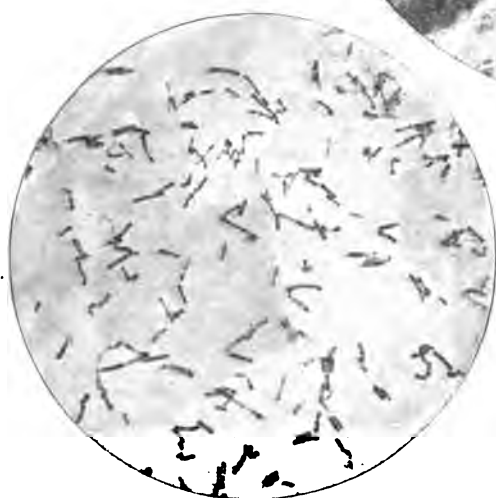


FIG. 6.

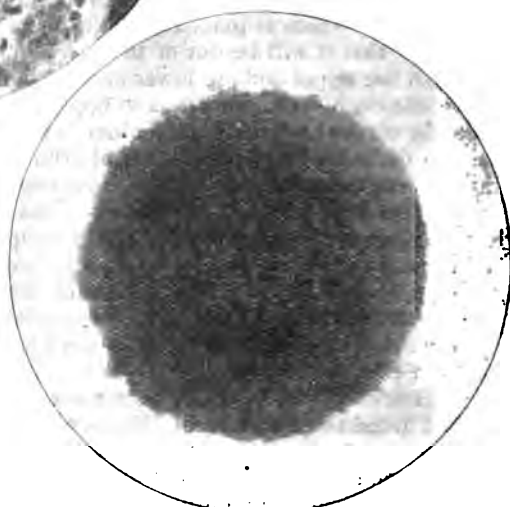


FIG. 7.

- FIG. 3.—Gonococci in urethral pus. $\times 1,200$ diameters. Exposed two minutes to acetylene light with yellow-light filter, using Zeiss' two-millimetre apochromatic objective, projection eyepiece No. 4, and with Abbe achromatic condenser in substage. The preparation was double stained with methyl blue and eosin. The gonococci and cell nuclei, being of a color complementary to that of the light filter, are distinct; the cell bodies, being of a similar color to the screen, are indistinctly photographed.
- FIG. 4.—Colony of staphylococcus pyogenes aureus floating on liquefied gelatin. $\times 30$ diameters. Exposed twenty seconds to oil light, using Beck one-inch objective; no eyepiece or substage condenser.
- FIG. 5.—Giant-cell sarcoma. $\times 275$ diameters. Section stained with borax carmine. Exposed twenty seconds to acetylene light, using Beck $\frac{1}{2}$ -inch objective, working eyepiece A, and Bausch and Lomb $\frac{1}{2}$ -inch objective in substage.
- FIG. 6.—Klebs-Loeffler bacillus, grown on blood serum, stained with Loeffler's methyl blue. $\times 1,000$ diameters. Exposed two minutes to oil light with yellow-light filter, using Zeiss' two-millimetre apochromatic objective, projection ocular No. 4, and Abbe condenser in substage.
- FIG. 7.—Typhoid bacillus, grown on glycerin agar, stained with carbol fuchsin. $\times 1,000$ diameters. Exposed two minutes to oil light, using Bausch and Lomb $\frac{1}{2}$ -inch oil-immersion objective, amplifier in draw tube, and Bausch and Lomb $\frac{1}{2}$ -inch objective in substage.

hundred cubic centimetres of water and using at a thickness of three centimetres in a parallel-sided glass trough.

Adjustment of the Apparatus.—The camera being hung on the rackwork, the microscope is placed beneath it and the lantern is fixed about twelve inches in front of the microscope, with its central long axis in a plane which extends through the centre of the microscope mirror, the substage condenser, the objective, ocular, and centre of camera.

The light (oil, gas, or acetylene) being lighted and placed in the lantern, a stage micrometer is placed on the microscope stage and a medium-power objective and eyepiece are attached to the microscope. Light from the lantern is reflected on the micrometer by the mirror of the microscope, the observer accurately centres the micrometer rulings, then removes the eyepiece and projects the image of the micrometer rulings on the camera screen. The microscope is then moved to such position that the centre of the projected micrometer image is exactly in the centre of the screen. This position of the microscope is marked once for all, and whenever afterward the microscope is placed in the same position the centre of the object will be projected on the centre of the screen. The position of the lantern directly in front of the microscope should also be marked.

Adjustment of the Light.—Proper adjustment of the light is very important in working with artificial light, for upon this its efficiency depends. It must be properly placed relative to the lantern condensers and the light from them must be properly concentrated upon the object. In photographing with all but the lowest powers some form of substage condenser is necessary. This is due to the fact that the light must be focused on the object to give proper definition. In working with objectives of from eight millimetres up to but not including oil-immersion objectives, it will be found advantageous to use objectives of lower power as substage condensers, for if so used in ordinary observations they greatly improve the definition of objects. In fact, it may be laid down as a general rule that whatever gives the best microscopic definition will give the sharpest photographic image. Consequently in high-power work it will seldom be necessary to change the microscope attachments when a photograph is to be taken, for in bacteriological work the ordinary Abbe condenser which gives good definitions will, when properly adjusted, give good photographic definitions, statements to the contrary notwithstanding.

To adjust the light and substage condenser proceed as follows: With microscope and lantern in position and substage condenser centred, place the light to be used inside the lantern body, place an opal or ground glass between lamp and microscope, attach a low power objective, and, seated at the microscope, focus the objective accurately on the object. The opal glass is used to reduce the light which otherwise might injure the observer's eye. The ground glass is then removed, a fine wire screen placed close against the front of the lantern condenser, and by means of the substage condenser an image of the screen is projected on the object. The screen is then removed and a white card held above the eyepiece of the microscope with one hand, while with the other the light is moved about inside the lantern body until the image of the light projected on the card appears oval in form and equally brilliant in all parts. If the light is placed too near the condensers, there will be dark spaces on each side of the illuminated field; if too far away, the centre of the field only will be bright. If the light is a point or small disc the properly illuminated field will appear perfectly round; with the elongated oil or acetylene flame it will appear oval. The light

once properly placed should be fixed for future work.

With the light fixed and position of microscope determined, the operation of photographing is comparatively simple. When the observer finds a field which he desires to photograph, the microscope is carried from the working-table to that of the apparatus, placed in the marked position, and the light lighted. The operator then seats himself at the microscope, attaches the proper objective and substage attachments, focuses the former on the object and the latter on the wire screen placed against the lantern condenser, removes the screen, substitutes the opal glass, and, if using an Abbe condenser, opens or closes the condenser until the sharpest visual definition of the object is obtained. The opal glass is then removed and if required a light filter is placed between the lantern and microscope. The working eyepiece is then removed, a projection eyepiece inserted or an amplifier placed in the draw tube, or, if it is desired to use the objective alone, a tube of black paper, to prevent reflection, is placed in the tube of the microscope. The camera is then attached to the microscope and the projected image focused on the camera screen, preparatory to exposure.

In regard to the method of projection of the image much has been written regarding the relative value of using the objective alone, or with an amplifier in the draw tube, or with the ordinary working eyepieces or projection eyepieces of Zeiss. Practically, for all except the highest-power diatom work, equally good results can be obtained by either method, though where much work is to be done there are some advantages in the use of the projection eyepieces.

For photographing the projected image orthochromatic plates should be used. Of these I have used the Cramer rapid "isochromatic" exclusively, though probably other makes of orthochromatic plates might be found to work equally well. Certainly the "isochromatic" work so well that there is no necessity for going through the trouble of orthochromatizing plates one's self.

In developing I have obtained best results with formulas in which hydrochinone alone or with some other reducing agent is used. The following give clear negatives of sufficient contrast and gradation:

No. 1.

Water.....	300
Sodium sulphite.....	25
Potassium bromide.....	0.5
Hydrochinone.....	1.5
Metol.....	1.5

No. 2.

Water.....	15
Sodium carbonate.....	300

Use equal parts of No. 1 and No. 2.

Development should proceed slowly and should be continued until sufficient density is obtained. Rapid development and removal from the developer before sufficient density is obtained are to be particularly avoided in photomicrographic development.

A few reproduced photomicrographs are given in illustration of the methods outlined. They have been selected as representing ordinary practical work with different objectives and lights and with different means of projection and substage attachments.

Cancer of Cervix Uteri.—Dr. Charles Greene Cumston, instructor in gynecology at Tufts College, says obstruction of the ureters with consecutive anuria is one of the most frequent complications of cancer of the cervix uteri, and in a goodly number of cases is the direct cause of the patient's death.

THE TREATMENT OF PULMONARY TUBERCULOSIS.*

BY IRWIN H. HANCE, M.D.,

NEW YORK.

It is with a spirit of hesitancy that the writer undertakes to speak this evening upon a subject of such magnitude and importance, and his endeavors will be to place before his audience in a concise manner various recognized forms of treatment with a view to eliciting in the discussion the opinions of his hearers. His excuse for considering this subject is the widespread prevalence of the disease, as also the thoughts of the sufferings of the patients themselves and the sorrow and distress of the many dependent on them.

Unknown to the individual and unrecognized by the physician, nature frequently perfects a cure of this disease, as shown by the post-mortem records of many observers. Osler¹ states: "In my autopsies, excluding cases dead of pulmonary phthisis, 7.5 per cent. presented tuberculous lesions of the lungs." Since nature has thus clearly demonstrated her ability to overcome this disease we should employ only such remedial measures as will assist her, and all our efforts should be directed toward aiding and strengthening her in her battle against any further encroachment of the disease. These efforts may be embraced in three classifications: 1. Medicinal or therapeutic measures. 2. Specific treatment. 3. Climatic treatment.

Medicinal Treatment.—Many physicians have sought to treat pulmonary phthisis by means of antiseptics, aiming to act directly upon the tubercle bacilli by powerful agents introduced into the system either through the stomach, by inhalations, or by hypodermic injections; thus there has arisen a so-called antiseptic treatment of phthisis.

The fatal objection to this theory is that whatever drug is introduced in sufficient quantities to kill the tubercle bacilli would destroy the patient's life; this is undoubtedly true, yet many believe an amount may be introduced into the complex human economy sufficient to increase and strengthen the antiseptic action of the fluids, cells, and tissues of the body to such a degree as to turn the scale in favor of a more or less complete arrest of the disease.

By far the most important is the creosote treatment. Creosote was first discovered by Reichenbach in 1832, and recommended by Grandjean² in 1834 for use in tuberculosis. After a few years it fell into disrepute, until in 1877 it was again brought into use by Bouchard and Gimbert.³ The next year Sommerbrodt⁴ warmly recommended it in steadily increasing doses until tolerance was reached. Since that time it has been in constant use in nearly every country, and to-day is looked upon with greater favor than any other drug. There is a wide diversity of opinion as regards its action, one party believing that it has a greater or less specific action upon the tuberculous tissue, the other that its action is more local—upon the gastrointestinal tract—and that by improving nutrition it reacts beneficially upon the tuberculous process. Among the former are to be named Sommerbrodt,⁴ who states that "the creosote which is conveyed to the human organs, that is to say, the cells and the tissues and their fluids, changes the soil (Nährboden) for the tubercle bacilli to a degree that the existing colonies do not thrive in it and are destroyed." Conway⁵ believes "that creosote when used in large doses is a specific in tuberculosis."

Fraentzel,⁶ who used creosote as early as Sommerbrodt, advocates large doses, but is more conservative in his statements; if much fever is present, even 38.5° C., "no improvement is to be expected." "The number of successful results is proportionately small."

* Read before the Section on Practice, New York Academy of Medicine, April 21, 1896.

B. Robinson,⁷ who first applied creosote to the treatment of pulmonary tuberculosis in this city, and whose writings concerning its action and effect are the most complete in America, states: "As regards the general symptoms, they are nearly all benefited by the use of creosote—some, however, not immediately, or always in the same manner." He is a firm believer in the value of creosote inhalations, saying that "frequent and long-continued inhalations of creosote are extremely useful." For this purpose he gives three formulas. Modification of Brunton's formula:

℞ Iodoform	gr. xxiv.
Creosote	℥ iv.
Oil of eucalyptus	℥ viij.
Chloroform	℥ xlvij.
Alcohol,	
Ether	āā q. s. ad 3 ss.

M.

Dr. Coghill's formula:

℞ Tinct. iodi ætherealis,	
Ac. carbolicus	āā 3 ij.
Creosote	3 i.
Spts. vin. rect.	ad 3 i.

M.

His own:

℞ Creosote	3 i.
Alcohol	ad 3 ss.

M.

At first he uses this from five to fifteen minutes three times a day, and then lengthens the time of inhalations.

"The daily amount of creosote prescribed by me for adults, in private practice, has varied from three to six minims, and continued many months without increase or interruption or any evidence of intolerance." It is given in whiskey and glycerin.

William H. Flint,¹⁰ in 1890, states that the best results for each individual attend the administration of the maximum quantity of creosote which the patient will bear; and that the average patient will not tolerate more than ten to fifteen minims three times a day for any length of time.

The late Dr. A. L. Loomis,¹¹ in a discussion on the use of phenolic substances in phthisis pulmonum, stated: "I do not believe that these drugs have any effect upon pulmonary disease, except so far as they improve the nutrition of the patient by facilitating his digestion. I am quite sure they have no specific action."

The writer has had abundant opportunity to observe the action of creosote during his residence at Saranac Lake, where it was pretty constantly used, and on several occasions was pushed to the degree of tolerance by administering it by mouth and also by rectum. Under its use in afebrile cases the cough and expectoration are diminished, the patients' nutrition improves, and they gain in weight; in febrile cases it had no influence on the fever, and where there was an active tuberculous process, tending to spread, it certainly showed no specific action in checking the extension of the disease. In private practice he has seen in many patients, when they took very large doses, such severe gastric and intestinal derangements as to keep them confined to their bed, and the resulting physical depression has caused patients who were improving to be seriously injured by reason of the damage done to their assimilative organs. From watching some patients who were taking moderate doses of creosote and others as much as they could tolerate, he concluded that there was not enough difference in the results to warrant one in running the risk of upsetting the stomach by large doses.

Administration.—Only pure beechwood creosote should be used, for on its purity depends success. It must always be given on a full stomach; milk is an excellent vehicle for solutions of creosote; it should be given in pills or capsules and swallowed with half

a glass of water or milk. Sommerbrodt uses it in capsules with balsam of tolu; Fraentzel mixes it with tincture of gentian, alcohol, and sherry wine; M. Gutman with acetic ether, aromatic tincture, and simple syrup. It can also be given with whiskey or rum; an economical way is to buy empty capsules, No. 2, and subcarbonate of bismuth; pack the capsules slightly and drop in creosote, then cap them; do not put more than three drops in a capsule and make them up fresh every four or five days.

Commence with one minim after meals, increasing one minim every third day; if creosote is tasted for an hour or more after taking, digestion is disturbed, appetite fails, or diarrhoea sets in; or if the urine shows any changes, diminish the dose or stop the drug altogether.

It must be used persistently for a great length of time. The dose will vary according to the opinion held by the prescriber. The extremes will be reached, on the one hand by those who follow Sommerbrodt, who says "the more creosote tolerated per day, so much the better the action;" and on the other by those who, like the writer, use it with regard for its action upon the organs of nutrition, and therefore give only six or eight minims three times a day.

The writer has used the carbonate and creosote in soft capsules and has been well pleased with their action. The creosote is much more agreeable to take, better tolerated by the stomach, and can be used in doses of from twenty to thirty minims three times a day.

Guaiacol has been used as a substitute for creosote. Sahli¹¹ considers it as efficacious as creosote, and it has the advantage that the taste and smell are pleasanter.

Given hypodermically, Coghill¹² reports very satisfactory results from its use in doses ranging from five to ten minims. Judging from the charts exhibited in his article, its effect upon the temperature was pronounced. Epidermically it has a powerful action upon the temperature; at the same time great depression may result, the temperature falling from 102° F. or over to 97° F., and occasionally as low as 96° F. Profuse perspiration occurs, and, if a very large amount has been rubbed on the skin, dangerous collapse.

The writer has used it hypodermically and seen fairly good results as regards its action on the temperature. Epidermically he has used it considerably, and when used in small doses (ten minims), repeated if temperature is not affected, twice at intervals of two hours, it is very useful for its antipyretic action.

Solis-Cohen,¹³ after watching its effect in thirty cases, concludes: "I think results here given justify extended use of the remedy, which by its influence on skin nerves reduces temperature and, when properly watched, without any deleterious injury, and in so much it promotes the patient's comfort."

Guaiacol will never take the place of creosote. When the latter cannot be taken internally it will serve as a substitute by hypodermic injections, the pain from which is not sufficient to annoy the great majority of patients. It is best given in sterilized sweet-almond oil in a thirty-three-per-cent. solution.

Epidermically it is in some cases a very serviceable antipyretic. It must be watched carefully, for severe collapse may result from too liberal applications.

The use of the chloride of gold and sodium and iodide of manganese has been brought before the profession by Dr. J. Blake White,¹⁴ of this city. He states that "the salts of gold not only dissipate the plastic exudation, but exert a profound effect upon the functions of organic life, arousing the organs to healthy action and necessarily improving the nutrition. There is good reason to believe that they exert a remarkable influence upon the general nutrition."

This improved nutrition or increased power of

resistance is the chief object sought in treating phthisis, and in so far this treatment has at times produced beneficial effects in the writer's experience. It improves the appetite, and the patients express themselves as feeling the tonic effect of the drugs. Dr. White begins with one twenty-fifth of a grain of the combined salts of gold and manganese in a one-per-cent. solution of carbolic acid. "Very pronounced reactions may follow injections, but should be avoided by small dosage to start with."

Gibbes and Shirley,¹⁵ acting on the theory of finding "something to combine with and neutralize the toxalbumoses, or whatever they may be, and arrest the disease," advocate the use of chloride of gold and iodine. Iodine inoculations are very painful and cannot be used for any great length of time, and many patients have refused to continue their use, owing to the pain produced. In large doses they occasion vertigo and nausea. The dose varies from one-twelfth to one-half of a grain. The chloride of gold is given in doses of one-twentieth to one-third of a grain.

Carasso, in 1894,¹⁶ gave in detail a form of treatment by peppermint inhalations and the internal administration of peppermint and creosote in combination with chloroform and whiskey. He reported forty-six cases, and stated that the bacilli in many cases disappeared from the sputa in from fourteen to sixty days. His results were so good that Dr. Trudeau placed twenty patients in his sanitarium upon this treatment. These were all patients who were doing well under ordinary climatic treatment, and they faithfully persisted in Carasso's treatment for four months. Result—not one lost the bacilli in that time. The mixture was so distressing to patients that it could be given only in small doses, or had to be discontinued because appetite was destroyed. The only favorable action was on the cough, which was diminished in severity by the inhalations; the secretion became less viscid and was more easily raised.

Baldwin¹⁷ has shown experimentally that the vapor of peppermint has no influence on tuberculosis in rabbits.

Edson's¹⁸ preparation, which consists of phenol and pilocarpine in combination, has been before the public such a short time that one cannot form any definite conclusions concerning its efficiency. At least a year or two must elapse before one can draw deductions about any new treatment of phthisis.

In the two most noted sanatoria in Europe, Dr. Dettweiler's at Falkenstein, and Dr. Brehmer's at Goerbersdorf, hydrotherapy is constantly used for its stimulating effect upon the peripheral nerves and its reflex action on the great nerve centres, as a result of which deeper respiration occurs and an improved stronger heart action is noted. By them, as also by Baruch,¹⁹ of this city, from whose article is quoted the technique of its application, the bath, followed by friction and massage, is used as an adjuvant of the treatment, simply as a means of increasing the tissue changes and improving the patient's general condition.

Brehmer²⁰ states that "in using it the patient must at once after the bath experience the feeling of comfort and warmth. His skin must become red. The douche seems to act upon the resorption of the pleuritic exudate." It is a dangerous method and must be used only by physicians.

Baruch says: "But, aside from this important consideration [its tonic effect], the predisposition to repeated colds and consequent probable aggravation of the local processes and general symptoms may be diminished by the neuro-vascular discipline to which the skin is daily subjected by applications of cold water in some appropriate form. This hardening process has long been recommended for those predisposed to phthisis," especially by Ziemssen, who says

"it is a remedy of extraordinary value." The technique varies with each case. Brief applications of low temperature, as by the douche or rain bath, the wet pack, or rapid ablutions, are followed by rapid reactions, and if well borne are exceedingly useful as tonics. Among those unused to water at any temperature and who are much debilitated, higher temperatures are required, and only a portion of the body is exposed and bathed at a time. "The most useful hydropathic procedure in phthisis is the rain bath. The patient stands within a frame constructed of six semi-circles of inch tubing, the upper one on a line with the clavicles. Each tube has three lines of fine perforations, the upper line directed upward, the middle straight forward, and the lower downward. The water should have a fall of not less than forty feet. The temperature adapted to the average case of phthisis is 65° F. Here the pressure with which the water strikes the body affords a kind of massage which assists in producing reaction even in feeble individuals. The skin should become pink while under it. Decided chilliness continuing after thorough drying and friction is an evidence of improper selection of the temperature, duration, or method of the bath." Baruch then quotes in detail the histories of cases treated by him, showing some excellent results, but it should be noted that he did not fail to have his patients live in the air and sunshine, exercise very carefully, and improve their general nutrition by every possible means.

Specific Treatment.—Although the tuberculin treatment has passed into "innocuous desuetude" among the great body of physicians, it is still used by a few earnest conscientious workers for two purposes. First, as a test for tuberculosis in its earliest stages. In the writer's own experience it has been of service in this capacity, and in obscure cases of any form of tuberculosis he believes it can be safely used for diagnostic purposes without resulting in any injury to the patient. Second, commencing with very small doses, which are never sufficient to produce any reaction, it is slowly and guardedly increased until a point of tolerance on the part of the patient is reached, and then continued for a number of weeks until physical examination shows a thorough arrest of the disease. Should small doses produce any reaction, as shown by an elevation of temperature of one or two degrees, as also by physical examination, the treatment can be stopped before any injury has been done the patient. The writer recalls at least four patients who could not continue the use of tuberculin, but subsequently arrested their disease processes under proper climatic treatment. After the continuous use of tuberculin or its modifications, extending over a period of nearly five years, he is of the opinion that patients who are "relatively cured" by the use of tuberculin and climatic treatment have stronger resisting powers against subsequent infection than those who have secured the same result by climatic treatment alone. In other words, their "cure" (if one may use such a term) is much more firm and lasting than in other cases.

Climatic Treatment.—Under this form of treatment the best, and one may say the only satisfactory, results are obtained in pulmonary tuberculosis. Not many years ago it was thought that all consumptives must go to some warm climate or to Colorado to arrest their disease. Now it is known that the disease may be arrested in many localities which were not thought favorably of in the past, but the patient must be under proper medical supervision and lead a continuous out-of-door life. Unquestionably some localities have a far more favorable influence on the disease than others, and those which have been tried and proven to act beneficially on tuberculous lesions are the ones from which one should choose. The locality should

be one with an altitude of about two thousand feet or over, situated on the side of a hill which affords the greatest amount of daily sunshine, and sufficiently removed from any large village, that the air may be practically germ free. The variations in temperature should be as slight as possible, the soil such that the amount of moisture from rains, etc., is at a minimum. The extreme cold of the northern winters do not militate against certain localities in the North, for in the Adirondacks not only have the physicians observed that the patients do better in the winter time, but nearly all the patients express themselves as feeling better during the cold than during the warm weather.

Bowditch,²² of Boston, has been the pioneer in the United States in his efforts to establish a sanatorium near a large eastern city. His object was to treat those poor patients who could not afford to go away, and would otherwise be sent to some ward in a city hospital or remain in their own rooms under bad hygienic surroundings. The patients were under strict medical supervision, obliged to lead an out-of-door life, and in every particular were treated just as they are when sent to some suitable climate. He has met with a well-merited degree of success, and all of us here present would, without doubt, unhesitatingly endorse such a plan for New York City, whereby phthisical patients might be treated in a properly constructed sanatorium out in the country, instead of being crowded together in the wards of the city hospitals.

To sum up in as few words as possible, how shall a physician advise his patients who are afflicted with pulmonary tuberculosis? These may be grouped into two classes—the febrile and afebrile—and the treatment applies alike to both, only febrile cases require absolute rest out-of-doors for weeks until their temperature range registers 99° F. for a period of at least three weeks. Send your patients to some suitable locality. Have them lead a continuous out-of-door life. Let their exercise be controlled by its effect upon their system, a good rule being never to produce fatigue from exercise of whatever kind it may be. Give them the best quality of food and that which is most easily assimilable. Regulate their bowels. Improve the circulation of the skin by baths and friction. Use such medicaments as their symptoms call for, and give creosote and cod-liver oil unless the stomach rebels. In a word, give them pure air, improve their nutrition, and strengthen their resisting powers both physically and mentally.

Each physician present knows how simple it is to advise but how difficult to put in practice. Difficulties arise from the moment the physician makes his diagnosis, some of which we will mention:

First, the shock and mental depression, the result of telling your patient he has consumption. Deception always bears bitter fruit, and it is far better to say at once what is the trouble than to have the patient find it out later, when the disease has progressed to such a degree as to leave little hope of any successful issue. Then, too, the earlier the patient discovers his disease the greater the chances of his arresting it, and consequently he will recover much more rapidly from the mental depression due to his knowing what is the trouble. If he is but little incapacitated by reason of it, he very frequently can begin work at once in a proper climate, whereas later on he is obliged to remain absolutely idle for many months and with smaller prospect of a favorable result. If your patient has had hemorrhages, then there is the added danger of recurrent fatal hemorrhages, the direct result of overstrain, examples of which have been observed by some if not many of us here present.

Second, this may be good advice for the rich but not for the poor or those in moderate circumstances. Fortunately our humanitarians and philanthropists

have recognized the great need for charitable or semi-charitable institutions to help this deserving class and to-day there are several such sanatoria, viz., the Adirondack Cottage Sanitarium at Saranac Lake, the sanatorium at Liberty, N. Y., Dr. Bowditch's sanatorium at Sharon, Mass., one at Aiken, S. C., under the charge of Dr. McGahan, and the New Church Home at Denver, Col., with Dr. Fisk at its head. The charges at these are nominal and do not cover the expenses, most of them charging five dollars a week. Such places do much to re-establish the health of the consumptive and enable them to again become self-supporting members of the community, although in other climates.

Third, many patients remark that even if a given place benefits them they cannot return to live in New York or their former homes. Life is sweet to everyone, and the vast majority will decide quickly when the alternative lies between death in their former home or life in some other section of the United States.

Lastly, there are some who fear that by coming in contact with other consumptives they are further endangering themselves, and also they dread the association with and sight of other sick ones. To the former one may justly say that the tubercle bacilli within themselves are far more dangerous than the contact with others. With the latter the dread soon passes away, and they are very apt to consider themselves more fortunate cases than the majority and thereby become possessed of a happier mental condition.

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- 130 WEST SEVENTY-THIRD STREET.

Clinical Department.

VAGINAL HYSTERECTOMY FOR PUERPERAL SEPSIS DUE TO RETAINED DECIDUA—RECOVERY.

BY ALFRED C. CARPENTER, M.D.,

NEW YORK.

A PATIENT of Dr. Joseph Moorhead, Mrs. McC—, aged twenty-two, mother of three children, was between two and three months pregnant, when she slipped and fell on the sidewalk and miscarried. The doctor was called, but did not arrive until "everything" had come away, as he was told, and had been disposed of, so he did not have an opportunity to examine it.

On the third day after the miscarriage she had a chill and the temperature rose to 103° F., pulse 110. The doctor, suspecting that possibly something had been retained within the uterus which was causing sepsis, ordered the nurse to give an intra-uterine douche of 1-3,000 bichloride every three hours, and quinine as an antipyretic. The evening of the fourth day she had another chill. The temperature rose to 105° F., pulse 120.

I saw her first on the morning of the fifth day. The temperature was then 104.6° F., pulse 130. The uterus was large, soft, and flabby. The cervix was widely dilated, readily admitting two fingers. The patient was placed in Sims' position and a quantity of partially decomposed, vile-smelling decidua was removed with the curette, and the uterus was irrigated with a hot 1-2,000 bichloride solution and packed with iodoform gauze. The packing was removed three hours later and intra-uterine douches of 1-2,000 bichloride solution were given hourly. I also ordered saline purgatives to be given freely. The temperature in the evening had dropped to 102.8° F., pulse 120. The following morning temperature was 102.4° F., pulse 120. In the evening she had another chill, and the temperature rose to 105.2° F., pulse 140.

I saw her again with Dr. Moorhead the following morning. The temperature was 105.2° F., pulse 140. There was a profuse purulent discharge from the uterus. There was no tympanites or abdominal tenderness except on deep pressure over the fundus uteri. I advised that hysterectomy be performed at once, believing it to be the only possible chance to save the woman's life.

She was brought to my sanatorium in the afternoon in an ambulance, and vaginal hysterectomy was performed as soon as the operating-room could be got in readiness.

Before she was put on the table a stimulating enema was given.

Chloroform was the anæsthetic used. It was necessary to give a hypodermic injection of strychnine during the operation, which only required about twenty minutes. The opening through the vaginal vault was not closed at all, but left open to give thorough drainage and packed full of iodoform gauze. A thirtieth of a grain of strychnine was given every three or four hours for the first twelve hours after the operation. The temperature the next morning had dropped to 101.8° F., pulse 120. The following day it rose to 104° F., but dropped to 101.4° F. as soon as the bowels were moved and clean packing was introduced. From this time on recovery was uninterrupted, the opening through the cul-de-sac had closed in twelve days, and the patient returned to her home in three weeks.

Until of late I have contented myself with curettage and intra-uterine douching in these cases of puerperal

Pyogenic Organisms.—Dr. Etheridge (*Amer. Jour. Med. Sciences*, April, 1896) speaks of the following as being the chief ones: The staphylococcus aureus, the streptococcus pyogenes, the bacillus pyocyaneus, the bacillus pyogenes fœtidus, the bacillus coli communis, the bacillus tuberculosis, the bacillus proteus, the staphylococcus epidermidis albus, the micrococcus lanceolatus, and the diplococcus pneumoniae. The most characteristic purulent inflammations are produced by the staphylococcus and the streptococcus. The staphylococcus is much more likely to produce circumscribed purulent inflammations or abscesses.

sepsis, although not satisfied with it, for I have seen two patients die after it, and I am convinced that if hysterectomy had been performed both lives would have been saved.

Some operators advocate the use of the finger for removing clots and retained membranes, claiming the curette to be dangerous, that it is liable to puncture the fundus, and that it cuts away too much uterine tissue and opens the uterine sinuses, allowing new sources for infection. To be sure, a great deal of injury can be done with the curette. Indeed, I would never advise the introduction of any instrument into such a uterus by an unskilled hand, but in the hands of those of experience it can be used with just as much safety as the finger and to better advantage.

The attack is ushered in by a violent chill, followed by a high fever, and ending with profuse perspiration. Then, perhaps, the patient will go on for twelve, twenty-four, or possibly thirty-six hours and feel perfectly comfortable, then another chill follows, and then we know that our patient is doomed. With care and careful watching life may be prolonged, but the chills recur, and as the multiple abscesses and infarcts result from the distribution of emboli, a typhoid condition follows and death ensues.

When the second chill occurs and there is no longer doubt about the diagnosis, there is no other alternative. Is it not advisable to perform hysterectomy and thus prevent the spread of the pyæmic processes?

219 EAST NINETEENTH STREET.

THE TREATMENT OF ACUTE LOBAR PNEUMONIA AND ITS SIMILARITY TO THAT OF TYPHOID FEVER.

By S. A. VISANSKA, M.D.,

ATLANTA, GA.

My object is to bring before the profession the treatment of pneumonia and to show in many respects its similarity to that of typhoid fever. While they are entirely different diseases, the lesion of one in the lung, and of the other in the intestinal tract; one runs a course of a few days and terminates, as a rule, abruptly and the other has a period of slow invasion and slow termination; still the treatment is almost identical. It has been established beyond a doubt that pneumonia is an infectious disease and that the diplococcus pneumoniae of Fraenkel is the prime factor of this infection. Cold, low vitality, age, etc., were at one time considered the chief etiological factors, but I consider it a great mistake to lay so much stress on the word "cold," though it does "cover a multitude of sins." While I do believe that cold is an essential factor in the spread of the disease, and that age and low vitality offer a good bed for its development, we have conclusive proof that the disease is more prevalent in the South than in a colder climate. If a person is exposed to cold and dampness, as a rule he contracts a severe bronchitis with cough, expectoration, and perhaps slight fever, but lacks the grave symptoms of pneumonia. Typhoid fever is an infectious disease produced by the bacillus typhosus. Both diseases are self-limited, run a certain course uninfluenced in any way by medicine. They can neither be aborted nor cut short by any known means at our command, although a few in the profession claim to do this.

Now as to treatment. It has been clearly demonstrated that there are two essential points in the treatment of both diseases namely, to keep up the heart's action and to reduce the temperature.

The patient should be placed in a well-ventilated room with windows that open from above, free ventilation being obtained by drawing down the win-

dows from above, never through an open door. "Doors were made to close, windows to open." The room should be moderately warm, bed comfortable, mattress not too hard, cover light. The sputum should be caught in a bowl containing strong solution of phenol, for I believe this the source of infection as the stools are in typhoid.

The diet should be liquid and nourishing—milk, egg-nog, chicken soup, beef tea, cocoa, and occasionally a soft-boiled egg. To keep up the heart's action we have alcohol as our sheet anchor, and it must be used judiciously; in conjunction with this we have the sulphate or nitrate of strychnine, which I consider the very best tonic, nerve and muscular. In treating adults I prefer it given hypodermatically; for children, by the mouth.

To reduce the temperature old writers would advise filling the patient with quinine, veratrum viride, aconite, etc.—adding fuel to the fire. While these reduce the temperature, it is at the expense of a heart already overtaxed. Lately phenacetin, antifebrin, antipyrin, and other antis have been used with the same disadvantage.

Experience has taught us another plan, as in the treatment of typhoid fever, and this is the application of cold. It reduces the pyrexia, tones up the heart, relieves the pain (which is generally the accompaniment of pneumonia, owing to the pleura being involved), alleviates difficulty in breathing, promotes pulmonary circulation, hastens resolution, and disperses the products of exudation. It reduces pyrexia without weakening the heart's action and relieves the nervous symptoms; as a rule from the pyrexia we have delirium—and what is more comforting to our patient than an ice cap applied to the head? I prefer ice caps; the chest, arms, and back can be frequently sponged with ice water and alcohol until the nervous symptoms (if any) disappear and the temperature is reduced one or two degrees. Warmth should be applied to the lower extremities if required; and should there be great pain in the side after the application of cold, I would advise the use of morphine sulphate hypodermatically.

March 28, 1896.

FOREIGN BODY IN THE MALE URETHRA; REMOVAL BY INTERNAL URETHROTOMY.

By SINCLAIR TOUSEY, A.M., M.D.,

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ON December 24, 1895, a man presented himself at my surgical clinic, stating that he had had a foreign body in the penile portion of his urethra for the last twenty-four hours. He showed me the mate to it, a wooden ovoid of the size and shape of the head of a No. 37 French bulbous bougie. He said it was part of a puzzle, but his object in introducing it into the urethra did not transpire. The fact that he was thirty years old and had been married five years would indicate that maturity and matrimony are not always absolute prophylactics against such experiments.

There had been absolute retention of urine for twenty-four hours, and his efforts to express the foreign body manually had produced very considerable congestion and œdema of the penis. The foreign body could be discovered by palpation at a distance of about two inches from the meatus, and it was quite firmly fixed in position.

After cocaineizing the anterior portion of the urethra, the meatus was somewhat enlarged and a narrow silver band bent into a loop was readily passed around the foreign body. Efforts at traction, how-

ever, proved useless, as the wood had swollen to nearly twice its original diameter and was held firmly in place by a fold of swollen mucous membrane. The silver loop having been removed, a narrow-bladed bistoury was passed into the urethra through the meatus. The mucous membrane was divided along the dorsum for a distance of half an inch over the foreign body. I was then able to express it with entire ease. The rather profuse hemorrhage was controlled by bandaging the penis firmly against the symphysis pubis, and on the patient's promise not to repeat the offence he was discharged.

39 WEST THIRTY-EIGHTH STREET.

DISLOCATION OF THE FOURTH CERVICAL VERTEBRA WITH FRACTURES.

By R. C. PAINE, M.D.,

BETHEL, N. Y.

My aim in presenting this case is to add one more fact in favor of early reductions of the fractures and dislocations in these cases.

April 7, 1891, I was called to see J. S—, aged fifty, who had fallen out of a wagon, striking on his head and right shoulder. Those who saw him fall said he rebounded in the air about a foot. When they lifted him he was apparently dead, his head being drawn back. When I saw him less than an hour afterward the head was drawn backward, the limbs were paralyzed, respiration was abdominal and difficult, while deglutition was impossible for anything but liquids; the patient was suffering extreme pain.

On examining the neck I found that I could not trace the cervical spines, as the head was drawn so far backward that only a mass of skin and muscles could be felt; where I failed to trace the spinal process the front part of the neck was very prominent, the larynx and trachea standing out, while the line of the transverse process of the upper cervical vertebra could be easily seen through the skin. The chin was so elevated that upon opening the mouth to its full extent it could not be brought within nine inches of the sternum. The patient was in great pain. I gave two hypodermic injections of one-third grain of morphine, which failed to relieve him.

Two hours after the accident I put the patient under chloroform. I then found that the spinal processes made a sharp angle at the fifth cervical vertebra. Upon opening the mouth and following the bodies down with my fingers, I found that the fifth stood forward sharply a little more than the length of my finger nail or about three-fourths of an inch in front of the fourth. I could also feel a movable fragment of bone on the right side and back of the body of the fifth. This was the transverse process of the fourth which was not found in its place, and I came to the conclusion that I had a dislocation backward of the fourth on the fifth with a fracture of the right transverse process of the fourth.

Having made up my mind to reduce the dislocation and being eight miles from another physician, I proceeded at once with the help of three or four laymen. After working an hour with traction and counter-extension without any result, I inserted a gag in the mouth, having an assistant make traction on the mastoid process. I then inserted my finger in the mouth, pressing backward on the body of the fifth vertebra and making counter-pressure with the other hand back of the neck, when the bone slipped into place with a snap. The chin dropped forward on the sternum, respiration stopped, and the pupils dilated. I gave a hypodermic injection of ammonia into the external jugular vein and commenced artificial respiration.

In two and one-half minutes I felt the pulse and it was just perceptible; in fifteen minutes the patient could carry on his own respiration, and in twenty minutes the pupils contracted. I then felt in the mouth and replaced the transverse process as well as I could. A few minutes afterward the patient regained consciousness. I then gave him a teaspoonful of fluid extract of ergot and five drops of croton oil. In a short time he could move all his extremities except the right arm. On examination I found that the neck of the scapula was broken, a condition which had been overlooked. I laid the arm in a comfortable position and told the patient not to move. As soon as I could procure the material for a plaster jacket I put one on, extending from the lower part of the thorax to the top of the head, leaving out the face but including the neck, using also a swallowing pad. This rendered the head and neck immovable. After the cast had hardened I set the shoulder.

The patient was kept in bed three weeks, the bowels were kept open, and ergot was given. In five weeks I took off the cast. The patient was then able to walk around, but a jar caused more or less pain. The pain in the neck continued for several months.

The neck was quite rigid, but the stiffness has gradually become less until now, four and a half years afterward, it can scarcely be noticed. The patient is now earning his living by hard work and is free from pain.

In these cases death usually results within seventy-two hours. This case is of interest, therefore, in that reduction was accomplished in such a short time after the accident, and from the fact that, although traction and extension were unable to reduce the dislocation, it was easily reduced by counter-pressure with extension. It is also of interest as showing that, even if the patient is apparently dead after the reduction, stimulants and artificial respiration should be persevered in. It also shows, by the paralysis and respiration, that the cord was compressed, yet if this pressure is removed in a short time there may be no permanent damage done to it.

SEVERAL CASES OF PSORIASIS SHOWING PROBABILITY OF CONTAGION.

By J. ABBOTT CANTRELL, M.D.,

PROFESSOR OF DISEASES OF THE SKIN IN THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE; DERMATOLOGIST TO THE PHILADELPHIA HOSPITAL, THE FREDERICK DOUGLASS MEMORIAL HOSPITAL AND THE SOUTHERN DISPENSARY, PHILADELPHIA.

WITHOUT expressing my belief either in the heredity or in the parasite theory of psoriasis, I wish to record several cases in which the probability of contagion was a marked feature.

Ludwig Nielsen¹ says: "If it is really a question of infection, and not heredity, we ought then to meet with cases where the parents have been attacked after the children, a possibility which has hitherto never received any consideration. In one of our patients the mother had psoriasis for the first time long after the daughter. But as psoriasis manifests itself more frequently in early age, such cases must always be few and far between."

As such cases have come under my care within the later years of my clinical work, I felt that their report would at least be interesting to my readers.

CASE I.—A boy, aged twelve years, presented himself at the Philadelphia Polyclinic in April, 1886, with a well-marked psoriasis. He stated that no one of his family had ever presented such a disease and

¹ Selected Monographs on Dermatology, New Sydenham Society Reports, 1893, page 600 (abstract of his larger work).

this remark was borne out by the mother's statement at the next visit, as she then accompanied him. During the years in which he remained under observation, from the above date to the latter part of 1893, he had several attacks of the eruption and each time under the use of appropriate remedies the manifestation disappeared. In the early part of 1890 he brought his sister to my office, and upon examination I found that she had a mild attack of psoriasis. Under appropriate measures she also was cured. During the next three years she presented herself three or four times with fresh outbreaks and each time a cure was effected. In the latter part of 1890 the boy appeared at my private offices with his mother, who this time was the victim of the disease, which according to her statement was of three months' duration. She being rather garrulous, I studied from her statements the family history from the great-grandparents to the present generation, but could find no trace of a similar eruption in any but those mentioned. I also made inquiry of the father as to his antecedents, but found no history of such a condition being present upon his side. The cure in the case of the mother was effected in a short time, but she presented the disease several times during the course of the next three years.

CASE II.—A man, aged eighteen years, presented himself at the Jefferson Medical College Hospital while I was acting as instructor in diseases of the skin at that institution. He had had a psoriasis for several years and had been under treatment without avail. Under appropriate measures he became entirely free of his attack, but during the next four years he had several outbreaks. These were possibly worse than the original attack and in each the cure was made in a very short time. In about one year after his first appearance he again presented himself at the clinic, not for himself but on account of his mother, who accompanied him. She was a woman of about fifty years of age, and upon examination it was developed that she also had a psoriatic eruption, which had existed for several months before her visit. In studying the family history in this case I was unable to trace any antecedent similar eruption upon either the paternal or the maternal sides.

As I stated in the first portion of this paper, I do not express any opinion on the heredity or on the contagion of the disease under consideration, but if later such should be proven, these in conjunction with other cases hereafter recorded will assist to the belief of one side of the argument.

It has often been asserted that psoriasis was of parasitic origin. This belief was first spoken of by Lang¹ who made an attempt to classify scaly diseases according to the manifestations presented, and in later remarks² he gave the impression that a fungus had been found (epidermidophyton), but this was afterward proven by Reis to be an artificial product. A number of cases have from time to time been recorded in which this disease has sprung up after contact with persons so affected, and among these may be mentioned the cases of Unna, which were communicated at the Copenhagen congress in 1884. The disease was supposed to have been contracted by three children, in whose family no such disease had ever been present, from a nurse who was suffering from the complaint. Porr³ met with this circumstance in six cases in a total of sixty-six, while Neilsen found the disease to occur in a mother some time after it

had shown itself in her daughter. McCall Anderson⁴ referred to a man showing the disease after his wife had had it for years. Aubert⁵ spoke of a case in which psoriasis was developed in a husband and later in his wife. Hammer⁶ speaks of an instance in which father and daughter were treated at the same time. Thus I may refer to several others which are upon record, but I feel that a collection may be of more value after the discovery of a fungus, if such be made.

FATAL CHOREA.

By E. T. MILLIGAN, M.D.,

LECTURER ON VENEREAL DISEASES, MICHIGAN COLLEGE OF MEDICINE AND SURGERY, DETROIT, MICH.

MRS. —, aged twenty-six, primipara, developed chorea of the right side when two months pregnant, which continued until her death, six days after her confinement. Her mother was of a nervous, restless disposition and her two sisters were chronic rheumatics. At the beginning of labor a vaginal examination showed an os dilated to about the size of a dollar. The right side of the cervix was thick and elastic. The left side was corrugated, rigid, and very thin. After eight hours of severe pain the child was born. The placenta was expelled and the uterus contracted well. For four days the patient improved. On the morning of the fifth day every sign pointed to complete recovery. On the morning of the sixth day my patient's mother visited her. Some words passed between them, causing my patient to become very much excited, so much so that she left her bed and ran around the room. When she returned to bed her chorea returned with increased violence and was accompanied by great pain involving the right side of the body. After four hours of intense suffering paralysis of the right side set in, followed by coma and death six hours later.

Four hours after death I made an autopsy. The uterus was well contracted. The peritoneum was healthy. The edges of the mitral valves were studded with tiny vegetations, a true endocarditis being present. The middle cerebral artery on the left side, beyond where the anterior choroid is giving off, was plugged with an embolism of the same structure as that of the vegetations on the mitral valves. There was also a rupture of one of the smaller branches of the middle cerebral which supplies the corpus striatum. The hemorrhage from this branch was very extensive. I could not discover any pathological lesion of the spinal cord or of its membranes. If all cases of chorea showed a disposition to convulsions on but one side of the body, we might possibly be able to establish a supposition as to the causes of chorea. But unfortunately such is not the case. The scanty knowledge which we possess of the anatomy and physiology of the brain compels us to assume (in many of the diseases affecting the nervous system) a theory to be a fact, so that we endeavor to interpret through the manifestations of symptoms a cause for a disease. The autopsy on my patient left no doubt as to the cause of death. I am of the opinion that the chorea was due primarily to an endocarditis. We can readily understand that a small vegetation can be snatched from the mitral valves and carried along by the blood current, deposited in one of the small arteries of the brain, and there cause a loss of nervous equilibrium manifested by the name chorea.

¹ "Psoriasis and Lepa," 1865, p. 37.

² "An Attempt at a Classification of Scaly Affections According to Their Clinical Characters." *Vierteiljahresschr. f. Derm. u. Syph.*, 1878, pp. 433, 434.

³ "Preliminary Communication of a New Discovery in Psoriasis." *Vierteiljahresschr. f. Derm. u. Syph.*, 1879, pp. 257-263.

⁴ Schmidt's Annual, vol. lxxviii., 1878, p. 148.

⁵ "Discussion on the Inocubility of Psoriasis," Destot and Augagneur, *Mem. et Compt. rend. de la Soc. des Science Méd. de Lyon*, vol. xxix., 1889, 2d part; *Compt. rend.*, 1890, pp. 131-133.

⁶ "Psoriasis Vulgaris." *Trans. of Medical Clinic, Würzburg*, vol. ii., 1886, pp. 404, 405.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PROPER DISPOSAL OF THE DEAD.

It is quite remarkable in view of the repeated discussion of the subject of cremation and the well-known and widely appreciated advantages of the method that comparatively little progress has been made in the direction of its more extended adoption. Every little while its advocates come to the front with their missionary endeavors to argue against the deeply rooted sentiment attached to earth burial and are brought up helplessly against the barrier of settled prejudice as the only answer to the most reasonable of expedients. The scientific aspect of the question challenges dispute. The fact that the sooner a decaying body is disposed of the better is as incontrovertible as that of death itself. Decomposition indicates this in its own imperative way. The dead body is no longer scientifically, sentimentally, or religiously a part of the individual, any more than is his cast-off shoe or worn-out garment. The attempt to preserve its identity in any form is a libel on natural laws. Its progressive change from the human form divine to a bloated loathsome mass of oozing corruption proves with the force of a physical fact that material and individual dissolution is absolutely inevitable. The result must always be dust to dust, ashes to ashes. Fortunately for the purely sentimental aspect of this question the slowly decomposing body, with its attendant changes of form, substance, and lovable associations, is hidden from sight and its true object lesson is entirely lost upon the mourning survivors. Thus we cheat ourselves into the belief that the body, as such, is not entirely gone from us and that there is some more substantial medium than mere primitive elements, dust and ashes, between us and the one that is literally no more. It is the association of the tomb with the earthly home of the departed one and the last look of a loved face. A day or two of additional time would result in the more becoming resignation of a cherished memory to the very tangible evidence of a distressing fact. The realization of advanced decomposition would bring about the proper vindication of the scientific objection to burial as now practised and the demonstration of the dangers to the living by the more or less extensive soil contamination that necessarily follows.

In the last number of the *Journal of the American Public Health Association* there are two articles bear-

ing upon the subject of dead-body disposal that contain many interesting data for profitable study. One of these is by Dr. C. O. Probst, the other by Dr. Edward A. Guilbert. Both gentlemen are advocates of cremation and present the usual forcible arguments for their side. The former writer, while willing to lean conservatively toward the prevailing prejudice of earth burial by the admission that under certain conditions it is safe and satisfactory, is nevertheless strongly committed to cremation as a better and more cleanly method of disposing of the dead. Admitting, however, that under favorable circumstances of sandy soil, isolated situations, distance from water supplies of towns, and possible destruction of many varieties of pathogenic germs, earth burial fulfils certain requirements, how much greater certainty of complete security for the living is proven by the rapid and absolute destruction by incineration of all probable cause of disease propagation! There is but one answer to the question and all argument ends with it. Dr. Guilbert not only discusses the sanitary but also the religious and sentimental aspects of cremation. In view of the fact that the opposers of incineration have been unable to combat the widely acknowledged sanitary advantages of the measure, they have taken refuge in an appeal to the prejudices that attach themselves to old customs, tender associations, and religious rites. The writer in question has clearly shown that, so far from cremation interfering with Christian rites, it has been openly advocated by leading members of every religious faith. Hardly a better answer can be offered to such as have endeavored to make earth burial a test of Christianity than is contained in the following paragraph:

"The bishop of Lincoln, England, 1874, during the dawn of the reform, evolved from his inner consciousness the surprising ex-cathedra statement 'that a revival of cremation would destroy belief in a final resurrection'! He forgot, in his affirmation of faith, be it said, to answer Earl Shaftsbury's pertinent question: 'What has become of the blessed martyrs?' I might add, Where are the innumerable, they, the Christian men, women, and little children, who have suffered death in conflagrations on land and sea? Is that inscrutable essence within man, the myself, the very life, which thinks and impels, loves and hates, and which we call the soul—is that really 'of the earth, earthy' and is it positively annihilated when the cremated body gently fades away, 'like the fabric of a vision, leaving no wrack behind'? If the soul of the martyr died when his body burned at the stake, what meaning is there in the liturgical averment: 'The noble army of martyrs praise thee.' That which has been annihilated can neither 'praise' nor blame."

THE LUNACY BILL—"A MOST OUTRAGEOUS GRAB."

A LEADING paper, itself a creature of the ruling political party and a constant apologist of the lunacy commission in the latter's efforts to subordinate the entire management of the State hospitals for the insane to

its own arbitrary will, has at length discovered in the new "insanity law" the consummation of the scheme by which, this paper alleges, the vast patronage of these institutions is to be brought under the control of the "bosses." The feature of this bill which the paper calls "a most outrageous grab" is harmless as compared with many other sections. It is designed simply to remove all the managers of these hospitals on a given date and have an entirely new class appointed. As the commission has already been able, by successive acts of the legislature, to reduce the managers to merely nominal officials by having all their powers transferred to itself, the proposed law is of little importance. The commission has for some time had in its grasp every power essential to the entire control of the finances and patronage of these institutions, and whenever the "bosses" choose that power will be employed to its fullest extent for political advantages.

It has been a matter of surprise for several years that the leading papers of this city have encouraged the process of despoliation of these great charities so persistently carried forward by the lunacy commission. It has long been known that the scheme of centralizing the control of State institutions at the Capitol, where they could readily be utilized for political purposes, has been the fixed policy of political leaders. However honorable and disinterested were the motives of those who originally created the lunacy commission, it was organized with a view to the final centralization of the management of these institutions in the hands of the party in power. This opinion we have always maintained, and our position has been sustained by the course which the commission has steadily pursued from the day of its organization to the present moment. It is too late now for any paper to raise the danger signal. The complete subjugation of the State hospitals to the political "bosses" has already been practically effected, and this bill is simply designed to give the sanction of law to the perfected scheme of centralized control. The boards of managers, heretofore free from political control, have been the main hindrances to the corruption thus directly invited, and when they are disposed of all will be lost.

THE DRIFT OF MEDICAL CHARITY.

CHARITY, as the term was understood by St. Paul, covers a multitude of sins. It is quite as true that charity, as we commonly use the word, is the root of an equally great multitude of sins. Indiscriminate almsgiving, which attains at times the proportions of a fad, often proves harmful to the recipient both financially and morally. Unfortunately, the undesirable effects do not stop with the recipient, but react upon other members of society. It is our purpose to call attention once more to the too numerous free dispensaries and hospitals, since it rests to a large extent with members of the medical profession to correct these abuses and bring this branch of charity into accordance with reason and justice. The poor we have

always with us, but when their number increases out of all reasonable proportion it is well to look carefully into the matter, as there is some serious malady affecting the social body.

In searching for causes for so many hospitals and dispensaries, we find among others that a desire on the part of society in general to be rid of sick and aged relatives, servants, and other dependents has made it the duty of philanthropists to provide for this class. A too easy means of disposing of dependents fosters improvidence among poorer classes, whose members see no occasion for laying up a small reserve fund against times of sickness or old age. This improvidence, in turn, begets a lack of moral responsibility the effect of which on the character of the individual and on society cannot be reckoned. If only the deserving poor were treated free of charge, the evil of the free dispensary would not be so alarming; but there are hundreds treated in this city every month who are abundantly able to pay. They choose this method of getting the advice of an expert, either because they do not know to whom to go or because they wish to escape the fee. This class of persons is thieving as much as though they supplied their larders by pilfering from the grocer. The benevolence that makes this possible is to be commended for its interest in the physical welfare of humanity, but it should also invent a method for inculcating a little more honesty in the race. One remedy suggests itself, if this disease of hospitalism has not already progressed too far, and this is that the city own and control all such institutions, as it already does a few. The supply can then be limited to about the actual need, and free dispensaries will cease to spring up like mushrooms. A more decent public sentiment might be engendered which would make persons who would scorn to beg food and clothing ashamed to accept medical attendance at the hand of charity. Again, if these institutions were under municipal control, the physicians and druggists being chosen in accordance with civil-service rules, the work would be more thoroughly performed. Dr. Bayard Holmes, in a paper on "Scientific Charity," read before the Physicians' Club of Chicago, says: "Charity, almsgiving, is an opiate now much used in treating humanity for that fell disease of which it suffers. This disease is known as competitive production. When it reaches its height it is manifested by a blush of idleness, poverty, and misery, which is soon followed by an eruption of benevolent societies, asylums, hospitals, dispensaries, jails, and penitentiaries. In the treatment of this disease narcotics are dangerous. Almsgiving and suppression of facts have proved fatal. The parasite should be attacked with the sharp edge of rational justice." If the privileged classes would exercise a little more real charity—the milk of human kindness—and if they were actuated by genuine Christian brotherhood rather than by a desire to outstrip each other in the scramble for the dollar, their deficiencies would not need to be covered by that mantel of mock charity, almsgiving.

This phase of the question belongs properly to the political economist. Let the physician consider his responsibility for present conditions.

The medical man is fostering this pest to his own detriment. He is sacrificing his time, his experience, himself, and often those dependent on him. He is bearing more than his share of the burden. When an institution is founded money is provided to pay nurses, attendants, servants, druggists, every one but the physician, and yet he is the mainspring; without him the institution could not exist. No one would think of asking a drug firm to stock a dispensary free of charge, of sending a missionary out without seeing that his material wants were provided for, of asking a clergyman or a lawyer to give his services without recompense. No one ever questions the right of these men to a reasonable compensation. Why, in the name of common sense and justice, should more be required of the medical profession than of others? Every physician in a hospital or dispensary should receive a salary commensurate with the service he renders. This would not detract from the quality of the work. A well-paid man is apt to do better work than one who receives no remuneration. The profession should adopt an amendment to its code of ethics making it unprofessional to render gratuitous services to benevolent institutions. A suitable scale of fees might be agreed upon. It is a violation of the ethics of medicine to steal a patient from a fellow-practitioner, yet the dispensary is an invention with all modern improvements for undermining the private practice of the physician. Numerous physicians will testify to the fact that after a dispensary has been opened in their neighborhood private practice has decreased from one-third to one-half. Whether the doctor engages in this work from motives of charity or simply for purpose of fattening up a clinic for his personal gratification, the results to the profession are the same. The duty of the physician to himself, to his family, and to society requires that he should correct this abuse. The following is quoted from one of our medical journals: "In France a physician won his entrée into the Legion of Honor by devoted services during a cholera epidemic, and his beloved wife recently elected suicide as a prophylactic against starvation. The moral in this case is macroscopic."

There are some good points made in Dr. Helen Murphy's letter on "The Drift of Medical Charity" which we published last week. There is no question that if physicians would do their duty by themselves and by their fellows, the time would not be far distant when the position of the hospital and dispensary doctor would be all that it should be.

An Aged Physician in Want.—The Charity Organization Society appeals for \$500 to secure admittance into a home for a worthy couple. The case is a hard one. An aged physician and his wife find themselves without means and without relatives or friends able to help them. Their reputation is excellent, and their need is believed to be due to circumstances beyond their control. Money for this object should be sent to the Charity Organization Society, United Charities Building, 105 East Twenty-Second Street, and will be duly and publicly acknowledged.

News of the Week.

The "X" Ray before the County Medical Society.

—At the meeting of the Medical Society of the County of New York, April 27th, Dr. W. J. Morton demonstrated apparatus and method of viewing and skiagraphing the interior structures of the human body by the "X" ray. The large hall was crowded to overflowing, and everybody present awaited patiently his turn to look into the darkened box and view the interior of his hand, placed between it and the screen separating it from the vacuum bulb or Crookes tube. Very distinct skiagraphs were shown of the bones of the hand congenitally deformed, of a fractured radius, of all the bones and even organs of an infant. By use of a screen of tungstate of calcium about seventeen inches in diameter, lent him by Edison, he was able with the room darkened to demonstrate to the entire audience the bones of his hand. A skiagraph was taken of a patient's hand supposed to contain a needle. It proved highly satisfactory, showing the needle and bones very distinctly. A Ruhmkorff coil with a spark of four and a half inches was employed. Dr. Morton said he would prefer a spark of twenty-four inches. The lantern-slide exhibition proved conclusively that the "X" ray was capable of more than simply showing a shadowgraph of the bones, as was at first supposed. It was capable of revealing the outlines of the various soft tissues as well, and even the interior of the bones, while by the aid of the fluoroscope we could see the beating of the heart. The society adopted a resolution opposing the adoption of a bill before Congress against vivisection.

The American Pediatric Society and the Collective Investigation of Diphtheria Antitoxin.

—Owing to the number of physicians who have signified their desire to co-operate in the collective investigation of diphtheria antitoxin by the American Pediatric Society, and have not yet had time to send in their reports, the committee wishes to announce that the time of receiving the reports has been extended to May 9th.

Antimicrobin is the latest remedy for tuberculosis. It was described by Dr. Langheld at the recent German Congress for Internal Medicine held at Wiesbaden during the second week in April.

The Newark City Hospital.—The plans for a new city hospital in Newark, N. J., have been accepted, and work upon the building will begin soon. The plans, which were drawn by Mr. Wilson C. Ely, call for a central or administration building, with four wings, three for patients and one for the nurses' quarters and school. The main building and wings are to be four stories high. There will be an electric plant for all power purposes, a finely equipped laboratory, and reception rooms and offices for the governing staff. The wards will be provided with two hundred and sixteen beds, and in the isolation section there will be twenty beds. The cost of the building is to be \$200,000.

Yellow Fever promises to be exceptionally malignant this year in Cuba, and the Cuban patriots rely upon its ravages among the Spanish troops to aid them in their war for independence. Reports to the United States Marine Service indicate a death rate of forty for the week ending April 11th at Santiago de Cuba. Even negroes as well as native Cubans have died at Santa Clara, it is said, and this is creating considerable alarm, since the negroes are usually expected to escape. Small-pox is also reported to be quite prevalent at several points and, as vaccination is not generally practised, an increase is looked for.

Dr. John Aulde has retired from the editorship of the *American Therapist*.

The Transactions of the Pan-American Medical Congress have just been published. There have been many inquiries concerning the delay in publication of these transactions. Dr. Charles A. L. Reed, secretary-general of the congress, transmitted the manuscript of the proceedings to the secretary of state, Washington, in November, 1893, but a little over sixty days after the adjournment of the meeting. With this act the proceedings passed beyond his custody and became the property of the United States government, by which they were printed. The delay was therefore not the fault of the officers of the congress.

Influenza is reported to be raging in Matabeleland, South Africa, and nearly half of the British troops engaged in suppressing the rising of the natives are suffering from the disease.

The Spitting Nuisance.—The health commissioner of Brooklyn has sent a communication to the presidents of the railroad companies asking them to post the following order in each car:

"Spitting on the floors of public conveyances is a public nuisance and a source of danger to the public health. It is hereby prohibited.

"COMMISSIONER OF HEALTH.

"Employees of this company are hereby required to enforce the above order of the health commissioner.

"SUPERINTENDENT."

We trust a compliance with this request will be more general than has been the case in this city, where a similar notice is conspicuous by its absence.

Diphtheria Antitoxin in Newark.—At a recent meeting of the Newark, N. J., Board of Health, the bacteriologist, Dr. Richard M. Connelly, reported that since the making of antitoxin was begun 1,200 vials of the serum had been produced. The serum was used in 660 cases out of a total of 939 cases of diphtheria reported since July, 1895. In the 660 cases treated with antitoxin there were 85 deaths. Of the 333 patients treated in the old way 138 died. Dr. Herold, in his annual report, said that antitoxin had proved a great life saver in the hands of physicians.

A Study of the Roentgen Rays in St. Petersburg.—A sum of 5,000 roubles (\$2,500) has been granted to the St. Petersburg Medical Academy for

the purposes of experiments with the "X" rays. A committee has also been appointed to consider the question of the application of Roentgen's discovery to practical medicine.

The First Heatstrokes.—What are probably the earliest sunstrokes on record in this latitude occurred on April 16th. An Italian laborer, thirty-seven years old, was overcome by the heat about midday and was removed to the Harlem Hospital, where he died shortly afterward. The other sufferer was a woman, twenty-five years old, who received a sunstroke while on an East River ferryboat, and was removed to Bellevue Hospital.

Typhoid Fever in Newark.—In the annual report of the health officer to the Newark, N. J., Board of Health it is stated that there was a marked increase in the number of cases of typhoid fever during the past year. The increase occurred when the street paving was in progress and in neighborhoods where the paving was being done. It was thought that the disease was traceable to the sand taken by the contractors out of the sand banks of the Passaic River. The river sand was covered at high tide, and the typhoid germs were deposited in it and carted to the city in the sand wagons. The bacilli were scattered by the wind, and in this way infection was spread.

Greater than the "X" Rays.—Professor v. Bergmann, in a recent address, disclaimed any desire of refusing to recognize the importance of Roentgen's discovery to surgery, as well as to other arts and sciences. It is, he said, a welcome addition to the surgeon's means of diagnosis, but he still thinks that the Esmarch bandage and antiseptics are achievements of far greater worth.

Dr. Ernest B. Sangree, of Philadelphia, has been called to the chair of pathology and bacteriology in Vanderbilt University, Nashville, Tenn.

English at the Moscow Congress.—Dr. J. W. Gleitsmann, of this city, writes: "As a number of your readers are undoubtedly interested in the preliminary arrangements of the International Congress at Moscow, 1897, I beg to state that I received information from Russia last week that the English language has been adopted as one of the languages of the congress in all its transactions and that laryngology and otology will form independent sections."

The Health of the State of New York.—The fifteenth annual report of the State Board of Health just published gives some very interesting statistics concerning the prevalent diseases and their relative mortality. Thus the death rate of typhoid fever in cities is 20.70 per thousand and in rural districts 23. Gripe is evidently dying out. There were 3,000 deaths last year, 6,000 the previous year, and 8,000 the year before. Only 414 deaths occurred from malaria. The actual number of deaths from all causes was less than during the last three years; 5,818 persons died of old age, 12,804 died of tuberculous diseases. The total number of deaths from diphtheria reached 6,616.

A Western Society of Ophthalmologists, Otolologists, and Laryngologists was organized at a meeting held in Kansas City, Mo., on April 9 and 10, 1896. The following officers were elected: Dr. Adolf Alt, St. Louis, *President*; Dr. B. E. Fryer, Kansas City, *First Vice-President*; Dr. William C. Pipino, Des Moines, Ia., *Second Vice-President*; Dr. J. M. Martindale, Minneapolis, Minn., *Third Vice-President*; Dr. Hal Foster, Kansas City, *Secretary*; Dr. W. L. Dayton, Lincoln, Neb., *Treasurer*. Seventy-five members were in attendance. The next meeting will be held on the second Thursday of April, 1897, in St. Louis, Mo.

Long Island College Hospital.—The regents of the Long Island College Hospital, Brooklyn, have appointed Dr. H. Beeckman Delatour surgeon to that hospital. Dr. Delatour has for eight years been one of the surgeons to the Methodist Episcopal Hospital, for five years attendant at the Norwegian Hospital, and for three years secretary of the Brooklyn Surgical Society.

Progress in Skiascopy.—Tesla and Edison are hard at work endeavoring to turn Roentgen's discovery to practical use. Mr. Tesla has already succeeded in his experiments so far as to be able to look completely through a human body and distinguish moving substances on the other side. He says that he has now obtained all the power desired, and is devoting himself to differentiation of the rays. He hopes within a short time to be able to control the rays so as to see the different organs in the human body clearly and distinctly. This is the object of his present experiments. In addition to seeing through a body, Mr. Tesla has photographed the skeleton of his assistant at a distance of six feet from the tube. The screen used by him is the platino-bario-cyanide screen, instead of the fluorescent screen adopted by Edison, and he is confident that it is better for the purpose.

A Fanciful Explanation of Second Sight.—Dr. Ottolenghi suggests in the *Riforma Medica* that the supposed power of seeing through opaque media, which is claimed by certain trance subjects, may find an explanation in the light of the recent discoveries of Roentgen. The author supposes that in the abnormal conditions of the nervous system obtaining in this class of patients, the retina may be sensitive to the "X" rays, which, under ordinary conditions, fail to produce any impression.

The Cape May County (N. J.) Medical Society held its annual meeting at Cape May on April 16th. The president, Dr. Way, read a paper on "Fish-Slime Disease." The following officers were elected for the ensuing year: Dr. Eugene Way, *President*; Dr. W. A. Lake, *Secretary*; Dr. Randolph Marshall, *Treasurer*; Dr. A. L. Leach, *Essayist*.

A Portuguese Medical Meeting.—A national medical congress is to be held in Lisbon in July, 1897, on the occasion of the quadricentenary of the discovery of India. Professor José Antonio Arantes Pedroso, director of the Eschola Medico-Cirurgica of Lisbon, will preside.

American Orthopaedic Association.—The tenth annual meeting of this association will be held at Buffalo on May 19, 20, and 21, 1896. The president of the association is Dr. Royal Whitman, of New York; secretary, Dr. John Ridlon, of Chicago.

A Medical Plunger.—A Russian army surgeon tried his luck at Monte Carlo last winter and won \$425,000.

Congratulations for Dr. Kingsbury.—The Fylde Medical Society, of which Dr. Kingsbury is secretary, held a special meeting in Blackpool on March 20th, to hear an explanation from him of the charges against him in the *British Medical Journal* of advertising in connection with a hotel, deeming it more satisfactory that his conduct should either be vindicated or condemned by members of his own profession than that the verdict of a lay jury, already given in his favor at the Manchester assizes, should be accepted as final. After discussing the question from all sides, it was voted unanimously "that, having heard the explanation given by Dr. Kingsbury, the Fylde Medical Society hereby unreservedly accepts the same as satisfactory." At the conclusion of the meeting Dr. Kingsbury received the warmest congratulations of his medical brethren.

The District Medical Society of Cumberland County (N. J.) held its annual meeting at Bridgeton on April 14th and elected the following officers: Dr. D. H. Oliver, *President*; Dr. S. M. Snyder, *Vice-President*; Dr. H. Mailly, *Secretary*; Dr. Joseph Tomlinson, *Treasurer*. Delegates were elected to the American Medical Association and to the Medical Society of the State of New Jersey.

The Middlesex Hospital in London will celebrate its one-hundred and fiftieth anniversary on July 1st.

The Language Question at Moscow.—The St. Petersburg correspondent of *The Lancet* writes that he has received a letter from Professor Crisman, the general secretary of the next International Congress, in which it is stated that the question of languages is to be reconsidered by the executive committee, and that in all probability the English language will be admitted to equal rights with German, Russian, and French. The letter continues: "This will be done because it has become clear that the exclusion of the English language would not be well received by our English colleagues, and the committee do not consider themselves justified in insisting on their first decision if the general opinion of our English colleagues is clearly against it. You may rest assured that the committee, in discussing this question and coming to their first decision, were guided solely by considerations of what would be of advantage to the congress, and were far from having in view the national aspect of the matter."

The Plainfield (N. J.) Medical Association at a recent meeting elected the following officers: Dr. O. L. Jenkins, *President*; Dr. F. C. Ard, *Vice-President*; Dr. Marc L. Clauson, *Secretary* and *Treasurer*.

The Edward Jenner Centenary at Gloucester.—It is extraordinary to note how at Gloucester, a town in which Edward Jenner resided for years, this centenary year of the discovery of vaccination is being kept. First, we find a board of guardians in fair weather when there was no small-pox about declaring themselves boastfully to be opposed to vaccination; then, frightened at their own mischievous default, first recommending vaccination to the public by means of circulars, and later, when still more frightened, actually turning right about face on all their former boasts and resolves, and deciding to enforce the compulsory clauses of the vaccination acts. Secondly, we find that their experience—just one hundred years too late—has been most bitterly bought, for, according to last week's papers, out of ninety deaths from small-pox in the hospital (there have been one hundred and eighteen in all in the city) seventy-four were of unvaccinated persons. Thirdly, we find that among this community which has been so long misled by the guardians there have within a few weeks been some seven hundred cases of small-pox, and that in the absence of any controlling vaccination the disease has seized that part of the town where the sanitary conditions are by no means worst, but where there was an undue proportion of unfortunate children who were unvaccinated. Fourthly, we find some thousands of pounds being spent in an attempt to check small-pox by hospitals, quarantining, and disinfection, but all in vain, for the disease goes on multiplying just the same; indeed, there were no less than one hundred and seventy-two fresh cases last week. And, fifthly, we find that even some of those most responsible for the terrible loss of life among the unvaccinated are hurrying to get protection by vaccination for themselves. We leave those who have been so grievously injured by disease, maiming, and death, to apportion the blame. Here we only note with regret and shame that any British city, and above all Gloucester, should be in the state in which that city finds itself in the centenary year of Edward Jenner.—*The Lancet*.

Alcoholism in Sweden.—The deaths from alcoholism are stated to amount in Stockholm to ninety per thousand. This is the highest rate in the world.

Obituary Notes.—DR. JOHN J. DALY, mayor of Rahway, N. J., died at his home there on April 14th. He was born in Rahway May 26, 1852, and was graduated from the medical department of the University of the City of New York in the class of '73. He practised medicine and surgery in Rahway, and succeeded to the practice of Dr. Abernethy, his preceptor, upon the death of the latter in 1874. He was first elected mayor of Rahway in 1885, and was four times re-elected and once defeated. He was also city physician of Rahway for several years.—DR. THOMAS T. MARTIN died at Allentown, Pa., on March 15th, at the age of forty-five years. At the time of his death he was prison physician and a member of the pension examining board. He had been coroner, and was a member of the health board.—DR. JAMES W. KING, of Milford, Conn., died April 16th, of tuberculosis of the bladder. He practised in Bridgeport from 1875

until a year ago, when he was compelled to retire. He was fifty-six years old, and a widow survives him.—DR. AMOS L. WILLIAMS, of Brookfield, Conn., was struck by a railroad train and instantly killed on April 16th. Dr. Williams was eighty-five years old, and was the oldest practising physician in Connecticut. He was graduated from the Yale Medical School in 1832, and from the Jefferson Medical College in 1841.—DR. W. K. MATTERN, of Philadelphia, coroner's physician and member of the board of education, died suddenly at Philadelphia on April 16th at the age of forty-nine years. He had accidentally infected himself some three years previously in the course of his professional work, and it is believed that death was due directly or indirectly to this cause. Dr. Mattern was a graduate of the Philadelphia College of Pharmacy and of Jefferson Medical College. He was for many years connected with the board of education, was for a time a police surgeon, and was physician to the coroner's office from 1892.—DR. WILLIAM HUNT, a well-known surgeon, died at Philadelphia on April 17th at the age of seventy-one years. He was a pupil of the late Dr. George B. Wood, and was graduated from the University of Pennsylvania in 1849. In 1850 he became a resident physician in the Pennsylvania Hospital, and in 1854 demonstrator of anatomy in the medical department of the university. In 1856 he was elected surgeon to the Episcopal Hospital, and in 1863 surgeon to the Pennsylvania Hospital. The last position he held for thirty years. He was at different times surgeon to Wills Eye Hospital and to the Orthopædic Hospital. During the civil war Dr. Hunt was an acting assistant surgeon, serving principally in the military hospitals in and about Philadelphia. He was a trustee of the University of Pennsylvania and a member of numerous scientific bodies. He was joint author of a work entitled "Surgery in the Pennsylvania Hospital, Being an Epitome of the Hospital since 1756."—DR. WILLIAM SHARP, of Rugsby, died at Llandudno, Wales, at the age of ninety-one years. He was practically the founder of the system of local museums, which is now followed by nearly every large town in England, and received the fellowship of the Royal Society in recognition of this work in 1840. Upon his suggestion, the teaching of physical science was introduced in England in the public schools. He had peculiar views concerning what he believed to be the laws of nature, or, as he called them, law facts, the adoption of which, he claimed, would establish the art of healing upon a firm scientific basis. The details of these inquiries were given in a series of "Essays on Medicine," published at irregular intervals since 1851.—DR. ISAAH F. PRAY, fifty years old, died at his home, No. 254 West Fifty-Second Street, on April 23d. He was born in Maine in 1846, was graduated from Dartmouth College in 1870, and from the Medical School of the University of New York four years later. He was a member of the County Medical Society and of the Pathological Society.—DR. OLIVER GOSS, of Lakeport, N. H., died April 12th, after an illness of several months, caused by a strain received while endeavoring to hold a runaway horse. He was graduated in 1845 from the

Dartmouth Medical College. He was a member of the New Hampshire Medical Society.—Dr. R. H. WILSON, a well-known dentist of Louisville, Ky., died at his home in that city after an illness of several weeks' duration. He was seventy-two years of age, and had practised in Louisville for over forty years.—Dr. WILLIAM W. L. PHILLIPS, chief surgeon of the National Surgeons' Home, died of erysipelas at Hampton, Va., on April 18th, at the age of sixty-seven years. Dr. Phillips was born near Princeton, N. J., and was graduated from Princeton College in 1848, and from Jefferson Medical College in 1851. He entered the United States Army in 1861 as surgeon of the First New Jersey Cavalry Volunteers, and continued in the service until September 20, 1864, for the last two years of this time being surgeon-in-chief of the Second Cavalry Division of the Army of the Potomac. After leaving the army he was made post-surgeon and surgeon-in-charge of the draft rendezvous at Trenton. He served as physician to the city of Trenton for four years and also as physician to the New Jersey State Prison. He was a member of Trenton common council for several terms and also its president, and a member of the board of trade and its president for a time.

Pure Lager.—A bill has recently been introduced into the New York legislature providing for the brewing of pure lager in this State. The bill is drawn on the lines of the measure passed some years ago by the German government. The proposer of the bill says that most of the beer now turned out in this State is made drinkable only by the use of adulterants. It is understood that the bill will compel all brewers to keep their beer in storage at least six months before putting it on sale.

Report on Diphtheria Antitoxin.—The Metropolitan Asylums Board of London has just issued a report of the results following the use of antitoxin in the treatment of diphtheria at the hospitals under the authority of the board. The results were obtained during the year 1895 in six hospitals in which cases of diphtheria were treated. The total number of cases treated with antitoxin was 2,182, in 615 of which the patients died, representing a mortality of 28.1 per cent. The drug was not used in all the cases which came under treatment, but, generally speaking, only in the severer instances. The death rate from diphtheria in 1894 was 29.6, while in 1895 it was 22.5, a reduction of 7.1 per cent. In the laryngeal cases during 1894 the mortality was 62.0, while in 1895 it was reduced to 41.8. In the tracheotomy cases it was 70.4 during 1894, but in 1895 the death rate fell to 49.3. Thus, the improvement in the mortality rate was as much as 20.2 per cent. in the laryngeal cases and 21.2 per cent. in the tracheotomy cases. The clinical results of treatment by antitoxin, noted in the report, were: Diminution of faucial swelling and of the consequent distress; lessening or entire cessation of the irritating and offensive discharge from the nose; limitation of the extension of membrane; earlier separation of the exudation; limitation and earlier separation of membrane in laryngeal cases; improvement in general condition

and aspect of patients; prolongation of life, in cases which terminate fatally, to an extent not obtained with former methods of treatment. The report concludes with the following summary of the improved results in the diphtheria cases treated during the year 1895: A great reduction in the mortality of cases brought under treatment on the first and second day of illness; the lowering of the combined general mortality to a point below that of any former year; the still more remarkable reduction in the mortality of the laryngeal cases; the uniform improvement in the results of tracheotomy at each separate hospital; the beneficial effect produced on the clinical course of the disease.

The National Consumption Hospital for Ireland was formally opened in Newcastle, County Wicklow, on March 26th. The hospital is established on a plan similar to the one at Ventnor in the Isle of Wight. The hospital will at present accommodate only twenty-six patients, but provision has been made for further extension whenever funds may permit. Each patient will have a bedroom entirely separate from the others, and the establishment is heated throughout by a hot-air furnace.

A Newspaper Picture of Dr. Playfair.—The London *Star* thus describes the defendant in the suit which has recently caused so much excitement in London: "Dr. Playfair, the defendant in the case which is now exciting so much attention, is one of the most distinguished of living gynecologists. The public rush to his consulting-room, and his house in George Street, Hanover Square, is the resort of much talent, some rank, and a certain amount of fashion. Dr. Playfair is below the middle height, not especially attractive in appearance, and wearing thick, disfiguring glasses. In manner he is urbane, and he has a habit of rubbing his hands softly together in a way that suggests that his treatment would be gentle."

University of Pennsylvania.—The prolongation of the period of medical study is already making its salutary influence felt. The number of graduates from the medical department of the University of Pennsylvania at its coming commencement will be one hundred and nineteen, the smallest number in many years and as against two hundred and fifty last year.

Philadelphia Hospital.—Dr. Charles W. Burr has been elected neurologist to the Philadelphia Hospital in succession to Dr. Wharton Sinkler, who resigned recently after a long term of active and useful service. Dr. H. B. Allyn was elected medical registrar, Dr. B. F. Stahl neurological registrar, and Dr. John H. Gibbon surgical registrar.

Quarantine Against Tuberculosis.—The government of New Zealand has proposed a law forbidding the landing of any persons of debased physical and moral qualities, the object of the law being to establish a quarantine against tuberculosis. It is hoped that, if fresh importation is stopped, the disease at present existing in the island may be arrested or may die out of itself.

The Medical Association of Alabama will hold its annual meeting in Montgomery on April 21st and the three succeeding days.

Medical Patriots in Spain.—Spanish physicians are in no whit behind their lay countrymen in a readiness to fight the United States and in ignorance of the cause of their anger. Some have written to *El Siglo Médico* proposing, in case Spain declares war against the United States, that all civil practitioners in Spain should engage to do without pay the work of the army medical officers ordered on active service in garrisons and depots; that all practitioners should pay twice the amount they have to pay for their annual license; that all medical men should decline to act on behalf of American insurance offices in Spain, and that the doctors should undertake never to prescribe patent medicines of American origin.

Free Diphtheria Patients.—Dr. R. W. Bemis has been selected by the Philadelphia Board of Health to treat indigent patients suffering with diphtheria with the antitoxin when requested so to do by attending physicians, in accordance with the recent resolution of the board to thus utilize the surplus antitoxin not required for the purposes of the Municipal Hospital.

The War Against Cigarettes.—Greenwood, Ind., is another place which has legislated against the cigarette. Smoking them in the streets is forbidden. In Ohio the legislature has passed a law prohibiting the sale of cigarettes or tobacco in any form to minors, and has provided a severe penalty for offences against this law.

Medical Graduates in France.—The total number of candidates on whom the degree of doctor of medicine was conferred in France in the academic year 1894-95 was 969. They were distributed among the several medical faculties as follows: Paris, 537; Lyons, 12; Bordeaux, 110; Montpellier, 64; Toulouse, 57; Lille, 44; and Nancy, 15.

The Monmouth County Hospital in Long Branch, N. J., is being repaired and enlarged. Additional private rooms are being fitted up and a maternity ward has been added. The hospital is also being repainted, and the front facing the Central Station is to be rebuilt.

Treatment of Infantile Bronchitis.—Dr. Renaut, of Lyons, employs warm baths in the treatment of bronchitis in infants, and claims that by these means the capillary form of the affection can be almost surely averted. Whenever the rectal temperature rises to 102° F. the child is placed for five minutes in a bath of 100° F., the head being covered with a folded handkerchief. If there are any symptoms of cerebral congestion, a stream of water of the temperature of the room is poured on the head. A little champagne, or brandy and water, may be given while the child is in the bath. When taken out, he is quickly dried with warm towels and put back to bed. Frequently, after the third or fourth bath, the fever falls, the râles diminish, and the affection loses its threatening character.

The Futility of Trying to Bolster up a Weak Case.—In commenting upon the case of *Kitson vs. Playfair*, the *Medical Press* says that the attitude of the judge and the verdict of the jury prove how dangerous it may be to multiply weak medical evidence in a court of law, evidence that, no matter how distinguished the source from which it is derived, serves only to prove to the court and the public that medical men, even when the position is clearly a weak one, will, as is popularly said, "hang together." Never was this made more manifest than in the trial of *Kitson vs. Playfair*. Since the verdict in this case Dr. Playfair has received hundreds of letters of sympathy from persons of all professions and trades and of note, among them being a long letter from Mr. Gladstone.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the week ending April 25, 1896. April 20th.—Assistant Surgeon H. La Motte detached from the *Franklin* and granted four months' sick leave. April 22d.—Assistant Surgeon M. K. Johnson detached from the Naval Laboratory and Department of Instruction and ordered to the *Franklin*.

To Pay the Costs of Dr. Playfair's Misdeed.—It is stated in an English society journal that Sir James Kitson has expressed his determination to defray out of his own pocket the whole of the damages and costs which may ultimately be imposed upon Dr. Playfair after appeal. Sir James, who is a very rich man, was one of the persons to whom Dr. Playfair betrayed his professional secret.

The Perils of Medical Practice in Cuba.—Dr. Pina and his wife were arrested a few days ago at Santa Fé, Province of Pinar del Rio. They were brought to Havana and thrown into the dungeons of Morro Castle. The charge against them is that they aided and abetted the patriots by attending to sick and wounded insurgents, Dr. Pina as a physician and his wife as a nurse.

Cherchez la Femme.—Dr. Adams, of the University of Pennsylvania, says that in his veterinary practice the wire hairpin is a frequent cause of disease in cattle, and especially in pastures in the vicinity of seminaries for young ladies. He suggests that the lives of many cows might be saved if the hairpin could be manufactured of a material that would be soluble in some one of the animal's stomachs.

Dr. Pio Rengifo, who died recently at Panama, aged seventy, was for many years one of the medical notabilities of the Republic of Colombia. Born at Cali in 1835, he received his professional education in London; in due course he became a member of the Royal College of Surgeons, after taking the degree of M.D. at St. Andrews. After a further period of study in Paris under Velpeau, Trousseau, Malgaigne, and other celebrities of the day, he graduated in the Faculté de Médecine in 1863. Colombia being then in the throes of civil war, Rengifo betook himself to Peru, and practised with success at Lima for some years. He afterward settled at Bogota, and he was

the first lecturer on pathological anatomy in the university of that city. He was also one of the founders of the Sociedad de Medicina de Bogota, and he was for some years editor of the *Revista Medica*, which is the organ of that society. Domestic affliction after a time made Bogota unbearable to him, and he went to New York. At the International Medical Congress held at Washington in 1887, Rengifo was a delegate from the Republic of Colombia. In 1891 he went to Panama, where he practised till his death. He was a man of singular integrity of character, with a high sense of the dignity of his profession. He contributed to medical literature papers on diseases of the liver, waxy degeneration, leprosy, etc.—*British Medical Journal*.

Medical Histrionics.—A medical play by a doctor called "Hypnotic Suggestion; or, a Woman's Vengeance," was recently performed at an Odessa theatre, the actors and the orchestra being all doctors, and the audience convalescent patients let out of the hospitals for the occasion.

An Epidemic among Horses of an unfamiliar disease, which kills four out of five of the animals attacked, has broken out in the Borna region near Leipsic.

Measles in New York.—The epidemic of measles still prevails in this city, the report of the Bureau of Contagious Diseases for the past week showing five hundred and thirty-one new cases of the disease. There were thirty-six deaths. This is much larger than the average for the past few months, although that has been unusually large.

Notification of Infectious Diseases in Connecticut.—Dr. C. A. Lindsley, superintendent of registration of vital statistics of the Connecticut State Board of Health, writes: "In your issue of April 18th I notice an error of statement on page 559. It is there stated that in Connecticut the plan is, or was, in existence, 'to pay the physician 25 cents for each notification of a case of infectious disease or a birth.' Physicians have never been paid for reporting infectious diseases in this State. But they are paid 25 cents for each certificate of birth and death rendered to the town registrar, if rendered monthly as the law requires. The legal question of the power of the legislature of Connecticut to authorize the enactment of ordinances requiring physicians to report infectious diseases without compensation was decided in the affirmative by the Supreme Court in 1887. See report of decision in Annual Report of Connecticut State Board of Health for 1889."

The Late Professor Semmola.—In the obituary notice of Professor Semmola, in last week's issue of the *MEDICAL RECORD*, the name was incorrectly printed Mariani; it should have been Mariano Semmola.

The Young Man may have His Fling, but he should not fling pies at the cook's head, as did the internes of one of our hospitals not long ago. The house staff of the hospital in question had been suffer-

ing long from an economically furnished table, and one day, when some more than normally sclerosed pies were offered for their digestion, they rose in rebellion, and seeing the offending chef resting from his labors in the hospital yard, they hurled the alleged comestibles at him. Their aim was good, and the chef obtained the necessary lead-and-opium wash from the apothecary without charge.

The Study of Diphtheria in Switzerland.—The Swiss government has instituted a collective investigation of diphtheria on a national scale, which is to be continued for two years from March 1, 1896. Every case of the disease, whether under the care of a private practitioner or in a hospital, is to be notified to the local sanitary authority, and every week a report is to be sent to the Swiss health office at Berne. Forms for this purpose with addressed wrappers are supplied to each practitioner. In order to insure completeness, and as a measure of justice to the physician, a small fee will be paid by the authorities for each form duly filled up and dispatched.

Philadelphia County Medical Society.—At a meeting of the Philadelphia County Medical Society, held on April 22d, Dr. H. A. Hare reported a case of epileptiform convulsions of toxæmic origin in which the attacks ceased on removal of the condition on which they depended; also a case presenting rhythmic contractions of the recti abdominis muscles in a hysterical individual with cessation of the spasm after lavage and the adoption of appropriate dietary regulations; third a case of intestinal obstruction associated with appendicitis with partial recovery following abdominal section and removal of the obstruction due to a band of adhesion and also of the appendix; and finally a case of typhoid fever in which a relapse appeared to be induced by an early return to semi-solid food. Dr. H. G. McCormick, of Williamsport, read a paper dealing with "Some of the Therapeutic Uses of Guaiacol," in which he detailed the excellent results obtained from topical applications of the drug named to the cutaneous surface with friction, in the reduction of the temperature in cases of typhoid fever especially. The doses employed varied from two to twenty-five drops. The medication proved safe, convenient, and simple of application, and its use was attended with no bad effects. The drug is further a useful intestinal antiseptic. It may also be employed in the treatment of neuralgia and myalgia applied to the surface or injected hypodermically, and as a local application to the throat in cases of diphtheria and to healthy throats to prevent infection. For internal administration the dry carbonate or salicylate may be substituted for the liquid. Dr. Joseph Price read a paper entitled "Recto-Vaginal Anastomosis and Complete Extirpation of the Vermiform Appendix." He recommended the first procedure in cases presenting extensive involvement of bowel, uterus, and adjacent parts, to obviate the formation of an artificial anus or the spontaneous establishment of abnormal communications between the bowel and neighboring viscera. Price advocated in suitable cases excision of the appendix with suture of the stump.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, April 21, 1896.

REYNOLD W. WILCOX, M.D., CHAIRMAN.

The Treatment of Pulmonary Tuberculosis.—DR. IRWIN H. HANCE read the paper (see p. 622).

DR. BEVERLY ROBINSON opened the discussion. He said he had been glad to listen to the reading of the paper, because the writer had had such excellent opportunities to judge of the value of the measures discussed. Regarding the preparation of creosote, he had always come back to the alcoholic solution, which he thought was the best means of giving it internally. It was a mistake to give very large doses; the stomach would rebel. Dr. Robinson had confidence in creosote inhalations, which he employed by adding an alcoholic solution of the drug to hot water in a croup kettle. The patient breathed this medicated vapor for hours every day. Occasionally it caused headache. His impression was that creosote acted in two ways, namely, by improving the nutrition and by rendering the soil unfavorable for the tubercle bacilli. He believed the microbes were less active and less objectionable after the prolonged use of creosote than before.

So far as high altitudes were concerned in climatic treatment, his own observation had led him to believe that patients did better in the Swiss Alps than in Colorado. They showed less tendency to hemorrhage in the Alps. Some patients who could stand the cold did well in the Adirondacks; the other class might do well in Asheville or in the warmer region of the so-called sandhills of Georgia. Dr. Robinson felt that Sulphur Springs, other things being favorable, furnished a climate beneficial for consumptives. This view was confirmed by experience in the south of France.

DR. ANDREW H. SMITH thought we were now justified in approaching a case of phthisis with some degree of hopefulness. Unless the disease were far advanced, we could regard the case as fairly within the possibility of rescue. The fact should be recognized that tubercle bacilli never become implanted in the healthy system. There was always an anterior abnormal condition, and it was that condition which should receive our first attention. Next, the treatment should consist of careful attention to many details. The patients should receive the advantage of every little aid which we could extend to them. The ideal treatment would embrace climate and everything which would tend to improve the nutrition. By sufficiently improving the nutrition we lifted the patient above the plane on which the tubercle bacillus flourished. The diet had to be adapted to the individual case. It was quite possible to overfeed and thus disturb the stomach. It might be necessary to resort to rectal feeding in order to improve the circulation, nutrition, and indirectly the digestive power of the stomach. Out-of-door treatment was best, but where it was impracticable he thought benefit was to be derived from the inhalation of oxygen gas. The condition of the blood should be studied, for some florid patients had anæmia. If the hæmoglobin were down to sixty or seventy per cent. we were not doing all we should to improve the quality of the blood. Pulmonary gymnastics could be employed to prevent the development of tuberculosis, and especially to prevent the formation of a nidus for the bacilli at the apex of the lung. The use of wind musical instruments was recommended. Creosote came in for diminishing catarrhal condi-

tions. As to climate, the best results seen by Dr. Smith had come from El Paso. The only drawback to the place was want of suitable accommodations.

DR. SIMON BARUCH thought the most important point was to treat the patient, not the disease. The physician should treat him methodically, judiciously, and hopefully. He should be regarded as very sick, even in the incipient stage, for if the disease were allowed to go on the end would likely be fatal. The first thing to be done was to study the patient's temperament and psychical condition. In the majority of cases he would tell him the nature of his disease in order to get his co-operation in the treatment. The tripod of treatment rested upon air, water, and diet. Since so great a variety of climate had been advised, it would seem there could not be much virtue in climate of itself. He thought that benefit depended rather upon living out of doors in a pure, dry air, free from dust, excessive moisture, and rapid temperature fluctuations. He had seen many patients improve and even recover in New York City. By air treatment he meant exposure in pure, fresh air day and night. The patient should occupy the best room in the house, one having if possible a southern exposure, well lighted and ventilated, and ample provision for heating with window open day and night; no carpets nor hangings should be permitted. Let the patient avoid exposure to draughts and bask in the sunshine. Dr. Baruch said his views of water treatment had been mentioned in the paper. The effect of this treatment was to improve appetite and digestion, so that the dietetic treatment was made easier. The selection of food must be based on the demands of the individual case. He would emphasize the value of two articles, Philadelphia cream cheese and steamed rice. Creosote disturbed the stomach and thus interfered with our best ally in the battle.

DR. H. P. LOOMIS thought the facts put forward in the paper were well founded. With regard to tuberculin, however, he had not seen beneficial results, and the question had suggested itself to his mind whether it had anything to do with what seemed to him the unusual number of cases of hemorrhage at Saranac Lake. He quite agreed with the author as to the necessity for informing the patient of the nature of his disease in order to get his immediate co-operation. He, too, had found the best results from creosote when it was put up with bismuth. The climate to be selected depended upon the patient. Speaking of diet, he said if one could not cause the reduced patient to gain weight, he could rest assured that his pulmonary condition was not improving. From the point of view of dietetic management three stages could be recognized: 1, that in which there was no disturbance of the stomach and nutrition; 2, where there was inability to take solid food; 3, inability to take liquids. The treatment of the three stages would vary. Often there was inability to get enough nutrition with but three meals a day. In such cases a glass of milk taken between meals would result in improvement. Stimulants had not been mentioned at this meeting, although much discussed on other occasions. Dr. Loomis thought they were capable of doing as much harm as good. During the first stage they were better let alone.

DR. WALTER B. JAMES said he would emphasize the importance of the patient's mental attitude toward his disease and its influence upon the disease itself. There was a battle going on between the tissues and the bacilli, and he thought the nervous impulse going to the tissues was of a decided aid. Now and then we met a person who became phthisical immediately after some very depressing mental influence. Again, most of us were familiar with cases of phthisis remaining chronic or latent until excited to activity

by mental depression. The power of some men to inspire hope and confidence in their patients might account for their greater success. It was only by telling the patient of the nature of his disease that he could be induced to make those radical changes in living which were quite necessary for a cure. The speaker had hope that further tests would yet show healing virtues in tuberculin. He confessed to a belief that creosote had some other action than simply that of improving the nutrition. Otherwise it ought to improve nutrition equally in other diseases, which had not been the case in his experience. Perhaps it fortified in some slight degree the powers of the tissues to resist the germs. Small doses of opium in some form were useful, even in the early stage. As to climate there was no general law, but patients did better on leaving the place in which they had acquired their disease. If at the seashore, they would probably do better inland.

DR. ACHILLES ROSE would advise cultivation of the soil or life in sanatoria for consumptives, rather than in homes where others were liable to be infected.

DR. HUTCHESON, of Buffalo, thought all that had been said at this meeting pointed toward improving the resisting power of the cells of our bodies; to the fact that we have within us the healing and the cure of the disease; that phthisis was emphatically a disease of weaklings, using the term in relation to the tissues as well as to the individual. The treatment could be summed up in the words of Dr. Loomis—everything which would improve the general condition of the patient would help the disease. Among the lower animals as well as among men, it was observed that consumption was most prevalent among those whose habits or surroundings lowered the resisting powers: examples, on the one hand, were lions, tigers, dogs; on the other, cattle, domestic fowls. The Tartars were exempt; the Chinese in cities were not. Again, in the lungs we had the youngest tissue of the body in embryological development and in the ascent of the race. The last to come was first to go. The weakest point in the lung, too, was the first to become involved, and this law was equally true in tuberculosis of the long bones and vertebræ. The purpose of treatment should be to build up the tissues, strengthen the vitality, and place the individual in condition to repel the intruder.

DR. HANCE said that during the time he was at Saranac Lake there were fourteen physicians there as patients. Most of them came soon after learning of the nature of their disease, and in consequence eight of them were able now to do a day's work in the localities where they had taken up their residence. If patients were told of their disease early, they, too, would follow advice in time to be cured. Where hemorrhage had occurred at Saranac Lake it had usually been due to walking too rapidly up hills, contrary to instruction.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, April 23, 1896.

WILLIAM R. PRYOR, M.D., CHAIRMAN.

Anomaly of Anterior Branch of Internal Iliac; Ligation of Both Internal Iliacs Suggested for Inoperable Cancer of Uterus.—The chairman, DR. PRYOR, presented some dissections showing inconsistency of the anterior branch of the internal iliac artery. He had himself found no anterior branch in at least half of about fifteen dissections, and a foreign investigator, S. N. Jastschinski, was quoted as having found it present in only seventy per cent. of six hundred and forty dissections. Moreover, in half of the seventy per cent. the anterior branch was too short or too irregular to permit of surgical ligation. Further, some of its branches, including the vaginal, not infre-

quently sprang from other vessels. These facts were against Dr. Polk's proposition to ligate the anterior branch of the internal iliac, for, besides being impracticable in a large percentage of cases, in a certain proportion of the others it would not control the circulation on the posterior surface of the uterus and upper vagina. Dr. Pryor suggested ligation of both internal iliacs in order to control the circulation in cases of inoperable cancer of the uterus, in accord with some experience of Dr. Bryant, Dr. Dawbarn, and other surgeons in controlling the growth of inoperable malignant tumor in other parts of the body, especially of the maxillæ, by cutting off the blood supply of the parts.

Ligates the Anterior Iliac in Hysterectomy.—

DR. WILLIAM M. POLK demonstrated the pelvic circulation on the cadaver and gave his reasons for tying the anterior iliac instead of simply the uterine artery in hysterectomy, especially for cancer. Ligation of the uterine artery, in addition to the ovarian, was not sufficient to control the bleeding while operating on the pelvic tissues, nor to check in any efficient degree the free blood supply to the parts in malignant disease. By a study of the anatomy of the parts he had found free collateral circulation established through the pubic, the obturator, and the middle hemorrhoidal. A posterior vaginal branch from the middle hemorrhoidal was seldom mentioned in the books, yet in some cases it was of unusual size and contributed more to the circulation of this area than did the uterine artery with which it was collateral. These facts had led him to go back of the uterine artery, and tie the larger branch from which those named were offshoots, namely, the anterior branch of the internal iliac. Regarding the practicability of tying the latter, he said it was simply a question of anatomical fact. It could be done in a large percentage of cases, for while there was considerable irregularity in the manner in which the several smaller branches were given off, yet in the vast majority of instances the internal iliac was found to divide into an anterior and a posterior branch, and ligation of the anterior branch would give a bloodless field for operation. As already stated, ligation of the uterine branch alone did not give a bloodless field. Dr. Polk did not approve of Dr. Pryor's suggestion to ligate the internal iliac in inoperable cancer, for it would result in cutting off the circulation through the posterior branch, a result which had little bearing upon the matter; or, if the glandular involvement had extended to such a degree, other parts must have become involved quite beyond the nutrient sphere of the internal iliac.

Cystic Ovary and Cystic Gall Bladder.—

DR. BERNARD GORDON presented specimens from a woman, aged thirty-two, mother of five children, the youngest four years of age. There was a history of severe attack of colic in the epigastrium fourteen years ago, lasting ten minutes, and there were recurring attacks every three weeks for two years, with nausea and vertigo. The last year and a half she had had pain in the pelvis, mostly on right side; menstruation was painful. Operation was performed in the Trendelenburg posture, and one cystic and one purulent ovary were removed. The larger cyst which had been felt before operation had disappeared, but came into view when the patient was returned to the horizontal position. It proved to be the cystic gall bladder, nine inches long, containing three gall stones and a gelatinous fluid. The incision was a very long one, but the patient made a rapid recovery.

Multilocular Fibroid of Uterus, Cyst of Ovary, Primary and Secondary Operations.—DR. JOHN O. POLAK, of Brooklyn, presented specimens from a case of multilocular and pedunculated fibroid of the uterus and cyst of one ovary. The interest in the case was the great extent of the adhesions, involving the sigmoid flexure,

the rectum, part the of colon, and fully eighteen inches of the ileum. Hysterectomy was done by the method of Baer or Goffe, the patient made an uninterrupted recovery, but after two months he reopened the abdomen for supposed pus mass and found only a firm mass of adhesions between the coils of intestine. This was broken up, the cavity washed out and drained, and the patient made a good recovery.

Speculum for Vaginal Hysterectomy, etc.—DR. H. J. GARRIGUES showed a self-retaining speculum, modified from Auvard's, for use in operations by the vaginal route.

Reflex Symptoms Due to Abnormal Conditions of the Uterus which Cause Subinvolution or Chronic Enlargement.—DR. W. GILL WYLIE read the paper. Twice before he had written articles upon the same subject, the last one of which was published in the *MEDICAL RECORD*, August 4, 1894. Since that date he had seen many cases which had strengthened his convictions as therein stated. The kind of reflex symptoms were of three types, or spoken of in different terms by different men, namely, melancholia, hysteria, and nervous depression. In some cases the diagnosis of melancholia had been made by Dr. Sachs and other neurologists. The nervous symptoms, melancholia, hysteria, or nervous depression, had been coincident with enlargement of the uterus, and had disappeared upon return of this organ to its natural size under the influence of treatment. In several cases there was a family neurotic history, and it was possible that the uterine condition had simply awakened a hereditary tendency. Most of the women had borne children, most of them had had some backache or dysmenorrhœa; in some the enlargement of the uterus seemed to be simply a state of subinvolution, but usually there was also a laceration of the cervix, follicular change, fibroids, or other disease. At any rate, he had so frequently found melancholia associated with enlargement of the uterus that he had become satisfied that there was a direct relationship. He did not mean to say, however, that every woman who had an enlarged and more or less abnormal uterus would have melancholia or hysteria. The latter were more likely to develop if there were an inherited or acquired predisposition. Relief was to be obtained by reducing the uterus, or, if demanded, by removing it. By some older writers these cases were called lacteal insanity when the insanity came on some weeks or months after labor. Dr. Wylie had found almost invariably that reduction of the uterus or removal of the cause of enlargement would cure the lacteal insanity. In addition to treating the uterus itself, it was necessary to give attention to the general health. The most intractable of all forms of chronic uterine enlargement were seen in endometritis complicated by fibroid degeneration. In one instance of this sort Dr. Wylie found that the fibroid had become free in the omentum, and its removal by laparotomy resulted in cure of melancholia for a period of two years. Recurrence of the melancholia having taken place, he found that other fibroids had developed in the uterus, and as nothing else could be done he performed hysterectomy. There had been no further return of the melancholia. Dr. Sachs had seen this patient in Dr. Wylie's hospital and had been unable to cure the nervous symptoms by such means as were at the command of neurologists.

DR. W. EVELYN PORTER said he had had opportunity to observe a number of Dr. Wylie's cases. In most instances there was, he thought, a predisposition to some nervous or mental disease. The uterine condition was an exciting cause, just as ophthalmologists sometimes found ocular troubles the cause of nervous manifestations. Not many of the cases showed subinvolution alone, but also fibroids or other disease. In some there was tubal trouble. The result was better

when the treatment was more radical than simple curettage. It should be remembered that in all lines of surgical work insanity occasionally followed an operation, and this fact would be against operative interference in mild cases. The mental condition in these cases was more apt to be aggravated than benefited by the so-called rest cure. He would rather try systematic exercise, hygienic measures, and mental diversion.

Not New.—DR. PAUL F. MUNDÉ said he had heard nothing new, but simply a repetition of indications for pelvic treatment which had been laid down many years ago, but which were then considered more or less doubtful. He had himself read a paper before the neurological section, March 3, 1886, entitled "Clinical Observations on Reflex Genital Neuroses in the Female," which had covered very much the same ground as the paper of Dr. Wylie, but in a much more extended form. In it he had expressed the conviction that gynecologists might see women with pains and aches which were not dependent upon the pelvic organs; that women could have hallucinations, melancholia, and mental disturbances of various kinds which were not dependent on disease of the sexual organs; that there might be coexisting disease of the latter organs without causative relation; and that cure of the pelvic disease might be followed by disappearance of the nervous symptoms. He could operate four or five times more frequently if he could make up his mind that repair of a cervix, perineum, etc., would cure such nervous symptoms. Women with enlargement of the uterus were much benefited by reduction of the organ to its normal size, yet he saw many such cases and others with laceration of the cervix, etc., unattended by neurosis. As to removal of the whole uterus because a woman was a little out of her mind, he would draw the line there. Probably removal of a toenail would do just as much good. Nor would he remove the uterus for insanity if it contained a fibroid, unless the tumor itself were an indication.

Medical Gynecology.—DR. E. H. M. SELL related one or two cases of enlargement of the uterus with hysterical symptoms treated successfully by non-operative measures. There were two remedies in particular which he would recommend in medical gynecology, namely, iodide of barium and fluoride of calcium. If there were more medical gynecology there would be less operative gynecology.

DR. HERMAN L. COLLYER related one of several instances known to him in which women had been sent to the insane asylum by neurologists when disease of the pelvic organs had passed unnoticed or had not received treatment. In the given case Dr. Grandin cured the disease of the uterus and tubes and the insanity disappeared. An accurate diagnosis was too often wanting. He agreed with Dr. Wylie, that operations would often cure mental disturbance.

DR. H. J. BOLDT did not take it that Dr. Wylie was going to operate to cure insanity. Then we should not forget the influence on the mind of a change of surroundings, etc. A woman had been having twenty to thirty hystero-epileptic attacks a day. He operated for endometritis, and the epileptic seizures ceased. Why? Not because of the operation, but because of the mental influence, change of surroundings, etc.

DR. J. RIDDLE GOFFE thought we were on uncertain ground when we taught that disease of the pelvic organs or of other organs of the body would cause mental disease, and that cure of the pelvic disease would cure the mental trouble. He thought the explanation lay in a change of scene and impressions upon the mind.

DR. PRYOR believed there were hundreds of women in the lower walks of life, without any one to defend

or care for them, who were sent to an asylum for the insane three to five months after confinement while suffering from chronic inflammation, say subinvolution with slight temperature, who could be relieved by operative treatment. As to the influence of operations on the mentality, he did not believe it was deleterious. On the contrary, he thought it was much more harmful to take such a melancholiac or hysterical woman and subject her to repeated minor gynecological treatment for a period of some months.

DR. WYLIE would take even stronger exception to Dr. Goffe's remarks than to Dr. Mundé's. He had never claimed that disease of the uterus produced disease of the brain or of the nervous system. The paper had distinctly stated that he had found certain reflex symptoms associated with enlargement of the uterus, and by curing the latter the former had been relieved. Some of the speakers had attributed the result to change of surroundings, but the same surroundings had had no influence without the operation. Moreover, the reflex nervous symptoms had usually disappeared a short time after the operation, not immediately; sometimes even five or six weeks had first elapsed. Regarding Dr. Mundé's very critical remarks, he felt that he had been born too late to bring out anything new in medicine, for he had been born after Dr. Mundé. But what he had started to say was, that no matter what one might write about, it would be found that somebody else had written upon it before him. Dr. Mundé's paper had been more general.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 20, 1896.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

Hypnotism as a Therapeutic Agent.—DR. LOUIS LICHTSCHNIG read a paper on this subject and hypnotized two patients. He said that according to Charcot or the school of Salpêtrière, hypnotism was an artificial neurosis capable of being produced only in hysterical persons; that it was of limited utility, its dangers exceeding its value. Leopold held a different view, and claimed that suggestive therapeutics was nothing else than suasion facilitated by a certain psychological condition. This latter was natural with some, and could be secured by hypnotism in others. The three stages described by Charcot had not, he said, been observed outside of Salpêtrière.

Were hypnotism and hysteria associated, or were only the hysterical hypnotics? Dr. Lichtschnik said he must formulate a negative answer. While we could hypnotize the majority of persons, there were some who could not be hypnotized. The more one could centralize his thought the easier he could be hypnotized, and the sounder his brain the better.

The school of Nancy held that everybody was more or less suggestible, and its adherents based their theory of the therapeutic action of the agent upon suggestion. Leopold and Bernheim divided the hypnotic state into nine stages, but not all subjects passed through all the stages. The influence might be motor, vasomotor, peristaltic, and secretory. An abstract conception might act upon the individual more powerfully than a concrete conception or one having an adequate excitant from without the body, and by taking advantage of this fact hypnotism could be used for curative purposes. But no one who made suggestive treatment a special study would think of superseding other methods by it. The best results were obtained from employing it in conjunction with other measures. It was self-understood that we could not treat certain diseases, such as scarlet fever and cancer, by this agent.

Functional neuroses of all kinds were favorably influenced by suggestion. The nervous disorders of writers and artisans yielded in a short time. The writer would except epilepsy and paralysis agitans, although for these one or more writers had claimed benefit. Different writers concurred in the opinion that it was difficult to hypnotize neurasthenics, but time and perseverance gave good results. The same was true of hysteria and hystero-epilepsy. Mental diseases were not at all, or but very little, influenced by suggestion. Alcoholism was. The author had had four cases where the desire for alcohol was readily controlled. The Keeley cure was probably based on suggestion, and would probably be more successful if it consisted of suggestion and nothing else. Morphine responded with greater difficulty, but he had cured four cases. The habitual use of chloral and other hypnotics yielded easily. Nervous asthma could be so cured, and neuralgias in various forms, especially that of the fifth pair, were favorably influenced, but comparatively deep sleep was necessary. Suggestion could be used in various diseases for which one could find no adequate cause, as in insomnia and a great many pains, habitual headache, even migraine without anatomical lesions. The peristaltic action of the intestine could be influenced, and he had checked diarrhoea and removed chronic constipation. Menstrual phenomena were much influenced. By producing local anaesthesia of the skin, one could do minor operations. Neurasthenic conditions in the sexual sphere were markedly benefited by suggestion. For masturbation it might be regarded as a specific. It did not promise as good results in perverse sexual appetite. Enuresis was often relieved and cured.

Hypnotism in the hands of the ignorant and not given soothingly might injure the subject after a time and end by unbalancing his nervous system. For this reason public exhibitions and the practice of hypnotism except for therapeutic reasons ought to be prohibited by law, as had been done in Europe and in some western States.

The author then read the histories of some cases cured or relieved by hypnotic suggestion—cases of ulcer of the leg, enuresis, vomiting, nervous hemorrhage from the uterus, and masturbation.

He then made his demonstrations, first on a young man, then on a girl of about seventeen years. Both were put in hypnotic sleep by a steady, severe gaze for a moment and the command to sleep. In this state the young man held the arm out in cataleptic state, being able to raise, lower, or bend it only when commanded to do so. He smoked a pencil for a cigarette, was disgusted when given the end supposed to be lighted, believed water to be beer and then wine, imagined himself drunk, etc. The girl was carried to the ninth stage and was told that she would on awaking testify that she had seen the president whip a child on Fourth Avenue. On opening her eyes she positively affirmed this to be a fact, and Dr. Lichtschnik said she no doubt would so testify in court weeks hence if he were not to disabuse her of the belief by placing her again in hypnotic sleep. In this manner testimony could be made to order.

DR. ERNST SCHMID, of White Plains, in opening the discussion, expressed his belief in the views of Leopold and Bernheim as opposed to those of Charcot. The action was by suggestion. We have two minds, the subjective and the objective. The objective took cognizance of external things, while the subjective mind acted by intuition. The one might act upon the other. He warned physicians to watch the Keeley cure and State legislatures.

DR. W. M. LESZYNSKY had expected to hear more of the dangers of hypnotism. It was not unusual for neurologists to have patients sent them for an opinion

as to whether hypnotism would not benefit them. He thought its sphere of usefulness was limited. When carried up to the major degree it had a deleterious influence on many patients. It was not his purpose at all to question the genuineness of the demonstration to-night, but he would simply remark that it had not differed from many others he had seen, as to which it would be impossible to say that the subjects had not deceived the doctor if indeed they had not deceived themselves.

THE MEDICAL ASSOCIATION OF GEORGIA.

Abstract of the Proceedings of the Forty-Seventh Annual Meeting, Held at Augusta, April 15, 16, and 17, 1896.

The association met in the Richmond County courthouse, and was called to order by the president, Dr. Frank M. Ridley, of La Grange.

The address of welcome was delivered by Dr. EUGENE FOSTER, of Augusta, and was responded to by Dr. E. R. ANTHONY, of Griffin.

PRESIDENT RIDLEY then delivered his annual address, in which he forcibly and eloquently dwelt upon several topics of interest to the profession.

Treatment of Pneumonia.—The first paper read was by Dr. W. J. MATHEWS, of Middleton, entitled "The Treatment of Pneumonia." The author had never seen a case in which he thought the symptoms warranted abortive treatment. Having satisfied himself that he has a case of pneumonia to deal with, his first step is to make the patient comfortable. To meet this end he envelops the affected side with counter-irritants, preferably turpentine. To relieve restlessness, pyrexia, and pain, he gives phenacetin. Should phenacetin fail he gives morphine hypodermically. To reduce hyperpyrexia he administers phenacetin in sufficient doses every three or four hours in connection with a stimulant, the purpose being to reduce the temperature to 101° or 102° F. In his experience phenacetin does not, like some of the other coal-tar products, depress the heart. He advocates the application of blisters. He had never seen a case calling for venesection. To control the pulse he gives veratrum viride every three or four hours with whiskey.

Dr. J. W. DUNCAN, of Atlanta, seldom blisters an adult. In the beginning of the initial stage a blister might do some good. He does not give the coal-tar preparations in pneumonia, for the reason that if they are given to reduce temperature they are liable to produce cyanosis. He frequently uses veratrum viride and considers it a sheet anchor in this disease.

Colles' Fracture was the title of a paper read by Dr. J. B. MORGAN, of Augusta. The diagnosis of this fracture is not difficult. The history of the accident, the characteristic deformity, the pain and seat of the lesion, point at once to the nature of the fracture. Every case of Colles' fracture can be readily reduced by strong, forced dorsal flexion. This is best done under an anæsthetic. The best temporary permanent dressing is Wyeth's modification of Pilcher's. The plaster-of-Paris dressing is an excellent one and is to be preferred in old people in whom there is firm impaction which the surgeon does not care to break up, or in cases in which the fragments are more or less comminuted. It should be applied from the lower border of the metacarpus to the middle third of the forearm, with the patient's hand in the straight position. A straight dorsal splint may also be employed, but it is not so desirable as the plaster of Paris. Under no circumstances should the angular, crooked, or pistol-shaped splint be used, and no form of splint should be allowed to project beyond the metacarpus. The fingers must remain freely movable to prevent stiffness

of the joint. Limited motion should be encouraged at first; later it may be active and free. In aged patients, in whom we have more or less impaction of the broken ends, reduction should not be attempted, as it is better to have a crooked, deformed wrist than a failure in bony union, and impaction favors the consolidation of the fractured bone.

Urinary Examination and Life Insurance.—Dr. W. L. CHAMPION, of Atlanta, contributed a paper on "The Importance of Careful Chemical and Microscopical Examination of Urine in Applicants for Life Insurance." Within the past few weeks the author had examined patients with kidney lesions, who a few days or weeks previously had applied for life insurance and had been recommended as good risks. Cases were cited by the author to demonstrate that a great many practitioners are too prone to overlook the condition of the kidneys, not to make a careful and thorough examination of the urine in examining applicants for insurance. A desire to formulate a correct diagnosis in diseased conditions should lead them to do so. He urged the extension of chemical and microscopical investigations in this line of work.

Dr. A. W. STIRLING, of Atlanta, in the discussion, called attention to some experiments which he had made some years ago, and which formed the basis of a graduation thesis at the University of Edinburgh. To ascertain the actual number of persons in whom albuminuria was present in health, he examined three hundred and sixty-nine boys between the ages of twelve and sixteen, who belonged to one of the large training-ships on the Thames, near London. He examined each one with four different reagents, and found albumin most common three hours after the boys got out of bed and assumed the erect posture, when the percentage was by examination 20.8. Among the boys that played in a band the percentage of those having albumin was about sixty, while among those that did not play in the band it was only 12.8.

Dr. Stirling says that the urine is usually found to be absolutely free from albumin while the patient remains in bed, and it makes its appearance within a variable but generally short time after the assumption of the erect posture, and independently of food and all other conditions. The albumin continues in the urine for only an hour or two, or perhaps in varying quantity throughout the day, but, as a rule, it is disappearing in the afternoon, and is entirely gone by bedtime. The ingestion of food has little effect in producing the albumin, and it is not breakfast which causes its frequency of appearance in the morning.

He examined ninety-two other persons, whose ages varied from five to ninety-four, with the result of showing that with advancing years there was an increase in the percentage of people having albuminuria. From 20 to 30 years he found the quantity of albumin to be only 10 per cent.; 30 to 40, 25 per cent.; 40 to 50, 36.4 per cent.; 50 to 60, 66.6 per cent.; 60 to 70, 75 per cent.; 70 to 80, 75 per cent.; 80 to 90, 83 per cent. These observations were confirmed by Grainger Stewart.

With regard to the advisability of insuring cases of cyclic albuminuria, he would suggest that in the present state of our knowledge the most satisfactory method of dealing would be for the companies to accept an apparently healthy albuminuric at a high premium, agreeing to rearrange this on its being satisfied of the disappearance of the albumin for such a length of time as would give reasonable expectation of such disappearance being permanent.

The Modern Treatment of Skin Diseases.—Dr. BERNARD WOLFF, of Atlanta, read a paper on this subject, in which he outlined in a succinct manner the progress that has been made in the province of dermatology within the last twenty years.

DR. M. B. HUTCHINS, of Atlanta, said the modern treatment of skin diseases should embrace internal as well as local or external treatment. The patient's constitution should not be overlooked, although if he had to choose between local and internal treatment he should prefer the former in the treatment of ninety-nine per cent. of the cases of affections of the skin.

Appendicitis.—A paper on this subject was read by DR. SAMUEL LLOYD, of New York City. It was largely statistical. In making his compilation the author began with the very earliest recorded cases, and it covers a greater number of medical than of surgical cases. The total number examined up to April 5, 1896, was five hundred and fifty-eight, and the result was found to be that two hundred and sixty-three recovered and two hundred and ninety-five died. Of this number two hundred and twenty-six were operated upon; one hundred and ninety-two recovered, and thirty-one died. On the other hand, in direct contrast to this, two hundred and sixty-five cases were treated conservatively; sixty recovered, while two hundred and five died.

A case was cited which the author had seen in consultation, illustrating the course of extraperitoneal abscesses.

Of four hundred and forty-five cases out of five hundred and fifty-eight that were examined, seventy-nine per cent. resulted in abscess, perforation, peritonitis, etc.

The following table gives the full data:

Perforation without given cause, 11; with abscess, 10; with ulceration, 16; with peritonitis, 32; with concretion or foreign body, 41; with gangrene, 7; with gangrene and concretion, 19; with inflammation, 13; with hardened feces, 1; with concretion and peritonitis, 24; with foreign body and peritonitis, 7—181.

Abscess without perforation: Uncomplicated, 136; containing concretion, 19; with perforation, 2; sloughing appendix, 2; foreign body, 1—160.

Foreign bodies, 36; fecal concretions, 26; inflammation of the appendix, 8; enteroliths, 2; gangrene of the appendix, 9; gangrenous appendix with concretion, 2; inflammation with concretion, 3—86.

General peritonitis: With concretion, 5; foreign body and gangrenous appendix, 1; foreign body, 3; ulceration, 1—10.

Total, 437.

This is a dismal showing for the conservative treatment of appendicitis. The author believes that no case of appendicitis should ever be considered as purely medical. When one is called to a patient it is his duty to immediately prepare for operative interference. He would advise operation in every case, after studying the subject carefully, in which the symptoms showed any tendency to increase. If a tumor was present and the symptoms suggested the possibility of the presence of pus, he would surely operate.

Medical Side of Appendicitis.—DR. E. A. RICHARDSON, of Atlanta, followed with a paper on "The Medical Side of Appendicitis." He cited the opinions of eminent practitioners both in this country and in Europe in favor of non-operative interference in a large proportion of cases.

DR. W. H. ELLIOTT, of Savannah, said the foremost difficulty in cases of appendicitis was to know when and when not to cut. No man was fit to treat appendicitis who was not absolutely willing at any moment it might be necessary to open the abdominal cavity.

DR. WILLIS F. WESTMORELAND, of Atlanta, was quite sure that in every case of relapsing appendicitis he had seen there were adhesions from previous attacks. Some of the patients had died. If they had been operated on in the primary attack, the chances would have been better for their recovery. He would open the abdomen as soon as appendicitis was diagnosed, if the patient would permit it.

DR. JAMES A. WRIGHT, of Augusta, considered the operation for this disease very difficult, for the reason that no two cases were alike. It was an easy matter to cut down, but if pus and adhesions were found around the appendix, the operation was extremely difficult.

DR. J. W. DUNCAN, of Atlanta, had seen and treated medicinally several cases of appendicitis during thirty years' practice, one of his patients having died from a recurrent attack a few months after the primary one. He was satisfied that many cases operated upon were nothing but typhoid fever, and that other cases thought to be typhoid fever were really appendicitis.

DR. J. B. S. HOLMES, of Atlanta, considers the disease a surgical one, and thinks it is safer to operate as soon as a diagnosis is made. The only cases he had lost were those that had been treated medicinally from two to four days previous to operative interference. If an early operation is performed, the mortality should be small.

DR. WILLIAM H. DOUGHTY, of Augusta, maintained that it was not prudent to operate upon every case of the disease as soon as the diagnosis was made, for the reason that the surgeon does not always see the cases in their incipency. If he did it would be safe to remove the appendix, as the chances were that at this time there would not be pus formation. In other words, the surgeon would have a comparatively clean condition within the abdominal cavity, and the mortality of operations done under these circumstances ought to be small.

DR. M. L. BOYD, of Savannah, took the position that, if all cases could be diagnosed early, it would be wise to operate at once.

DR. GEORGE H. NOBLE, of Atlanta, thought it was extremely unfortunate that the general practitioner should view appendicitis from a prejudiced standpoint. There were undoubtedly many cases of the catarrhal form that were relieved temporarily, or cured by purgation, possibly permanently. Where we have rupture and the discharge of the contents of the appendix into the peritoneal cavity, we have the fulminant form of the disease, and in such cases very prompt and active measures must be instituted. He advocated early operation.

DR. L. C. HARDMAN, of Harmony Grove, said that while there were cases of appendicitis calling for the services of the surgeon, there were others that could be treated successfully by medicinal measures. Of fifteen cases which had come under his care, only two were operated upon. All recovered, both the operative and non-operative cases. In the cases operated on suppuration had occurred, and one of the patients, a physician, was present.

Some Albuminuric Complications of Pregnancy.

—A paper on this subject was read by DR. HOWARD J. WILLIAMS, of Macon. He said this complication was present in from six to fifty per cent. of all pregnancies. On the other hand, puerperal eclampsia was comparatively rare. From January 1, 1891, to March 31, 1896, he had encountered ten cases of albuminuria or toxæmia in one hundred and sixty-three pregnancies, and two cases of eclampsia in these ten cases.

The cardinal indications are to promote elimination of the toxic materials circulating in the blood and to restore the excretory organs to their normal functions. If, however, the poisoning is excessive and the life of the mother and the fetus is at stake, then the indication is to promptly empty the uterus.

Remedies to promote elimination by the kidneys were then dwelt upon. Nervous excitement should be controlled by sedatives and narcotics, though not to the extent of interfering with eliminative measures. If elimination of the waste products has failed to restore the functions of the excretory organs and the

condition is urgent, eclampsia being imminent or other complications alarming, the uterus should then be emptied.

Orator's Address.—DR. R. B. BARRON, of Macon, delivered the orator's address. He dwelt upon and pleaded for higher medical education. Relative to practising medicine purely for money, he said that with the true physician money was of secondary consideration; that the real incentive for the best works with those practitioners who achieve success was that broad humanitarianism which impelled with resistless force the commissioned agents of God Almighty to relieve suffering, to stay the pangs of agonizing pain, to fight to the bitter end humanity's implacable and unconquerable enemy—death—regardless of any other consideration.

The After-Treatment of Tracheotomy Cases of Membranous Croup was the title of a paper read by DR. R. M. HARBIN, of Rome, in which he drew the following conclusions:

1. Croup, whether diphtheritic or membranous, is almost invariably fatal without surgical treatment, and the few cases that recover by medicinal treatment alone are not to be considered.

2. So far as the practical indications for tracheotomy are concerned, it makes no difference whether croup be diphtheritic or membranous.

3. Tracheotomy has the advantage over intubation in that it gives a better means of expectorating the membranes and furnishes free drainage from the site of septic infection.

4. Tracheotomy is a justifiable surgical procedure, and should be performed in all cases in which our therapeutic resources have been exhausted and in which the patient is in imminent danger of suffocation. It should be done in apparently hopeless cases, since it either offers a chance for the patient or promotes euthanasia.

5. Tracheotomy keeps the patient alive until the pseudo-membrane disintegrates and resolves into a muco-purulent liquid, and is expectorated through the tube.

6. The after-treatment is the most important part of the procedure, and the author attributes the successful results reported to the persistent use of lime-water.

DR. J. S. B. HOLMES, of Atlanta, reported several interesting cases.

A Case of Enormous Ventral Hernia Cured by a Plastic or Flap Operation.—By DR. GEORGE H. NOBLE, of Atlanta. The patient was a very large woman who came to him from a neighboring State, giving a meagre history, saying that the protrusion first appeared after severe straining and grew rapidly until it reached the size of an adult head. The treatment she had received consisted in local applications only, no attempt at operative measures having been made. The case is of considerable interest on account of such a large hernia in this region, and because the expansion of the ribs prevented closure of the ring by approximation of its margins, necessitating therefore a plastic or flap operation to close the aperture, which was large enough to pass a closed hand through without resistance.

The operation consisted of: (1) Trimming away the excess of the sac and uniting the peritoneum with buried catgut sutures. (2) Four strong tension sutures were passed through the abdominal walls, piercing the semilunar lines down to the peritoneum, but not implicating it. (3) The semilunar flap was carefully outlined upon either side over the recti muscles with a straight or vertical side upon their outer margins, and the convex borders turned toward and extending to the hernial ring. The aponeurosis of the external oblique and the outer layer of that belonging to the internal oblique muscles were cut through, the flaps liberated, except where their bases joined the

ring, and turned over the opening, the edges accurately abutting, in which position they were stitched with buried silk sutures. The convex borders coincided with the margins of the ring to which they were made fast. (4) The recti muscles were brought in direct apposition by surrounding them with the large catgut, thus adding another layer of strong tissue over the hernial opening. (5) The skin and fatty tissue were then brought together and the tension sutures tied over all, the wound dressed antiseptically with firm pad, roller bandages, etc. The wound proved entirely aseptic, and the result was very gratifying.

In another such case the reader said he would use buried silver sutures instead of absorbable materials.

Treatment of Skin Disfigurements by Electrolysis.—DR. M. B. HUTCHINS, of Atlanta, read a paper on the "Treatment of Skin Disfigurements by Electrolysis." That electrolysis has a wide application and a legitimate use, he was convinced by his own experience during the past five or six years. To do the work outlined in the paper a few galvanic cells, a sponge electrode, a needle holder, and for accurate work a milliamperemeter, are necessary. In most cases the needle should be attached to the negative pole. The current used is weak, and varies from three to seven or eight cells. The strength of current used in these operations is harmless to the patient, and is not felt upon the unbroken epidermis.

For the removal of superfluous hairs on the face electrolysis was the only method. Dr. Hutchins had never seen any injury result from the treatment of moles by electrolysis. He had removed one by excision which had become epitheliomatous through a razor cut. There was no recurrence. The author then dwelt upon electrolysis in the treatment of epithelioma, small fibromata, milia, sebaceous cysts, keloids, and hypertrophic scars, comedones, angiokeratoma, etc.

DR. M. L. BOYD, of Savannah, followed with a report of a few interesting surgical and gynecological cases.

The Use of Subconjunctival Injections of Mercury in Certain Forms of Eye Diseases.—By DR. DUBAR ROY, of Atlanta. In this paper the author tabulated twenty-five cases of eye affections, and his experience leads him to the following conclusions: (1) In infected processes of the cornea, ulcers, abscesses, wounds, etc., this method of treatment is quicker and therefore more satisfactory for clinical purposes than those usually employed. (2) In acute iritis it does not seem to exert any beneficial influence, but produces great pain, while in other cases the pain is mitigated. (3) In chronic iritis and iridocyclitis the pain and congestion are often markedly influenced for the better, but it has no effect whatever upon adhesions of the iris to the lens or the capsule. (4) In post-operative infection and panophthalmitis it is by far the best method to which we may resort for good results. (5) In pannus of the cornea absolutely no effect was produced one way or the other. (6) With lesions of the choroid and other deeper structures of the eye he had had no experience, but expects to try this method whenever a case presents itself.

Glaucoma in Relation to General Practice.—DR. A. W. STIRLING, of Atlanta, read a paper on "Glaucoma in Relation to General Practice." He said that glaucoma was to the ophthalmic specialist one of the most interesting of diseases, comprising one per cent. of all ophthalmic troubles. While he believes that every case of the disease requires the most skilled advice that can be obtained, still it is the "first and foremost affection which comes within the province of the general practitioner, and with him lies frequently the ultimate safety or destruction of the eye involved. The reader reported several interesting cases, after

which he dwelt upon the variability in tension. Coming to the treatment he counselled against the indiscriminate use of mydriatics, especially atropine, scopolamine, and cocaine, in affections of the eye. Glaucoma had often resulted from the use of these agents and is almost always accentuated by them. In myotics, and notably in eserine and pilocarpine, we have a fairly certain means of temporarily benefiting many cases of glaucoma and of saving valuable time till the most suitable method of treatment can be decided on.

Election of Officers.—The following officers were elected: *President*, Dr. George H. Noble, Atlanta; *First Vice-President*, Dr. J. B. Morgan, Augusta; *Second Vice-President*, Dr. R. B. Barron, Macon; *Secretary*, Dr. R. H. Taylor, Griffin; *Treasurer*, Dr. E. C. Goodrich, Augusta.

Macon was selected as the place of meeting in 1897.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ANTITOXIN IN THE HOSPITALS OF THE ASYLUMS BOARD—KINGSBURY VERSUS HART—DEMONSTRATION OF THE NEW PHOTOGRAPHY—CLINICAL SOCIETY—ENTERECTOMY—DUODENAL ULCERATION—MEDICAL SOCIETY—EXTRA-UTERINE FETATION—HOSPITAL SCANDAL—SMALL-POX AT GLOUCESTER.

LONDON, April 10, 1896.

THE Metropolitan Asylums Board has published a report on the antitoxin treatment of diphtheria in the hospitals under its charge. This report, which has been looked for with considerable interest and even a little impatience, is signed by the medical superintendents of the six hospitals of the board, and includes all the cases treated in 1895. Some statistics of the previous year are also given for the purpose of comparison, as in 1894 only a few cases were treated with antitoxin, and those few are omitted. The report is moderate in expression, as such a document should be, and consists for the most part of the facts of practice in the six hospitals. It appears that 3,529 cases were treated, with 796 deaths, a mortality of 22.5 per cent., as compared with 29.6 per cent. in 1894. There is a table showing the deaths at various ages, from which it seems 41.1 were under five years. Among these the mortality was 34.2 per cent. as against 47.4 per cent. in 1894. Only 46.4 per cent. of those under five years of age received antitoxin, with a mortality of 37.4 per cent.

The earlier the antitoxin was given the greater the success. In cases admitted on the first two days of the disease the mortality was reduced by about half. Thus, among those treated on the first day it was only 11.7 per cent., as against 22.5 per cent. in 1894, and among those on the second day it was 12.5 per cent., as against 27 per cent. Among the third-day admissions the mortality rose to 22 per cent. (against 29.4 per cent.). Among the fourth-day admissions it was 25.1 per cent. (against 31 per cent.). Among those admitted on the fifth day or later the death rate rose to 27.1 per cent. (against 30.8 per cent.). Thus, although antitoxin kept the mortality at all ages below that of 1894, its great value was proportionate to timidity in its administration.

In laryngeal cases the reduction of the mortality was still more remarkable, and there was uniform improvement at every hospital in the results of tracheotomy. The clinical course of the disease was also beneficially influenced, as evidenced by decreased faucial swelling, less nasal discharge, limitation and early separation of membrane, and improved general condi-

tion of patients. Even in cases which resulted fatally life was prolonged more than by any other treatment. With regard to complications, of which so much has been made in some quarters, the report points out that, though the figures indicate a larger percentage, the more efficacious treatment by tiding the patient over a severe illness tends to increase cases presenting complications, since a larger number of those having severe attacks survive, and the opinion is expressed that on the whole, notwithstanding some drawbacks, they are insignificant considering the lessened mortality which has followed the use of the remedy.

This careful report concludes with the following statement: "We are of the opinion that in antitoxic serum we possess a remedy of distinctly greater value in the treatment of diphtheria than any other with which we are acquainted."

The local medical society has held a special meeting to consider the explanations of its honorable secretary, Dr. Kingsbury, who lately obtained a verdict of £150 damages against Mr. Ernest Hart for libel in the *British Medical Journal*. It seems Dr. Kingsbury was desirous of the opinion of his society, preferring to accept condemnation or vindication from his professional brethren, although the jury had pronounced in his favor. He has every reason to be satisfied with his professional neighbors' views. The society unreservedly accepted his explanations and passed resolutions condemning in the strongest manner the attack upon him and the refusal of the editors to insert a letter from him sent since the trial.

In this letter Dr. Kingsbury said, now that he had vindicated himself, he had requested the two hydropathic establishments to remove the plates with his name on and not to put his name on their publications. This he declares he would have done any time during the past twelve years had the journal or any correspondent suggested it. You may remember that the trial arose out of an answer to a correspondent calling himself "Ethics," who complained of Dr. Kingsbury having his name plate at each establishment. This is no more than has always been done, and Dr. Kingsbury says the presidents of branches have met him in consultation at these establishments and the proprietors of one of them entertained the members of the association when they met in a neighboring city. Furthermore, the *Journal* regularly advertises the names of medical officers to asylums, insurance companies, and so on, while that of the president of the Midland Branch may be seen at nearly every railway station in the kingdom in connection with a hydropathic establishment.

This question of medical advertising has been growing for several years. It is not so very long ago that authors and publishers were attacked by medical journals for advertising in the newspapers. Yet at the very time of their bitter onslaught on this practice those journals were advertising weekly their table of contents and even exhibiting them on boards at the railway stations. Certainly some of these contents were not fit subjects for such publicity. *Nous avons changé tout cela*, but whether we are superior to our predecessors is another question. Jealousy and suspicion are so rife that trifles are magnified, and the medical journals are being asked to pronounce on such questions as whether it is more proper to send a lithographed circular than a printed one, whether it is "ethical" to put up a notice that Dr. — has removed to No. — in the next street, and whether a newly arrived doctor who has seen the other practitioner but has not been introduced to his wife ought or ought not to take off his hat to that lady when meeting her. These are samples on which our "ethical editors" have actually delivered more or less accordant judgments.

Prof. Silvanus Thompson has given a demonstration of the new photography before the Clinical Society. Needless to say, the meeting was a crowded one. The learned professor showed the actual process of obtaining the photographs and discussed the theory of their production. This demonstration was in every way successful and the professor received an enthusiastic vote of thanks.

At the ordinary meeting of the Clinical Society Mr. Mayo Robson brought forward the results of his personal experience of enterectomy, consisting of twelve cases, to which he added, by permission of his colleagues, the other cases which had been operated on in the Leeds Infirmary, thus making a total of twenty-six operations. He heard that Czerny was successfully employing sutures alone, but said that with the continuous sutures there is always risk of subsequent stenosis. He admitted the great danger of operating on a distended colon, but there is not always free choice, and when possible to dispense with previous colotomy it is better for the patient. Lateral anastomosis involves excessive suturing, but when indicated, Mr. Robson said, it can be done very well by the aid of two bobbins. He had suggested a larger flange to Murphy's button to obviate the occasional difficulty of inserting the end into the distal intestine.

At the same meeting Mr. A. L. Dunn reported a case of perforating duodenal ulcer successfully operated on. This led Mr. Bland Sutton to say that years ago he had come to the conclusion that duodenal ulcer was pathologically distinct from the gastric ulcer of chlorotic girls. He found that patients with the former were mostly spirit drinkers and therefore bad subjects for surgery. He also said that in flushing the abdomen he never used water under 110° F. or over 115° F. Mr. Dunn said he had often let the water fall to 100° F. without harm.

At the Medical Society meeting fourteen cases of extra-uterine foetation were brought forward, four by Mr. Alban Doran and the other ten by Mr. Harrison Cripps. In the discussion Dr. L. Lewers remarked on the difficulty of deciding the precise indications for operating in each case; for though some patients recover without operating, others would perish if left without interference. The appearance and feel of the breasts he thought to be often of value. Dr. Routh said he had seen many cases of hæmatocele apart from pregnancy. He thought the discharges should be carefully examined for decidua membrane, and recommended his binaural vaginoscope, which gave reliable information in many doubtful cases.

Another hospital scandal threatens us, this time at Liverpool. The committee of the Lying-in Hospital want to alter their rules so that patients shall come under the sole care of the matron and not be seen by the medical officer unless she sends for him. The staff is unwilling to be thus placed under an unqualified person, and resignation is the consequence. We shall see whether other practitioners will degrade themselves by accepting appointments vacated for the honor of the profession. Too often men have been found to do such a thing. I hope Liverpool men will set a better example.

Small-pox still rages at Gloucester, new cases occurring at the rate of thirty a day. Between eight hundred and nine hundred have been stricken in the last seven weeks. A sad object lesson indeed. The dean has appealed in the *Times* for funds to help the poor and has well pointed the moral of neglecting vaccination.

A Popular Remedy in Germany for the treatment of epilepsy is made from the eyes of magpies which have been killed on Sylvester Abend.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE RAGE FOR OPERATING AMONG GYNECOLOGISTS, AND THE REACTION—THE GASTROSCOPE—THE SECRETION OF BILE AND JAUNDICE—STILL ANOTHER NEW METHOD OF WOUND TREATMENT—PRACTICAL FOOD PRESERVATION—RENAL TUBERCULOSIS AND THE BACILLI OF SMEGMA.

BERLIN, April 17, 1896.

As in other countries, so with us, there has arisen a powerful reaction against the furor operationis of the gynecologists. In one of the latest sessions of the Berlin Medical Society, Abel brought up this question, and his paper was the occasion of a very stormy discussion, which will, it is hoped, have the freshening and cleansing effect of a thunder shower. Abel reported a case of Cæsarean section which had been necessitated by reason of mutilation of the uterus in previous not absolutely necessary gynecological operations. These operations were amputation of the cervix and ventro-fixation of the uterus. The os had been converted into a rigid, unyielding ring, which it was found absolutely impossible to dilate, and the fundus was so fixed at a point between the umbilicus and symphysis pubis that the axis of the child's body was directed antero-posteriorly in relation to that of the mother. The speaker had no other recourse but to perform Cæsarean section in order to save the woman's life. In the light of this case and of other similar ones which have recently been reported, it may well be asked whether the present prevailing surgical treatment of women's diseases may not be an actual menace to the community, and whether it is not in many cases the cause of more harm than good. That ventro-fixation of a retroflexed uterus especially is a two-edged sword was sufficiently shown by the case above referred to. Statistics show that this operation may even cause death—and this for the relief of a condition that in no way threatens life. Abel favored the conservative orthopædic treatment of retroflexion, and held that an operation was justifiable only in cases of the most dire necessity.

A short time before this, in the same society, Mackenrodt read a paper upon the operative treatment of diseases of the adnexa, and spoke against the too long-continued palliative treatment of the general practitioner. He reported thirty-one cases of operation upon the adnexa through the posterior cul-de-sac of the vagina for relief of adhesions, tubal occlusion, follicular degeneration of the ovaries, tubal pregnancy (six cases), suppurative salpingitis, myomata, etc. All the patients recovered and were able to sit up at the end of a week. The speaker recommended the employment of this method only in those cases in which it is possible to press the tumor back into Douglas' space; but in such cases he thought it was to be greatly preferred to operation through the anterior cul-de-sac or to laparotomy, which latter is in many cases too dangerous to be justifiable.

These two communications gave rise to a most interesting discussion, in which many of our leading gynecologists took part, a majority of them condemning the operative fury. Landau condemned with special emphasis the methods devised by Dührssen and Mackenrodt of vagino- and ventro-fixation of the retroflexed uterus, whether by the abdominal or by the vaginal route. Simple retroflexion is usually a symptom of general enteroptosis, and to operate upon a movable retroflexion is senseless. When such an operation relieves the distress, its action is simply that of suggestion. Olshausen and others believed that in most cases of retroflexion the gymnastic treatment was successful, and that only in certain cases was an operation necessary, but in these cases it was absolutely necessary. Dührssen, an adherent of the operative

party, if we may borrow this simile, said he had operated through the vagina two hundred and forty times; one hundred and seventy-five of these operations were for the relief of retroflexion, and he had had scarcely one failure. If the treatment were too much of an expectant order the woman was in very great danger of contracting the morphine habit. The sense of the members present at these discussions was very unmistakably against indiscriminate operation in gynecological practice.

In consequence of the latest invention of Rosenheim we are now able to look into the stomach of a patient. His gastroscope is a modification, adapted to the different conditions of the œsophagus and stomach, of Nitze's cystoscope. It consists of a rigid metallic tube, eleven to thirteen millimetres in length, at the stomach end of which the optical apparatus is attached, which is also provided with an arrangement for washing out the stomach and for dilating it with air. Rosenheim has used this instrument in two hundred cases and has seen no evil results when proper precautions were used. In one case of carcinoma, the patient being anesthetized, an injury was produced. This furnishes a warning against its employment by unskilled hands. Rosenheim advises also very strongly against the use of anesthetics. The main point is to introduce the instrument from the right side of the mouth, which enables us to slide the tube readily past the diaphragmatic deflection of the œsophagus. Contraindications to the employment of the gastroscope are emphysema, cardiac disease, gastric ulcer, and advanced cirrhosis of the liver; but with these exceptions the method may be applied to all cases, even those of out-door patients. The examination should always be made when the patient is fasting, for anything in the stomach obstructs the view. All parts of the wall of the stomach can be inspected by means of this instrument, especially the region about the pylorus. Rosenheim was able, for example, on two occasions to see an ulcer at the pylorus. According to the inventor's experience the method is practically useful only in cases in which it is necessary to decide as to the advisability of operation. The ideal gastroscope, one whose application is free from danger and which can be used by any one without previous experience, is not yet invented; but Rosenheim hopes that this instrument may render real service in certain cases. From the writer's experience with it, he would conclude that it is hardly an instrument for general use, but should be employed only by one skilled in the technique of operations in these parts.

In a recent paper Renvers argued against the theory of catarrhal jaundice, that it was the result of obstruction to the flow of bile caused by swelling and inflammation of the ductus choledochus. The trouble, he believes, is usually of an infectious and toxic nature, arising from the action of toxins formed in the intestine.

The influence of various substances upon the excretion of bile has been studied experimentally by Stadelmann. We can refer here only to the results of these experiments which are of practical value. He found that the salts of sodium and potassium and the drastic cathartics were wholly without effect upon the secretion of bile. A diminished secretion was caused by alcohol, olive oil, pilocarpine, and atropine. Of doubtful influence were antipyrin, caffeine, and many of the alkaloids. The only remedies which increase the secretion of bile were sodium salicylate and the biliary acids.

Another method of wound treatment has been brought forward by Salzmann. It consists in the application of protecting capsules of celluloid, made of a size and shape corresponding to different portions

of the body. They are transparent, prevent pressure on the wound, keep it clean, and act as a warm moist dressing. When applied securely by means of good American adhesive plaster, they make every other form of dressing superfluous. Doubtless this discovery will be turned to good account in minor surgery.

At a recent meeting of the Medicinische Gesellschaft, Mendelsohn exhibited a metallic vessel with double walls, by means of which it is possible to keep drinks for the sick warm for hours. This is accomplished by means of acetates, which are contained in the space between the two walls of the vessel and act as non-conductors. Plates, cups, pails, and vessels of various shapes are constructed in this way. They will be found of special service in keeping fluids and other materials for the nourishment of the sick warm during the night, and so ready for use at any time without the trouble and delay of heating them over again.

The subject of the diagnosis of renal tuberculosis has been discussed from a very practical point of view by Leyden and Mendelsohn. It is not uncommon to find an incorrect diagnosis of tuberculosis of the urinary tract made in cases of pyuria, the mistake occurring through the discovery of tubercle bacilli in the urine. These bacilli are, however, the *Megma bacilli*, the same which were once taken by Lustgarten for the bacilli of syphilis but which afterward passed into oblivion. Physicians cannot be too emphatically warned against this error. The case which served as the text of the paper of Leyden and Mendelsohn was one of a woman suffering from a renal calculus, but which the attending physician, deceived by the bacilli which he found, diagnosed as tuberculosis. In this case the value of catheterization of the ureters was shown most strikingly, for the seat of the disease was thereby exactly localized, the healthy condition of the other kidney was demonstrated, and so the operation was rendered possible.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE FRENCH GOVERNMENT PROVIDES FOR ITS AGED AND INCURABLES—HANDSOME APPROPRIATION—WOMEN DOCTORS AND LAWYERS IN CONCLAVE—CONGRESS OF THE LEARNED SOCIETIES—AN EPIDEMIC OF CATALEPSY—DEATH OF DR. CONSTANTIN PAUL.

PARIS, April 15, 1896.

THE French government is really setting an example to the rest of the world in all matters regarding public health, sanitation, the regulation of the practice of medicine and pharmacy, the construction of asylums of different kinds, etc. After taking in hand the subject of laboratories for which a large appropriation is projected, the government is now giving its attention to the organization for aiding the aged and incurable. Aids of this kind are more readily obtained in a country like France, where such procedures are historic and where the nominal republic is a government administered largely in accordance with monarchical ideas and practically by the code Napoleon, than they would be in the United States, where more is done in the way of private charity and public subscriptions. The measure now proposed in Paris is to some extent subordinate to the creation of a fund for workmen no longer valid, and by such providence and economy the number of those whom age or disease might leave without resource for society to take charge of would be sensibly diminished. The Chamber of Deputies, which has always the last word to say in making the laws and appropriations, has decided not to wait until the governmental project is fully matured and presented,

but to take certain necessary steps at once, and has in accordance therewith voted an order of the day resolving to organize with the briefest possible delay such aid to the aged infirm and incurable, by means of the combined taxes of the communes and departments, taking a certain percentage from the amounts thus collected and inviting the government to propose for the budget of 1897 a credit that might form a first basis of the organization contemplated. It is as a reply to this invitation that the government is about to propose the vote of a first credit of 600,000 francs.

In order to appreciate the necessities of the case, the minister of the interior sent out some time ago a circular asking the prefects to inform him as to the following points: 1. The measures taken in their respective departments to assure aid to the aged and infirm. 2. The method of assistance adopted, whether at home or in the hospital. 3. The amount of expense thus incurred. 4. The importance of the sums disbursed for that object by the departments, communes, benevolent bureaus, and hospitals. The inquest is now terminated; the result is most interesting and a valuable contribution to French demography. The figures of the last census were taken as a basis—the total census of France, viz., 38,133,385. It appears further from the official returns that there are 121,278 aged, infirm, and incurable, of whom there are 60,000 already in the hospitals, so that there remain actually 61,278 requiring assistance either on account of senility or disease, or both, and it is to relieve these that the government will devote its first credit of 600,000 francs.

These individuals will be aided in their homes; the government considers this mode of relief more economical and more moral than those usually in vogue—hospitals, houses of refuge, homes for invalids, infirmaries, etc.

The "International Feminine Congress" has just gone to the other extreme and thinks that children from earliest infancy to majority should be taken charge of by society. This congress now in session is largely attracting the attention of the medical and legal professions as well as that of the laity. There are two sittings a day, generally uproarious and enlivened by a quarrel or two in which the socialistic male students admitted take a prominent part. Day before yesterday's sitting was particularly stormy. A resolution was, however, finally adopted in the following sense: the congress is agreed that a child from its birth to its majority should be taken charge of by society as regards its physiological maintenance, development, and education; moreover, it should be constantly protected and watched over, as much in the interest of society as of itself.

The pathological development—and there is pretty sure to be one or several—is of course to be taken care of by the physician, who likewise would be expected to look to society for his remuneration.

The delegates to this turbulent assembly count among their number doctresses of medicine, law, and philosophy, who pass their time after the daily session in visiting the public institutions, such as the Female Hospital, Prison of Saint Lazare, the Asylum of Vésinet, the Maternal House at Belleville, the Institution for the Young Blind, etc.

Yesterday's sitting was devoted to the consideration of plans for the abolition of legalized prostitution—that is prostitution as it exists in Paris to-day and as guaranteed by regular medical supervision, examination, and police license. A doctress of medicine, Madame Edwards Pilliet, proposed the suppression of standing armies and the granting to priests the right to marry, as the only means of abolishing prostitution. Another delegate proposed universal free love as a sovereign remedy for the social evil. The follow-

ing resolutions were the outcome of this meeting: The necessary abolition of all police regulations having for result the humiliation of woman; in order to guarantee the family against the horrible scourge of contagious and hereditary disease, those proposing to marry shall in future present to the mayor of each district a special certificate of good health; ability of minors to marry without consent of their parents; abolition of vice regulated by the State; creation of public sewing-establishments and allotment of work by the State. It will be seen that everything is to be thrown upon society and the State and thus to be had for nothing or next to nothing. In this way it is contended that a sort of social utopia will be reached which is the dream of all communists and socialists—and these two elements are the prominent ones in the present feminine congress. After a street row with the police and a still more boisterous session, the congress adjourned until 1900.

More dignified *stances* are being held by the Congress of the Learned Societies, also at present in session. The section of medicine, of which Dr. Ledé is president, reported to-day, when papers were read by Drs. Nepveu, Lemoyne, Dupuy, and Peirret. The section of zoology is presided by Prof. Mathias Duval of the Faculty of Medicine; Dr. Troussart presented an elaborate monograph on the "mode of topographical distribution of the species inhabiting our littoral." Other reporters were Drs. Javal and Perrin.

We seem just now to be on the verge of an epidemic of catalepsy; besides several cases at the Salpêtrière, no less than five patients have been admitted into the hospitals in the last forty-eight hours. Several of these were found sitting upon benches in the public squares—some in a state of ecstasy, others plunged in a cataleptic sleep. These cases are rather symptomatic than essential, as catalepsy is never found except in hysterical, epileptic, or hystero-epileptic subjects.

It is with deep regret that we chronicle the death of Dr. Constantin Paul, for so many years a brilliant light in the medical profession of both hemispheres. Dr. Constantin Paul graduated in 1866 and was sixty-three years of age, having held various prominent positions. He was a professor *agregé* at the Faculty of Medicine of Paris and a member of the Academy of Medicine since 1880, having been physician successively to the Saint Antoine, Lariboisière, and Charité Hospitals. The latter position he held at the time of his death. He devoted most of his long and active professional career to the study of the pathology and therapeutics of the different forms of cardiac disease. His untiring work won for him the cross of the Legion of Honor, with which he was decorated in the courtyard of the Hôtel Dieu. His contributions to medical literature were many, the best known of which is his "Diagnostic et Traitement des Maladies du Cœur." Not the least important of his labors was the part he took in editing the new edition of Trousseau and Pidoux's "Traité de Thérapeutique et de Matière Médicale." He gave his services frequently to the poor without remuneration, while his frank and genial manner endeared him to the numerous confrères, patients, and friends that mourn his loss.

Lingual Tonsil in Singers.—This is more often the cause of trouble than varix. As symptoms we have: 1. Sensation of foreign body in throat not relieved by swallowing. 2. Sensation of constriction around throat at level of upper border of thyroid. 3. Occasional reflex irritable cough. 4. Constant endeavor to clear throat. (This the editor questions.) 5. Quick laryngeal fatigue. 6. Occasional hoarseness. Galvano-cautery and cold-wire snare are recommended.—RAY in *Medical News*, October, 1895.

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PROGNOSIS IN PNEUMONIA.¹

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THE prognosis in pneumonia is modified by a number of pre-existing conditions, the principal of which are sex, age, season of the year, habit as to the use of alcohol, and the presence or absence of certain chronic diseases.

It is conceded that while pneumonia occurs more frequently in men, it is more fatal in women. Of two hundred and twenty-three patients with pneumonia admitted into the Presbyterian Hospital, one hundred and seventy were males, with a mortality of twenty-eight per cent.; fifty-three were females, with a mortality of 31.2 per cent.

Before the age of two years lobar pneumonia is a very rare disease. After that age the mortality is greater in proportion as the patient is older. In sixteen cases under ten years of age at the Presbyterian Hospital, there were no deaths; in the cases occurring in the second decade 18.7 per cent. proved fatal; in the third 19.6 per cent.; in the fourth 28.3 per cent.; in the fifth 39.4 per cent.; while of those fifty years of age and upward 40.6 per cent. died.

The relative mortality of pneumonia in the different seasons of the year is variously stated by different writers. In the above two hundred and twenty-three cases the spring months gave the lowest mortality, the summer showed a slight increase, while in the autumn and winter the death rate attained its highest percentage.

The habitual abuse of alcohol unfits the system to bear up against pneumonia. Of eleven such cases referred to by Ewing as occurring at the Roosevelt Hospital only three recovered. In the records of the Presbyterian Hospital the subjects of chronic alcoholism are not distinguished from those who habitually use alcohol though not to excess, the use of beer being included. With this wider definition of the alcohol habit the latter seems not to add materially to the mortality.

A pre-existing rheumatic habit has generally been observed to add to the gravity of the prognosis. It was present in twenty of the Presbyterian Hospital cases, and was attended by a mortality of forty per cent. As the rheumatic habit, however, is more pronounced as life advances, the influence of age in these cases must not be overlooked.

The prognosis is extremely unfavorable in diabetic patients. The combustion of the sugar, already imperfect, is diminished in proportion to the impairment of the respiration. Death in such cases is preceded by delirium and coma.

The pre-existence of chronic nephritis makes the prognosis of a pneumonia more grave in proportion to the renal insufficiency and the accompanying cardiovascular changes.

Pneumonia occurring in a subject of advanced car-

¹ Read before the Association of American Physicians, Washington, D. C., May 2, 1896.

diac disease is likely to prove fatal. The prognosis is less grave before secondary changes have taken place in the right side of the heart.

Coming now to the conditions arising in the course of the disease, and which seem to influence the mortality, the first is the initial chill. This occurred in one hundred and forty-four out of the two hundred and twenty-three cases, with a mortality of thirty-four per cent.; while the remaining seventy-nine cases in which the chill was absent gave a death-rate of only nineteen per cent. From this it is evident that the chill is an expression of a severer grade of infection, and I have observed that usually a prolonged rigor with tardy reaction presages an unusual degree of muscular and nervous prostration.

As to the location of the lesion, the right lung is more frequently affected than the left, and also gives a higher mortality. Of ninety-four cases implicating the right lung alone, twenty-eight ended fatally, giving a mortality of 29.8 per cent.; while only sixty-two cases involved the left lung alone, of which sixteen, or 25.5 per cent., were fatal. In thirty-nine cases both lungs were involved, with a mortality of nineteen, or 48.7 per cent.

A feeble pulse, that is frequent in relation to the respiration and temperature, has much the same prognostic significance as a heavy and prolonged chill. In my experience it indicates a profound specific infection that is likely to carry off the patient at or before the crisis.

The respiration is always frequent in pneumonia, but when extreme frequency is associated with a high temperature, it has less significance than when it occurs without this association. In the former case it is due in part to the fever; in the latter it denotes extensive lung implication and probably oedema, a perilous condition, but one which is often susceptible of being relieved. Up to 105° F. the danger does not seem to increase materially with the rise of temperature. Thus in forty-five cases with the maximum temperature ranging between 100° and 103° F., the mortality was 26.6 per cent.; while in ninety-nine cases with a temperature between 103° and 105° F., the mortality was 26.3 per cent. The conditions that raise the temperature above 105° F., however, immediately tell upon the death rate. In forty-nine cases with a temperature between 105° and 106° F. the mortality was 32.1 per cent., and thirteen cases at 106° F. and upward gave 58.5 per cent. of deaths. Recovery, however, may take place though the temperature has attained an extraordinary height. Wagner¹ has reported such a case in a boy five years old, the temperature having reached 109.2° F. Indeed, it is an error to attach too much importance to the temperature alone, so long as the condition otherwise remains favorable, and measures intended merely to control the pyrexia are indicated only in extreme cases. It cannot be too often repeated that to give the coal-tar preparations according to indications furnished by the thermometer is to expose the patient to a real danger in an effort to relieve him from a fancied one.

There is a physical sign to which I called attention some years ago that I regard as important in the prog-

¹ "American Universal Medical Science," 1895, vol. 1.

nosis of pneumonia. I refer to the character of the valve sound heard in the pulmonary area. The resistance in the pulmonary circulation which always exists in these cases must necessarily increase the tension in the pulmonary artery, provided the force of the ventricular systole is not impaired. With this increased tension come a sharper recoil of the blood against the valve cusps and a greater intensity of the valve sound. It follows, other things being equal, that in this intensity we have practically a measure of the degree of obstruction to the blood current in the lungs.

It is generally very easy to note as consolidation progresses the constantly increasing sharpness of the pulmonary second sound, and in favorable cases this accentuation, after reaching a certain point, is maintained with little change until commencing resolution renders the circulation easier, when the valve sound loses in intensity in proportion as the pulmonary condition improves.

But, unhappily, loss of accentuation of the pulmonary second sound does not always depend upon relief of the pulmonary circulation. It may signify instead a weakening of the right ventricle and a lessened power to force the blood into the artery. This comes when the right heart begins to flag, either from exhaustion, from excessive labor, or because of the depression arising from the specific infection. In either case, when we find the pulmonary second sound becoming weaker without any evidence of a favorable change in the condition of the lung, we may draw the conclusion that the right heart is failing and that the tendency of the case is toward a fatal termination.

The information furnished by the pulmonary-valve sound is much more reliable than that supplied by the radial pulse, for in most cases the chief peril is of failure or exhaustion of the right heart, and of this the condition of the radial pulse will give only indirect and inconclusive evidence. The right ventricle may be on the verge of exhaustion, while the left retains almost undiminished vigor, and the radial pulse then will simply indicate that less blood than usual is flowing beneath the finger.

Unfortunately, it will sometimes happen that the region of the pulmonary area is occupied by noisy râles, so that it may be difficult or perhaps impossible to appreciate the action of the valve. But unless the dyspnoea is extreme the breath can be held for an instant, and for the practised ear the briefest moment is sufficient. An emphysematous condition of the left apex may also obscure the sound of the valve or render it inaudible.

As to the prognostic value of the data furnished in this way, I can only say that I have never seen disaster come in a case of pneumonia unless it was preceded by a period in which the pulmonary-valve sound was progressively losing in intensity. Or, to put it in other words, I have never seen a case with a sharp and distinct pulmonary-valve sound in which a favorable prognosis as to the immediate future was not justified by the event.

The weakness of the right heart that is indicated when the valve sound becomes less intense, takes place chiefly in two classes of cases. The first is that in which the system is overwhelmed by the virulence of the infection. These cases are marked by a severe and protracted initial chill, great muscular prostration, a small and relatively frequent pulse, and marked involvement of the nervous system. We may well believe that in such cases the heart muscle is poisoned, and that consequently the right ventricle with the increased labor thrown upon it early becomes exhausted. Such cases are apt to prove fatal before defervescence takes place. If they can be carried beyond this period the prognosis is greatly bettered.

The second class of cases is made up of those in which from age, intemperance, previous illness, or other cause, the integrity of the circulatory apparatus is compromised in advance. Here we have a constant tendency to the invasion of fresh areas of the lung and to the supervention of œdema. This tendency, while it increases the labor required of the ventricle, is itself increased in proportion as the ventricle weakens under its burden.

In the medical literature of fifty or sixty years ago we find frequent reference to the "buffy coat" observed on the surface of blood drawn for the relief of inflammatory affections, and especially inflammation of the lungs, and it was held that the thickness of this coat was roughly in proportion to the severity of the inflammation. To-day we speak of leucocytosis as associated with many morbid conditions, and notably with pneumonia, and admit a certain relation between the number of leucocytes and the intensity of the process which causes their increase.

The connecting link between the old conception and the new was furnished by the discovery of Virchow some forty years ago, that the buffy coat did not consist wholly of fibrin, as before supposed, but that it included a mass of white blood corpuscles, afterward called leucocytes.

The exact relation between temperature and leucocytosis in pneumonia is not yet fully determined; but in general terms it may be stated that a high temperature in a vigorous subject carries with it a large number of leucocytes. From a prognostic point of view this is of great importance. Whether we consider the leucocytes as scavengers and assume that they destroy the cocci which are the medium of infection, or whether we assign to the white cells a share in the production of antitoxin, certain it is that severe cases in which there is marked leucocytosis do better as a rule than similar cases in which the increase of white cells is relatively slight.

When the leucocytosis is considerable it will generally be found that the system is not reacting energetically against the infection, a condition which suggests an unfavorable prognosis. On the other hand, there may be a high degree of leucocytosis which is due, not to the pneumonia pure and simple, but to some complication, as pleuritis or pericarditis; and if this is not taken into account a faulty prognosis may result.

Ewing, in an excellent article in the *New York Medical Journal* of December 16, 1893, gives the count of the white cells in one hundred and one cases, of which thirty-seven were fatal. He says: "An examination of the deaths will show that in severe forms of lobar pneumonia a slight leucocytosis is a very unfavorable sign. In six fatal cases the number of leucocytes was subnormal. In eleven fatal cases the average number was nine thousand. Not one case recovered in which the disease was of even moderate severity when the number of leucocytes fell below fourteen thousand. In several instances, again, a slight leucocytosis seemed at the time the only unfavorable prognostic sign in cases ending fatally."

M. Laehr, in an article on "Leucocytosis in Pneumonia," published in the *Berliner klinische Wochenschrift* in 1893, maintains that in pneumonia there is an unmistakable connection between the temperature and the leucocytosis. When the disease is at its acme the count of the white cells is at its highest, while at the crisis there is a falling off. In pseudo-crisis and in deferred resolution the leucocytosis continues though the temperature falls. In the generally constant agreement of the course of the fever, the amount of lung infiltration, and the leucocytosis, the author sees a dependence upon a fourth factor, viz., the intensity of the infection; that is, the quantity and quality of the bacillus poison and the power of reaction of

the individual. He goes on to say: "Still more important is the prognostic significance. If the number of leucocytes does not fall with the decline of the fever, we may conclude that the process has not yet arrived at a standstill. If it falls with the fall of the temperature, but rises again the following day, we must be prepared for a renewed attack of the fever or the occurrence of some form of complication."

R. C. Cabot¹ gives the count of the white cells in forty-nine cases of pneumonia. Leucocytosis was present in forty-one cases with ten deaths, absent in five cases with five deaths, doubtful in three cases with two deaths. He says: "As far as these figures go, therefore, it would seem that, while the presence of leucocytosis is not a very hopeful sign, its absence makes the outlook bad. Moreover, in two of these five cases the other reasons for giving a bad or guarded prognosis were not present. The individuals were both under fifty, were not at all alcoholic or weakly, and there was nothing in the condition of pulse, temperature, or the physical signs in the chest to lead one to expect a fatal result. Yet both went down with surprising rapidity, and without any reaction to vigorous stimulation and supportive treatment."

In a subsequent paper² he adds twenty-four new cases, without materially changing the conclusions to which his figures would point.

A remarkably high leucocytosis, especially if associated with a low temperature, suggests a suppurative complication. Thus, in a case of pneumonia at the Presbyterian Hospital, the temperature on the seventh day was 103° F. and the count 54,500. The crisis occurred the next day, but with a temperature of only 99° F. there was still a leucocytosis of 42,000. Examination showed that empyema was developing. In another case with a similar complication the count was 44,000, while the temperature was 101.8° F.

In eight uncomplicated cases the highest in eighty-one daily counts was 41,000. At the Presbyterian Hospital, in cases in which we wish to follow the leucocytosis from day to day, we have adopted the plan of recording it on the temperature chart, allowing for each additional 3,000 leucocytes a space on the chart equal to one degree of temperature. Regarding 9,000 as the normal, this figure would correspond with the normal temperature line; 13,000 would be recorded on the 100° line; 16,000 on the 101° line; 19,000 on the next line above, and so on, the tracing being made in red ink. In this way the relation of the count to the temperature is apparent at a glance.

Haig's Theory.—(1) When there is an increase in the alkalinity of the blood there is also an increase of uric acid in the blood, while a reduction in the alkalinity of the blood results in a precipitation of uric acid in the tissues, especially the liver and spleen. With a decreased alkalinity there is a corresponding increase in the acidity of the urine, which therefore indicates the condition of the blood. (2) The ratio of the formation of uric acid to urea is constant. Urea is eliminated as formed, and as the relation of uric acid to urea in the urine is variable, this variability is accounted for by retention or excessive elimination of uric acid. (3) The uric acid daily excreted is derived from three sources: (a) that formed by nitrogenous metabolism along with some urea, about one of uric acid to thirty-five of urea; (b) uric acid and other members of the xanthin group introduced with the food; (c) that stored in the body which passes into the blood when the alkalinity is increased.

¹ Boston Medical and Surgical Journal, August 3, 1893.

² *Ibid.*, March 22, 1894.

ON THE TREATMENT OF RUPTURE OF THE URETHRA BY IMMEDIATE SUTURE AND BLADDER DRAINAGE.

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WHILE the suturing of a ruptured urethra is mentioned and advised in nearly all the recent works on surgery, yet it appears from the comparatively few cases reported to have been unduly seldom resorted to. Perhaps, however, this is a wrong inference, and, as the method is so rational a one and so generally followed by success, it may have been quietly accepted and followed. Without doubt the customary perineal incision, which is justly considered proper in all urethral traumatism that are associated with marked hemorrhage, and especially if a tumor or difficult urination and catheterization exist, singly or conjoined, will suffice to save the patient from the serious risks of infection and also, to a moderate extent, from the contracting effects of the necrotic and inflammatory damage of the soft parts. But whether the rupture of the urethra be a partial one, or, more particularly, if it be a total one, the gap in the broken wall of the urinary conduit is filled up with scar tissue which must largely contribute, with the contraction of the perineal soft parts, to bring about the well-known severe and intractable traumatic stricture. Therefore, while urging that early suture of a ruptured urethra is to be practised when possible, it must be admitted that such a procedure even when successful does not of itself guarantee totally against a subsequent stricture of the urethra.

It has, nevertheless, seemed to me for some time past that to the perineal incision, which liberates the already effused blood and urine and which thereby eliminates one source of contracting tissue, should be added, where practicable, the suturing together the separated urethral ends. Besides this a third indication is to be met, that is, to take away the irritation, mechanical and otherwise, of the urine. This has usually been done by the insertion of a rubber catheter into the bladder, and over this the ends of the canal are sutured by catgut or silk and the catheter is left in for drainage. It is not always satisfactory, though this has been resorted to in the majority of the sutured cases, either because some urine would be unavoidably forced out between the catheter and urethral wall, or because the catheter caused bladder irritation (cervical cystitis), which necessitated the withdrawal of the instrument. Suprapubic cystotomy comes in best, in my judgment, to meet this indication, conjoined with intermittent siphonic drainage of the bladder. When one can find the bladder end of a completely divided urethra the performance of an epicystotomy is not at all difficult, even though the bladder be empty. The viscus can be raised up above the pubis by the end of a steel sound, and over its point close to the pubis a small opening can be made, under sight, and the peritoneum easily avoided. When the divided urethra cannot be found, the epicystotomy is a somewhat more difficult procedure—a larger incision of the soft parts is required, but by still keeping close to the pubis the bladder is duly reached; then the finger being introduced to recognize the urethral opening, a sound, either the ordinary steel one of about the size 20 F. or one of Beniqué's curve of a similar size, is passed from the bladder forward into the perineum, and through or to the ruptured end of the urethra. This retrograde catheterization and the enhanced difficulty of opening the bladder can be avoided, as I have personally tested in a number of instances, by directing a fine douche of hot water on the perineal wound for at least five or ten minutes, or until under the prolonged use of the water and the vigorous rubbing with

the finger ends the blood-stained parts are washed out, when the urethra will be more or less distinctly revealed. It is an expedient well worthy of trial.

The treatment of urethral ruptures will probably demand more attention than formerly, since it appears that an additional cause for such injuries has appeared in the use of the bicycle. Two cases have been reported—one by Moinet,¹ in which the lesion resulted from the wheel and its rider plunging suddenly into a ditch nearly two feet deep; and a second by Anderson,² in which case the rider, jumping backward off his wheel, straddled the latter and produced the laceration in the usual way. These ruptures were, as could be expected, situated in the customary place, anterior to the triangular ligament; the lacerations, associated with pelvic fractures or produced by kicks from behind, being as is well known more often found in the membranous or prostatic urethra. In the latter variety one must keep in mind the possibility of the extravasation taking place in the cavity of Retzius and of its presenting symptoms similar to those of rupture of the bladder. For the differential diagnosis of this condition and its treatment, if due to the latter, I beg to refer to an article which was published in the *MEDICAL RECORD*, 1884.³

The following cases of suture of the ruptured urethra will exemplify the foregoing suggestions:

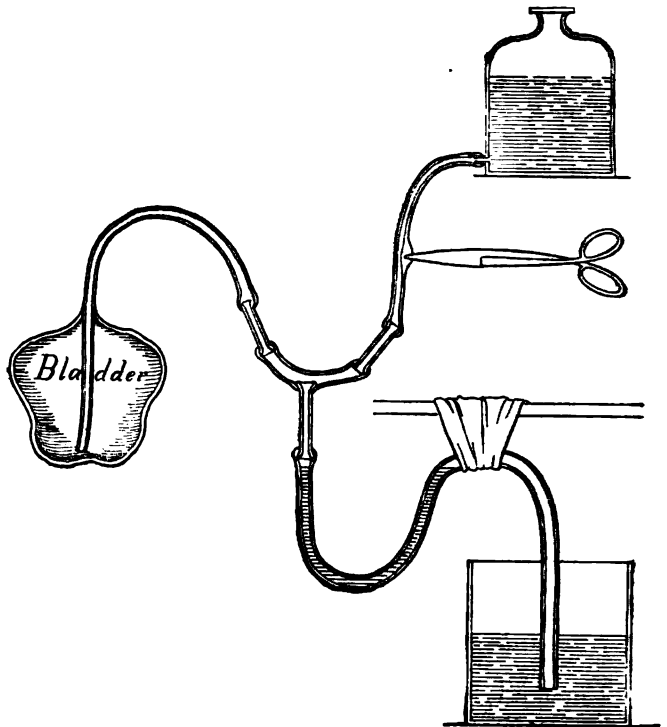
CASE I.—Rupture of Urethra; Suture of the Separated Ends; Suprapubic Drainage; Recovery.—F. W. L.—, aged twenty-three, was admitted to the New York Hospital, January 28, 1896, with the history that in attempting three days previously to jump from a tug he fell astride the rail of the boat, striking his testicles and perineum. The pain was intense and the scrotum immediately began to swell. The bladder was empty at the time of the accident. Since then he has been able to pass a small amount of bloody urine four or five times a day. Two days after the injury there was vesical tenesmus, and the patient noticed that a swelling (the distending bladder) was appearing in the hypogastrium. Three days after the injury voluntary micturition ceased and the patient entered the hospital. The scrotum in size and appearance resembled an egg plant. The perineum was slightly swollen and discolored. The bladder extended half way to the umbilicus. An unsuccessful attempt was made by the house surgeon to pass a rubber catheter and then a filiform bougie, but with care a black silk-webbed catheter coudé, No. 17 F., was passed into the bladder and thirty-five ounces of dark bloody urine withdrawn. It was alkaline and of foul odor, specific gravity 1.022.

On the following day (the fourth from the injury) the case was brought to my attention, and under ether an attempt was made to introduce a bougie prior to the operation. This failing, a median incision was thereupon made in the perineum three and one-half inches in length, and the urethra easily exposed. It was found to be completely divided in its bulbous portion and there was a separation of the ends of the canal of three-fourths of an inch. Prolonged irrigation with hot salt solution brought out the structures more clearly and defined sharply the torn ends of the urethra. The superior wall of the torn urethra was first brought together, and then a 26 F. steel sound was passed to the bladder. The sides and floor of the urethra were then sutured. These sutures were of black silk and included all the layers of the urethra. The ends were left long enough to hang from the perineal wound.

With the point of the sound as a guide, pressing for-

ward just above the symphysis, a small suprapubic opening was made into the bladder, and a soft rubber catheter inserted therein for drainage. The perineal wound was partially closed with silkworm gut to give some support to the urethra, but free drainage was secured with iodoform gauze. Perfect drainage of the bladder was secured by the simple suction apparatus (see diagram) suggested by Cathcart¹ and improved slightly by Keen.² By this latter device, which worked admirably, not a drop of urine passed per urethram.

On the sixteenth day after the operation the last stitches had come away, the drainage tube was removed, and a 22 F. sound was passed to the bladder without the slightest hitch or arrest. On every second day thereafter gradually larger sizes were passed, until 32 F. was reached, and then the patient was taught to



pass the sound himself. Six weeks after the accident he left the hospital, both wounds being closed and micturition perfectly normal. Twelve weeks after the operation a 30 F. sound was passed with ease to the bladder.

The following case illustrates the complications that may, however, nullify the favorable result that may be anticipated in a typical case.

CASE II.—Rupture of the Urethra with an Old Stricture; Immediate Suture of Divided Urethral Ends; Drainage by Perineal Catheter; Recovery.—H. E.—, aged forty-three, slipped into a hole in an engine room, November 26, 1894. One foot only passed into the hole, and as the other remained on the floor he struck his perineum against the sharp edge of the opening with considerable force. The pain was not great and he continued at work for some hours, but was unable to pass water. Unsuccessful attempts at catheterization were made by two physicians, and nine hours after the accident the patient entered the New York Hospital, suffering from a distended bladder. The scrotum was discolored and swollen to the size of two fists. Aspiration of the bladder yielded twenty-eight ounces of bloody urine.

Thirteen hours after the accident median perineal section was made by a free incision under ether, and the urethra was found to be divided transversely and completely in the bulbous portion just anterior to the triangular ligament. The ends of the canal were sep-

¹ *Gaz. des Hôp.*, January 2, 1896.

² *Lancet*, i., p. 372, 1894.

³ "On Rupture of the Bladder and Its Treatment," March 29, 1884, by R. F. Weir.

¹ *British Medical Journal*, October 19, 1895.

² *Annals of Surgery*, February, 1896.

arated nearly an inch. In the anterior urethra was a long stricture reaching back nearly to the site of the rupture and which admitted only a fine probe. This was divided so as to receive a 30 F. sound, which was passed into the bladder, and over this the divided urethra was sutured with fine silk. The suturing was difficult, as the urethral walls easily tore out, owing to previous degeneration. Only the upper and lateral parts of the canal could be made to hold. The inferior part, where the tumor was greatest, was necessarily left open, and through this a catheter was passed into the bladder and left in position, the perineal wound being packed with gauze.

The catheter was removed on the tenth day, and sounds (18 and 20 F.) were passed on the twelfth day, and these were gradually increased up to 26 F., beyond which the dilatation progressed slowly and with difficulty, from the contraction of his old stricture. An internal urethrotomy was advised, but was refused by the patient. At his own request he was discharged in one month. The perineal wound had not then quite healed, but from it scarcely any urine escaped.

This case presented two complications—the previously existing gonorrhœal stricture and the weakened urethral wall, which prevented the junction of the divided tube. This latter would, I am now convinced, have been better approximated had the urethra been freed to a greater extent from its natural attachments.

Remarks.—Though Henry Morris, in 1874, twice sewed up ruptured urethras, his work was apparently not imitated until 1884, when Symond¹ published a successful case. Since then some twenty-six cases have been put on record. Before, however, entering on the consideration of these it may be of interest to allude briefly to the older methods of treatment. They were: 1. Aspiration. By this method, Kaufmann² reports, were treated twenty-one cases, in which nineteen per cent. of the patients died. Forty-four cases were treated by the use of a permanent catheter, with eighteen per cent. of mortality. In this connection he states strongly that the use of a permanent catheter is absolutely to be rejected. By immediate perineal incision in ninety-one cases he found nine per cent. mortality. By delayed perineal

incision, *i.e.*, in eight to ten days, in twenty-four cases there resulted twenty per cent. mortality.

In all of the twenty-nine cases of immediate suture of the urethra, including the two herewith published, the operation was successfully carried out and the patients recovered. Data as to the method of bladder drainage are given in but few, but a permanent catheter was largely used. In Nogué's collection of nineteen cases it was employed sixteen times. In a few cases bladder-drainage was conjoined. Badling³ was the first to do this. It was only in exceptional cases, such as those in which there was but slight blood extravasation and no apparent urinary infiltration, that the perineal wound was tightly closed after the urethral sutures had been effected; and, indeed, this is not to be recommended, though a certain amount of approximation to support the newly joined urethra is advisable; but here, too, ample space for drainage should be left in all cases. The material for suture was commonly catgut, and the mucous membrane was not included in the stitches. As to this I differ. I prefer pure silk, going through the mucous membrane and other coats of the urethra and supplemented by two or three extra-urethral sutures, to prevent tension on the urethral sutures. These sutures are left long enough, at least one end of them, to hang out of the wound, so that traction may be made on them after a week or ten days. As to the ultimate results in my own cases, one is too recent to determine this point, and the second is clouded by the complication of a previous stricture. In respect to this point in the other cases, reference must be again made to Nogué's collection. In nineteen cases six complete successes were observed from seven months to eighteen months after the suturing, and in three others examined three, four, and five months afterward, the urethral calibre was uncontracted. For the bladder drainage I have never had such satisfactory results as since using Cathcart's procedure, which has been somewhat elaborated by Keen.⁴ This plan for re-establishing a siphon action whenever it is broken, which so often occurs with our older method, has resulted well, not only in the instance herein reported, but in several other cases of epicystotomy for stone, prostatectomy, etc. Dawbarn's⁵ still simpler device places the use of this method within the easy reach of every surgeon, and I venture here to reproduce the diagrams of both the contrivances.

A summary of the foregoing is: 1st, In an injury of the perineum with painful or difficult urination, accompanied with a free flow of blood, with or without a perineal or scrotal swelling, a free perineal incision should be made and the urethra exposed. 2d. If this canal be ruptured partially or totally, the separated ends should be sewed together with silk or catgut. 3d. Drainage of the bladder should be employed either by a catheter per urethram, or preferably by a suprapubic opening. To aid in carrying out the latter, Cathcart's or Dawbarn's method of siphonage should be employed.

Ill-Ventilated Rooms.—The discomfort produced by crowded, ill-ventilated rooms, in persons not accustomed to this condition of things, is not due to the excess of carbonic acid, nor to bacteria, nor, in most cases, to dusts of any kind. The two great causes of such discomfort, though not the only ones, are excessive temperatures and unpleasant odors.—DRS. J. S. BILLINGS, S. WEIR MITCHELL, and D. H. BERGEN in *Smithsonian Contributions*; also *Appleton's Popular Science Monthly*, February, 1896.

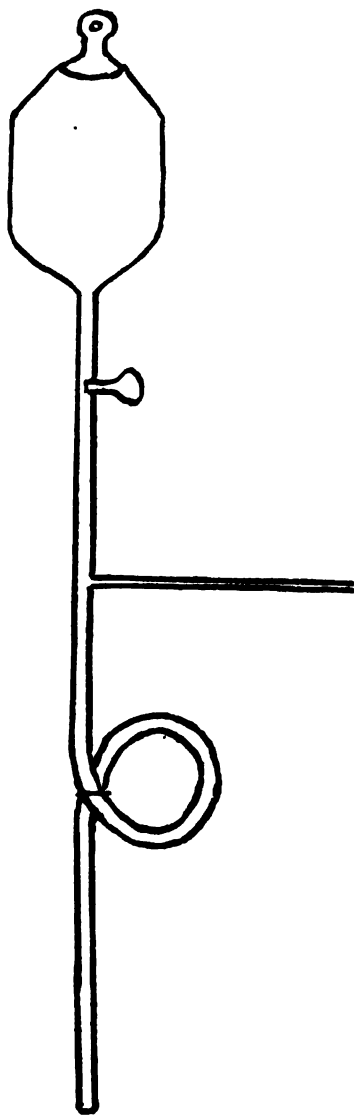
¹ Badling: *Birmingham Medical Review*, December, 1891.

² "De la Réparation de l'Urèthre Périnéale," 1892.

³ *Annals of Surgery*, March, 1896.

¹ *British Medical Journal*, May, 1885.

² "Verletzungen und Krankheiten der Harnröhre," 1886.



THE MANAGEMENT OF IRRITABLE SPINE.¹

By VIRGIL P. GIBNEY, M.D.

At the request of Dr. Bull, whose place I take for this evening, I selected for discussion a subject which would be of sufficient interest to the members of the Practitioners' Society.

I have nothing new in the way of definition to offer. At the same time I am aware that the term "irritable spine" varies in definition according to the individual practitioner. Many do not regard this as a disease or an affection of itself, but simply a group of symptoms dependent upon organic disease of some kind. I wish, therefore, to say that I do not employ the terms as symptomatic of disease.

It is well known that irritable spine, spinal irritation, spinal anæmia, spinal hyperæmia, spinal neurosis, hysterical spine—all bring up a train of symptoms that is frequently met with, not only by the general practitioner but by specialists. These symptoms are spinal tenderness, various pains in the course of the nerves, a weak back, fatigue on little exertion, lack of symmetry between the scapulæ, obliquity of the pelvis, etc.

I see a number of cases during the year in consultation, and I am called upon to decide as to the existence or not of curvature of the spine. To the credit of the physician who usually calls me in consultation, I would say, furthermore, that he has usually made the diagnosis of irritable spine pure and simple, but has been harassed by the importunities of the patient or of the patient's family into getting an opinion as to whether there be disease of the bones or disease of the spinal cord. He has usually had examined for him the pelvic organs, and in some instances has had the opinion of an ophthalmologist.

A typical case would be about as follows: A lady who has borne one or two children has for a year or more complained of her back; has had remissions of pain followed by rather sharp exacerbations; has been quite active at times, and has fretted because she was not able to be more active at other times; has presented a tenderness over the spinous processes and lateral masses, with pains occasionally in the course of the lumbar or lumbo-sacral nerves, and has got into the habit of standing awkwardly in order to rest herself. This awkward position has produced an obliquity of the pelvis and a compensatory scoliosis, a simple lateral deviation of the column. I find her fairly well nourished and get a pretty good history negatively of the internal organs. Examination of the column reveals, as just indicated, a lateral curvature in the lumbar region to right or left side, very slight, and an inequality of the ilio-costal spaces, also very slight; sometimes a lack of symmetry between the scapulæ, sometimes an antero-posterior curvature of the spine, the correction of which causes increased pain in the back, a spinal tenderness, and sometimes tenderness on concussion. By equalizing the two sides of the pelvis I am able usually to demonstrate the compensatory nature of the curvature, and by testing the column as to flexibility I am able to rule out any bone lesion. When I am satisfied that there is no reflex irritation present—that is, irritation reflected from the pelvic organs or from the eyes—I am in the habit of prescribing counter-irritation in conjunction with tonics, graded exercises, an out-of-door life, and, in rare instances, a posterior spinal assistant of some kind. I dislike, however, to put a brace on a patient with irritable spine, and do so only after other means have been exhausted.

In young women or girls between the ages of ten

and twenty, one finds occasionally atonic spasm of certain muscles, such as the psoas and iliacus, the flexor muscles of the leg, and the extensor muscles of the foot—in other words, a deformity with disability, which leads one to suspect disease at the hip-joint, knee-joint, or ankle. Also one finds a very marked curvature of the spine, with spasm in the course of the muscles supplied by the brachial plexus. I might further add that torticollis is sometimes dependent upon an irritable spine. Usually, however, we look upon these deformities as hysterical in nature, but the difficulty in distinguishing between the typical hysterical condition and a condition dependent upon irritable spine is sometimes very great. Many years ago, while an interne at the Hospital for the Ruptured and Crippled, I found relief to follow promptly the application of a Spanish-fly blister to the tender portion of the spinal column, and have seen deformities disappear during a night. In a paper presented to the American Neurological Association many years ago, I detailed a large number of such instances and employed the term spinal irritation in that paper. These cases depended usually upon some shock to the system, such as cold bathing early in the season or late in the season. I found the deformity and the spinal tenderness in both sexes.

The irritable spine, however, to which I wish to call attention this evening is a little different in nature. It is not accompanied, as a rule, by any deformity or any muscular spasm. The treatment for the milder cases is the Paquelin cautery applied three times a week for about a month or six weeks. I am in the habit of making very light strokes, not over ten or fifteen at a visit, and aim to get the strokes as near the exit of the nerves from the spinal column as possible. When the tenderness is very pronounced and when the cautery fails to give the desired relief, I resort to a fly blister, applied at night and removed in the morning. The blistered surface is poulticed with flaxseed meal for two or three days. In very mild cases or in cases where it is inconvenient to use the cautery, I have found the application of small mustard plasters every night for one or two weeks a very good substitute. After the immediate effects of the cautery or the counter-irritation have passed, I am in the habit of employing strips of adhesive plaster over the sensitive area. The details of this are very simple: I cut the strips about three or four inches in length, have them one inch in width, begin at the bottom of the column, and apply them obliquely over the spinous processes—criss-cross, so to speak—every one overlapping the preceding by about one-half inch. A great many patients find this of decided benefit, express themselves as very much relieved, are able to go about and attend to their social or other duties with comparatively little discomfort. A set of plasters can remain on for a week, sometimes a little longer. They need to be repeated usually three or four times before they can be replaced by an ordinary binder, or, sometimes, by an abdominal belt. In the more severe cases, when all these things have been tried and relief has failed to come, I find nothing quite equal to the posterior spinal assistant. Such a one I have for your inspection this evening. It consists simply of a pelvic band, two uprights extending up on either side of the spinous processes, terminating just below the shoulders, and held in place by shoulder straps and a narrow abdominal belt. The employment of a more complicated support is, I think, entirely unnecessary, as this simple one answers the purpose. Occasionally I have found relief to follow massage and douches to the spine, but not sufficient to warrant me in making this a routine practice, nor have I found galvanism or faradism of much assistance; but static electricity has in some instances acted like a charm.

¹ Read before the Practitioners' Society of New York, April 3, 1896.

In illustration of the difficulties attending the management of a case, let me cite that of Miss H—, twenty-three years of age, who came under my care on May 19, 1894. Four years prior to this she had a good deal of headache and complained of pain in her back. An examination by a local physician resulted in his diagnosis of curvature of the spine, so she reported. When I saw her she had worn steel braces, a plaster-of-Paris jacket, had had her eyes examined by an oculist, had worn glasses, and her conviction was that she had grown steadily worse under every course of treatment.

She was very anæmic, poorly nourished, apathetic. Her spinal column presented a general antero-posterior curve, but a curve that was easily corrected. The tenderness was quite marked in two or three localities—in the middorsal region, in the dorso-lumbar region, and over the sacrum. There was no fixation of the column at any point. She was quite tender in the left iliac fossa, but no tumefaction could be encountered.

I found her a most obstinate case to manage. She had come to me through Dr. David Webster, and he very kindly examined her eyes, sending her back to me with glasses. Dr. George M. Tuttle wrote as follows: "There is nothing wrong with the pelvic organs in the case of Miss A. H—. Everything is in normal condition and position. The case impresses me as one of nervous origin."

I used the Paquelin cautery in her case, had valuable assistance from a trained nurse and masseuse, and was enabled to improve her nutrition after having employed tonics and nutrients. She returned to her home at the end of six weeks very much improved, complaining less, and able to walk longer distances. Gratifying reports have come from time to time, yet not sufficient to enable me to pronounce a cure. I am quite sure that there was an hysterical element in this case.

Hydrotherapy is recognized as a valuable method of treatment, and I think the case which I am about to narrate will bear me out in this statement.

A young lady, nineteen years of age, Miss G—, came under my observation on April 13, 1890. The diagnosis made was slight rotary curvature of the dorsal spine to the left. There was also associated with this a hyperæsthetic spine, and, as I subsequently had occasion to learn, various neuroses bordering closely on hysterical manifestations. The curvature of her spine was really of very little account. What pain she had was referred to the subscapular space on the right side, where I found some tenderness. The heart sounds were normal and no pleuritic friction sounds were heard in this locality. There was really very little spinal tenderness at the time of my first examination.

I saw her again on December 28th of same year, and found her spine very irritable, with marked tenderness in the upper dorsal region. She was anæmic and depressed, and tired very easily. The curvature had not increased.

Coming as she did from a malarious country, I feared that she might have some latent form of malarial poisoning, and I had in consultation Dr. Ball, who found the spleen normal in size and such other negative evidences of malarial poisoning that he deemed it entirely unnecessary to submit her blood to an examination. He advised that she have the wet pack and iron, and furnished me with an expert masseuse who was familiar with this method of treatment. He concurred with me as to the value of the cautery and in having her eyes examined. Dr. David Webster made an examination on the same date, reporting: "Good vision in both eyes and no lesion of the media or fundus. . . . No manifest insufficiency or rather want of balance of her ocular muscles. . . . All weak,

her abduction being only 4° instead of 8° , and her adduction only 13° instead of 20° or 30° Manifest hypermetropia [the formula I omit] and some conjunctivitis." He advised the use of glasses to correct her hypermetropia, and thought that the ciliary strain might be an element in the causation of her nervous troubles.

The baths were employed in the following three or four weeks. It was learned on March 6th that she had been subject to occasional fainting spells. This led me to suspect epilepsy, but on a pretty thorough examination into her case I was convinced that these were hysterical in nature and not epileptic. My friend, Dr. Ball, after going into her history as carefully as I did, came to the conclusion that they were not epileptic. In April it was discovered that she had perforation of her right drum, which continued to exist during the spring. Her fainting spells became less frequent. There developed a pretty well marked otitis media in both ears. She returned home in May, 1891. Reports from that time to the present have shown a gradual improvement and return to health.

As bearing upon the question of support, I should like to submit one or two illustrations. A lady, twenty-two years of age, Miss T—, from New York State, was referred to me by Dr. Bull, April 29, 1895. I got the following history:

Eight years before this she fell from a second-story window in a fit of somnambulism. On being picked up she complained of her wrist. About six months afterward she began to complain of pain in her back. During the following years she had peculiar creeping sensations, and got relief from various plasters. Two and a half years later, about the same season she had an attack of neuralgia, possibly an attack of the grippe. On getting up from her bed she complained a good deal of pain in her back. A year or two later she still complained, and a plaster-of-Paris jacket was applied. This gave her a certain amount of relief, but whenever she discontinued the jackets she would have a return of the pain.

I found great hyperæsthesia of the skin; indeed, of the deeper structures in the neighborhood of the knee and thigh. She could flex the left knee to 90° and bring it perfectly straight. She complained somewhat of the knee, and on further examination, finding the dorso-lumbar spine quite tender, I came to the conclusion that she suffered from an irritable spine with a neurotic knee or hysterical knee.

The jacket she wore was rather heavy. I found her so reliant on the support that I made a steel brace for her and applied it on May 7th. On December 19, 1895, she called to report that she had recently been in a runaway accident, and following this a good deal of pain in the left side of her chest had developed. I found no tenderness on concussion or pressure, none on lateral motion. She is able to dispense with the apparatus part of the day.

A lady, twenty-five years of age, was seen by me in consultation with Dr. Sachs, November 7, 1895. Our diagnosis was irritable spine with marked neurasthenia. She had suffered for about a year. I traced her trouble to a fall. She had been an invalid practically since the date of her fall. Her spinal column was very sensitive, especially so to light pressure, but not so to deep pressure. The tenderness extended from the nape of the neck to the coccyx. There was no deformity, no spasm of any part of the column, but she was able to walk only short distances and would then become much fatigued. Dr. Sachs had employed the cautery and massage *secundum artem*.

We agreed perfectly on the necessity for a posterior spinal assistant, and during that month and the following I was enabled to fit one satisfactorily. I found that the pressure must be firm from the nape of the

neck down to the lumbar spine, and it required considerable alteration in the apparatus as first constructed to secure this object. I have recently learned that the patient gets great relief from the apparatus, although she objected very much at first, and would not under any circumstances part with the support.

I am familiar with cases that have been through gynecological hands; some were permanently relieved, others aggravated. I, of course, have made no mention of such cases in detail, but have preferred to hear from men who are more familiar with cases of this kind. We are all familiar with irritable spine relieved by the ophthalmologist.

In conclusion, let me again request the members of the society to give their individual methods of managing cases of irritable spine, even if they are unwilling to adopt the terms employed in this paper.

Progress of Medical Science.

Post-Typhoid Bone Lesions.—Dr. Harold C. Parsons has considered the question of bone disease following typhoid in an article in which he has given the history and the present knowledge in regard to it (*The Boston Medical and Surgical Journal*). Since the identification of the Eberth-Gaffky bacillus as the specific cause of typhoid fever, the nature of the bone lesions following these conditions has been more accurately studied. The different opinions which have been held in regard to the influences of the bacillus on the bone are considered, and there seems to be some reason for believing that although the typhoid bacillus plays an important rôle, the condition is one secondary to pyogenic cocci. Five cases are reported which present more or less different phases of this condition. In all but one the pure culture of the bacillus was found, and all but one required operation. The results of the operation show that more or less radical measures must be used to remove all of the diseased area, as simple incision and drainage required a second operation. Pus was found in greater or less quantity, but it is doubted by some whether this should be called pure pus. The disease seems to have been attended with considerable destruction of bone tissue, so that the fluid obtained in an incision contains a considerable quantity of detritus mixed with leucocytes. The peculiarities of this disease are that it may present itself a long time after recovery from the fever, from ten to eighteen months, and may present a long period of quiescence before the attack fully develops. In one case only the local condition appeared within a few weeks after the typhoid, and one case only has been reported in which to find complaint of pain, usually sharp, and also tenderness complained of during convalescence, and the point of attack is usually found to correspond with this locality. The symptoms present more or less remissions for the months intervening; later there develops marked pain, tenderness, swelling, and redness over the site of the lesion; incision discloses at times cedematous and phlegmonous conditions of the soft parts, thickened periosteum, and destruction of the bone, with greater or smaller amount of pus. The operation requires thorough removal, and in instances cited the wound was usually packed with iodoform gauze. The typhoid bacillus has been found in different tissues of the body, and has given rise to conjecture why these lesions were not more frequent. It is supposed, however, that it may be a secondary infection; that the bacillus is present in the marrow; that with a presupposed condition of lower vitality and susceptibility in the tissues the necrosis is set up by the presence of other

bacteria; and that in the process resulting these other bacteria are destroyed, leaving the typhoid germ alone. The effect of strain and trauma is one of consideration. In one of the cases resolution took place, although, of course, no culture could be obtained; in this it corresponded closely with the clinical signs of the others.

Chorea.—Dr. J. Madison Taylor (*Philadelphia Polyclinic*, January 11, 1896) suggests the following therapeutical measures in the treatment of chorea: 1. Specific medication—arsenic, with antirheumatic or antimalarial drugs. 2. Rest to the body and proper sleep. 3. Nutritional repair, to counteract the depreciation and devitalization of the tissues due to their overaction. 4. Re-education of co-ordination, an item very important but little noticed. Put the child to bed warmly clad and give a diet containing an abundance of milk, fruit, and vegetables, and no red meat. Bathe twice daily with tepid water, giving spinal douches followed by brisk rubbing and massage. During the first week give a laxative every second or third day to do away with any intestinal irritation of faecal toxins. Give cod-liver oil for the anæmia, preferably in capsules, rather than iron. Re-educate the limbs by gymnastics and Delsartean exercises, always insisting on rest after the exercises. Use salicylates for rheumatic pain, either ammonium salicylate with ammonium bromide in liquor amonii acetatis or elixir calisaya. Fowler's solution of arsenic, increased from three drops thrice daily by addition of one drop a day until toxic symptoms are produced, is the most satisfactory general method of treatment.

Sterility.—Dr. Vedder, of Christiania, Sweden, in the *Norsk Mag. for Lægevid.*, 1895, No. 5, reports the results of examination of three hundred and ten married women who had never been pregnant, though married at least one year. In fifty of these cases he was able to examine the husband also. He draws the conclusion that in seventy per cent. of the cases the husband is to blame for the sterility, either through azoospermia or impotence or through infecting his wife with gonorrhœa. In only thirty per cent. is the woman at fault, and then for the most part through neoplasms or atrophy of the uterus.

Hysteria.—Among the hysterical, and it must not be thought that these are met with exclusively or even preponderantly among females, for they are quite as often, perhaps oftener, found among males—among the hysterical, as among the degenerates, the first thing which strikes us is an extraordinary emotionalism.—MAX NORDAU, *Degeneration*, p. 25.

Diphtheria.—Local applications should be used early and vigorously employed from the first. The purpose of local treatment is both cleanliness and germicidal. As a germicidal remedy I have used during the past year Loeffler's solution with success. The formula used by me is:

R. Menthol.....	gr. vi.
Liq. ferri sesquichlor.....	3 ss.
Tuluol.....	3 ss.
Alcoholis.....	q. s. ad 3 i.

M. Applied as a swab to throat three or four times a day.

Loeffler states that this remedy will kill diphtheria bacillus in ten seconds, and reports having treated seventy-six cases of diphtheria in a severe epidemic without a death. I also use, as a cleansing fluid to the nares, a five-per-cent. solution of liquor sodæ chlorinatis; used frequently as a spray throughout the disease.—DR. GAY, *Alabama Medical and Surgical Age*, April, 1896.

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THE USEFULNESS OF DRUGS.

IT is something unusual in these times to find a practitioner of large experience proclaiming boldly his belief in the efficacy of drugs. Dr. William R. Gowers, of London, however, in an address "On the Use of Drugs," delivered before a London medical society, takes the position that medicines do serve a most efficient purpose in the treatment of disease. Dr. Gowers calls attention to the fact that a great many of the non-medicinal measures for combating human ills which are now so frequently recommended cannot really be used by the every-day practitioner. The patients whom he serves cannot afford to take rest, to travel, to spend two months at some "cure," to inhale oxygen, to undergo massage or elaborate methods of hydro-therapeutics or of mechanical therapeutics. They cannot afford even, in many cases, the dietaries which are often so highly approved; and, on account of their daily work, almost the only means of help outside of surgery is, in many instances, some medicine. Now, the point made by Dr. Gowers is that the average practitioner does do a great deal of good with his drugs, and that they really have efficacy in lessening the severity and the mortality from disease. The lecturer goes on to explain in detail the reasons why he thinks it is possible that drugs should be able to modify the course of the activities of the human body. He shows that arsenic, for example, is known to directly influence the constitution of the nerve cell; so also are phosphorus and iron, and in the processes of metabolism, both the building-up and the breaking-down of living tissue can be modified by pharmaceutical agents. He next dwells upon the fact that from the most ancient times, drugs have been used and recognized as efficient. Dr. Gowers is especially positive as to the methods by which these useful drugs are discovered. He believes that most of our best modern remedies were discovered by chance and used empirically. He says:

"We smile at the popular herbal remedies. But it is to these that we owe the majority of our most useful drugs. I cannot conceive a therapist surveying a list of the chief drugs on which we depend in our daily work—and do not depend in vain—without a sense of wonder and perhaps of humiliation. We dis-infect our rooms with burning sulphur; and so men

did before the time of Homer. We purge sometimes with rhubarb, especially when some subsequent astringent influence is desirable, and so did the old Arabians for the same special reason. The value of castor oil in its chief use was familiar, probably for ages, to the natives of the East and of the West Indies before it was made known in Europe by a physician from Antigua one hundred and fifty years ago. Aloes was employed in the same way long before the time of Dioscorides and Pliny. The knowledge of the influence of ergot in parturition we owe to the peasants of Germany, and the use of male fern for tapeworm goes back to the old Greeks and Romans. The employment of mercury in syphilis by inunction and fumigation, which our nineteenth-century therapeutists regard with such satisfaction, seems to go back to the time of the Crusades, and it is said that its use can be traced in Malabar as far back as the ninth century. Podophyllum as a purgative we owe to the North American Indians. If we go through the list of all the drugs on which we most rely, we find a similar story. Even in the case of those which are the latest additions to our resources, we find that, with very few exceptions, their use arose from what we must regard as pure empiricism. It was by accident that the local anæsthetic influence of cocaine was discovered."

Dr. Gowers admits that he is often unable to tell why a drug does good, but he is nevertheless convinced that there are many which must be classed as useful and effective. He finally recommends that there be a more systematic attempt to study and select those drugs which all agree have some value.

Dr. Gowers' audience was evidently impressed by his reasoning, for, as a result of his address, a special meeting has been arranged to discuss the value of certain drugs.

THE TREATMENT OF HICCOUGH.

CURRENT medical literature contains, at rather frequent intervals, contributions to the therapeutics of hiccough. These show a very wide range in the mechanical and medicinal measures which are resorted to in this affection. Hiccough is at most times a somewhat simple though embarrassing phenomenon, being the cause of amusement rather than sympathy. The ordinary attack of hiccough is due to some irritation of the nerves of the stomach, and is put down as a reflex spasm, involving the sensory branches of the vagus and the motor fibres of the phrenic. Persistent hiccough occurs in the terminal stage of a good many fatal maladies, and is then due to dilatation of an enfeebled stomach with gas and pressure upward upon the diaphragm. The more serious cases are due to central causes involving the nuclei of the vagus and phrenic nerves, or their peripheral branches. Chronic hiccough is sometimes a manifestation of hysteria, and again, perhaps, a form of chorea or of convulsive tic. Inflammation of the pleura or of the peritoneum, aneurisms, mediastinal tumors, fractured ribs, are all placed among the causes. Hiccough occurs in affections of the abdominal viscera other than the stomach,

such as renal or biliary calculi, and in strangulated hernia. A good many obstinate cases, however, occur in which the most searching investigation does not reveal any very certain explanation of the condition, and it is in these obscure cases that various and novel remedies have been reported as having a curative effect.

The common remedy for hiccough is swallowing a glass of cold water or the use of a little aromatic spirits of ammonia or spirits of chloroform. Musk is said to be a specific, probably because it is too expensive to be often tried. In the chronic cases mechanical measures of the most various kinds have been recommended. A very common procedure is to take a deep inspiration and hold the breath for some time. Another is to bend the head forward as far as possible and press firmly upon the base of the thorax. This is called relaxing the diaphragm. Still another much-recommended measure is to lay the patient upon a bed and place under his back a number of hard pillows, so that the spinal column will be bent backward. The head is then forcibly extended as far backward as possible, and this position is retained for half an hour or more if necessary. This is called stretching the phrenic nerve. Another measure that has been commended is that of taking a swallow of water in the mouth, pressing the fingers tightly into the ears, and then swallowing, this process being repeated several times.

Professor Lepine, of Lyons, has lately described the case of a girl who for four days had been afflicted with hiccough. The patient was not hysterical. Various medicinal remedies were employed in vain. Finally, Dr. Lepine had her protrude the tongue. Traction was then made upon this organ and was maintained for several minutes, with the result of causing the symptoms to disappear.

This cure of hiccough is said to have been first devised by M. Viaud in 1894. Pressure upon the phrenic nerve and galvanic currents along the nerve are other measures that have been resorted to. Injections of morphine, apomorphine and other emetics, nitroglycerin, and hyoscine have also been tried. The great difference in the various measures which, in different countries and at different times, have proven successful in the treatment of hiccough, show that the essential thing in most cases is the psychical effect of the treatment upon the patient.

THYROID THERAPY.

It has been pretty firmly established that in myxœdema extract of the thyroid gland does more for the average patient than any form of treatment previously employed. It has also been incidentally discovered that we possess in this remedy a valuable addition to our means of reducing corpulency. Goitre is among other diseases in which it has been extensively tried. Insane patients have been found to improve in their mental condition while under this treatment, especially at the puerperal, adolescent, and climacteric periods. The MEDICAL RECORD has recorded instances

of malignant syphilis which appeared to be decidedly benefited, and in literature are to be found instances of cretinism and a variety of dermatological states which have been cured. Skin affections, as a rule, have not been so favorably influenced as the early experimental trials of the gland treatment led us to hope they would be. Pityriasis rubra, ichthyosis, lupus, and psoriasis have all had cures attributed to its use, but an extensive observation of its effects upon psoriasis has resulted in disappointment. The energy of action would seem to be expended upon the subcutaneous fatty tissues to a much greater extent than upon the skin proper, though undoubted amelioration has been observed in a variety of dermatoses during its administration.

In one of the latest meetings of the Vienna Medical Club Dr. Hock presented a myxœdematous infant of only twenty-one months, whose physical and psychical conditions had been improved very much under the use of the fluid extract of the thyroid gland. He also showed a child of four years afflicted with idiocy treated in the same way, but in this case an amelioration of the psychic state alone could be looked for.

While there exists in the extract a property of reducing fat, it would seem to possess also a quality of increasing height, if we are to judge from a case reported by Kassowitz. Besides causing other improvement in the person of a man of twenty affected with myxœdema and cretinism, a course of thyroid treatment resulted in a decided increase of stature.

Bourneville pointed out the same effect in two of his patients in a paper read at the Congress of Alienists and Neurologists held last August in Bordeaux, and he suggested the employment of thyroid in stunted children. If at the same time these dwarfs are obese, as is often the case, the gland treatment should be doubly efficacious.

Many prefer to give the gland in a fresh state, either cut up into small pieces and eaten with bread and butter or taken with bouillon, but cooking detracts from its value, if indeed it does not deprive it of all its therapeutic worth.

Vigier has suggested a means of preserving the fresh gland for an indefinite period, which obviates the objections some have to the use of tablets and the difficulties of obtaining a fresh supply of the gland when needed. After removing the fat and all extraneous matters from the gland, it is made into a pulp and mixed at once with biborate of soda and powdered wood charcoal. The mass is divided into capsules, each containing ten centigrams. They have been well spoken of by a number of physicians in France who have used them.

As we have previously pointed out, many dangers attend the indiscriminate and protracted use of the thyroid remedy. Severe symptoms are likely to supervene, if as a daily dose over sixty grains of the powdered gland are given, and it is safer to keep much below this quantity, unless the patient be most carefully watched. Excessive dosage may even be followed by the development of Basedow's disease, as Bécclère has indicated, and experiments upon dogs have confirmed the view that hyperthyroidization

may produce a train of symptoms analogous to those of the latter disease. This would go to show that exophthalmic goitre depends upon a thyroid intoxication and gives weight to Ballet's theory that it is a secretory perturbation of the thyroid body, due to moral or physical causes acting upon the bulb; and, secondarily, to the thyroid intoxication which results. It is admitted, we believe, that there exists a toxic property in the normal organism which, unless destroyed, neutralized, or in some way antagonized by the thyroid body, leads to myxedema. Eulenburg mentions a case in which very severe nervous and heart symptoms followed the self-administration of thyroid tablets for their antifat effect, and such instances could be duplicated by every physician of large experience in localities where, as in this city, the layman has learned enough about the subject to make him dangerous to himself and friends. Self-prescription and amateur practice in reduction of weight by thyroid tablets is apt to have an occasional grave result, unless physicians give timely warning of the dangers.

THE STORY OF A PICTURE.¹

IN the estimation of professional service, the anxiety of the doctor is the only element that cannot be itemized and is consequently beyond the power of compensation. It is the unknown quantity to the patient, but the ever-present and weighty responsibility with the one who is called to assist in the dire emergency. Every physician has felt it time and again, and has bravely and willingly bowed his best energies to the pressing burden. Its realization banishes all selfish purposes and focusses his best thoughts on the balance of chances between life and death. His only reward is the consciousness of highest duty done. Even the grim fatality of an inevitable defeat cannot cheat him of the crowning satisfaction of doing his best. It is comforting to know that such service is often appreciated by such as are in direct touch with the thrilling experiences of his life work. The sister professions are ever ready in their sympathies with failure and triumph, and are always generous in their tributes to the lofty purposes of oftentimes futile endeavor. The influences of such stimulation keep the doctor where he is, encourage him to do and dare alike in hovel and in palace, and place his best services beyond the power of gold to buy. Art more particularly has paid its homage to that better sentiment and has illumined it with the master touch of an interpreting genius. Thus, the doctor has become the central figure for the high light in many a pathetically truthful picture of our better humanity. And this is one of them that we study with more than ordinary interest. The scene is in a humble cottage; the sick one, a weakly, dozing child, is tenderly pillowed on chairs in the centre of a poorly furnished room. The good doctor, with bending head and troubled brow, is gazing anxiously on the face of the little patient, the lamp shade tilted to give him the better view. It is the early hour of

dawn. The glimmer of the coming day outlines the tired forms of the anxious parents at the adjoining window. The stern-faced father, weary with the night vigil, is resignedly awaiting the verdict. The heart-broken mother, overcome with anxiety, is resting her aching head, face downward, on the table. The empty baby-chair finds its significant place in the general disorder which marks the unconcern of a supreme trouble. It is the telling picture of sickness of an only child in the poor man's home, with the helpful doctor and the weak patient in the foreground. The high light is thrown on both with the grimness of an impending fate in the darkened offset.

The doctor's figure is the real study. His head is the expression of inherent power and his face the embodiment of assertive reliance. Every energy of a strong and generous nature is focussed on the mute appeal of a helpless and prostrate sufferer. The panting breath keeps time with the clock tick; the fluttering pulse is bearing away the life wave on the outgoing tide. The temperature is running its hot race with gaining death. What to do or not to do is the question of the moment. The interpretation of indications must be balanced by the logic of natural laws. And through it all he calmly weighs the record of his experience against an apparently inevitable decree. Never flinching until the end, his is the last appeal until the curtain drops. Thus he sits watching, while we interpret the higher motives of his broader mission. The beautiful picture has the simple title of "The Doctor," but needs not even that to indicate the apt suggestiveness of the true ideal. There is the stimulus of an actual presence with an ever-living experience which finds its response in the history of every professional life. It is among the poor that we perhaps see it in its better color, with the father the watcher, the mother the nurse, and the doctor the only earthly helper—the three offices exemplifying the cardinal virtues, faith, hope, and charity. Thus the picture and the moral go hand in hand to encourage us in our work and to reward us in its doing. Every physician who can look at or own such a picture must needs be proud of his title and glory in his calling. It is an inspiration in trouble and a crown in victory.

Pathological Society of Philadelphia.—At the meeting of the Pathological Society of Philadelphia held on April 23d, Dr. B. Meade Bolton, chief of the bacteriological division of the Board of Health, read a paper on "The Theories that have been Advanced to Explain Immunity from Infectious Diseases." The consensus of opinion seemed to be that none of the theories is sufficient to explain all of the facts of immunity and it is probable that many factors are operative in the production of this result. The most plausible are the so-called humoral and cellular theories, according to the first of which the fluids of the bodies possess bactericidal properties and according to the second the cells of the body are capable of repelling the invasion of attacking micro-organisms. A well-attended reception at the University Club followed the meeting.

¹ "The Doctor," by Luke S. Fields, R.A., Copyright, 1895, Wm. Wood & Co., New York.

News of the Week.

The Canadian Medical Association.—The next annual meeting of this association will be held in Montreal on August 26th, 27th, and 28th.

The Gynecologists of New York are the subjects of a sketch by Dr. L. C. Prevost, of Ottawa, in the *Montreal Medical Journal*. The writer seems inclined to think that they are not such a bad lot, in which opinion we agree with him.

The Sewerage of Marseilles.—A new system of sewerage has been adopted in Marseilles and is now nearly completed. The entire sewage of the city will be carried into the sea. The cost of the work has been about \$6,000,000.

A Virtuous Service.—The British Indian Medical Service of the present day holds the palm for virtue and manly purity, theoretical at least, among all bodies of men that have ever existed within speaking-distance of charmers of the other sex. A surgeon-major of this immaculate corps was recently dismissed the service because he asked a married lady for a kiss. Hereafter the amatory surgeon-majors will probably snatch their kisses without asking for them, since the penalty can be no greater and the bliss will at least have been theirs.

Reorganization of the Newark Board of Health.—The common council of Newark, N. J., has agreed to a plan of reorganization of the health board of that city proposed recently by Dr. Herold. It provides that the board shall consist, as heretofore, of ten members, five physicians and five lay members, equally divided politically; four members to be appointed for three years, three for two years, and three for one year, the members to be appointed by the mayor and confirmed by the common council. The city dispensary and the city physicians are to be under the authority of the board.

A Chair of Comparative Pathology at Harvard.—Through the generosity of a merchant of Boston, whose name is not made known, Harvard University is to have a department of comparative pathology. The benefactor advances \$100,000 for the endowment of the chair. The professor is to be a member of the medical faculty of Harvard College, and he is to study the conditions and causes of disease common to both men and animals and the means of avoiding and curing them.

The British Association for the Advancement of Science will hold its sixty-sixth annual meeting in Liverpool on September 16th and the following days, under the presidency of Sir Joseph Lister.

Miss Cobbe, a reforming lady who is better known in England, we are glad to say, than in this country, spends much of her time in uttering antivivisection protests. But having apparently exhausted the possibilities of inanity in that subject, she has actually come out in a protest against the dissection of dead rabbits.

The University of Edinburgh has recently received a bequest of \$100,000 from the late Earl of Moray as an endowment fund for the promotion of original research.

The Perils of the Army Surgeon's Life.—An army surgeon is called a non-combatant, but his life is by no means secure on that account. Out of twenty surgeons on the battlefield of Abba Carina, in Abyssinia, seventeen were killed in action.

Alcohol as a Medicine.—At the annual meeting of the governors of the London Temperance Hospital a letter was read from Sir Benjamin Ward Richardson, in which he stated that his conviction as to the uselessness of alcohol as a medicine was still as strong as ever.

An International Journal devoted to the history of medicine and to medical geography will appear shortly in Holland. It will contain articles in English, French, and German.

The Wisconsin State Medical Society announces that its fiftieth annual meeting will be held at Madison, Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896. It is proposed to celebrate the occasion of this fiftieth anniversary by a new departure from the usual programme in devoting the entire session to a discussion of "preventive medicine." The committee has invited a number of men in the State, members of the society and others, to read papers at this meeting.

Colleges with Four Years' Courses.—The Rush Medical College of Chicago has had since 1894 a compulsory course of four terms of eight months each. The Woman's Medical College of Pennsylvania also requires four years of graded instruction. The names of these two were omitted from the list referred to in the issue of April 11th.

The Mitchell District Medical Society.—The forty-ninth semi-annual meeting of the Mitchell District Medical Society will be held at Shelbyville, Ind., June 29 and 30, 1896. An elaborate programme is being arranged. The Shelby County Medical Society will entertain the visiting society.

The Medical Department of the University of Wooster has become the medical department of the Ohio Wesleyan University, and is to be known as the Cleveland College of Physicians and Surgeons. All the members of the faculty resigned in a body from Wooster and were elected to the same chairs in the new college. But the trustees of Wesleyan have promised to erect a new college building.

The Goat has Succumbed.—Dr. Aronsohn, of Berlin, has succeeded in inoculating with tuberculosis a goat, an animal hitherto regarded as immune to this disease.

The Pennsylvania State Sanitary Convention will be held at Williamsport on May 21st. Among the subjects for discussion are the prevention of the contagious diseases of childhood, the communication of disease from animals to man, and food adulteration.

Health of Rome.—Malaria is being gradually extinguished in Rome. The deaths from the disease have decreased from 650 in 1881 to 254 in 1891, while for the last five years the average has been 149, the number in 1895 being 125. The population of Rome has increased from 300,000 to 467,000. An equally remarkable diminution has taken place in the death rate for typhoid fever and all other infectious diseases.

Professors and the Advertising Postal Card.—We have just received an immense post card by mail, which contains in type so large that any one may easily see the tremendous advantage to be gained by going to a western city of the United States to attend the polyclinic. Though we have had something in this line before, our nervous systems were hardly prepared for the shock of an advertisement such as might be sent out from a patent medicine firm or a modern departmental store. We notice that all those who are to give instruction are professors—that “no effort will be spared to make the course eminently practical to the general practitioner.” Special prominence is given to surgery, gynecology, skin and venereal diseases—and all for “the special low fee of \$35.” Here surely is a chance that we should not miss—a sort of a “Friday bargain day” in four weeks, during which time, if one might judge from the alluring nature of the $8\frac{3}{4}$ by $4\frac{3}{4}$ inch post card, the careful student would surely come out a specialist in most of the subjects. We regret to see on this card the names of men from whom we might expect a higher type of ethics.—*Canadian Medical Review*.

A New “Jag” Cure.—The last suggestion in orrhoterapy, according to the *Medical Press*, is the injection of the blood serum of dogs which have been subjected to large daily doses of ethylic alcohol. According to Dr. Toulouse, the injection of twenty-four cubic centimetres thrice repeated of this serum produced markedly beneficial effects in a case of alcoholic delirium. He is now about to institute researches with the object of finding out whether the serum acts as an “antialcoholic” serum, or merely *quâd* serum. It would perhaps have been more in accordance with scientific principles if he had made his control experiments before taking up the time of the Academy of Medicine of Paris with an observation which is calculated to bring orrhoterapy into contempt.

Louisville Medical Colleges.—The Louisville Medical College graduated a class of sixty-three at its twenty-seventh commencement on March 25th. The University of Louisville graduated a class of fifty-nine at its fifty-ninth commencement on March 30th. One hundred and twenty-two new doctors!

Accidental Injuries.—An analysis of 2,000 accident policies on which benefits were paid shows 531 persons injured by falls on pavements, 243 by carriages or wagons, 75 by horse kicks or bites, and 47 by horse-back riding; 117 were cut with edged tools or glass, 96 were hurt by having weights fall on them, and 72 were hurt in bicycle accidents, while 72 were hurt by falling down-stairs.

Poisoning by Boracic Acid.—Dr. Arthur Hall reports a case of probable poisoning by boracic acid. The case was that of a boy who had been seriously burned and was treated with boracic-acid ointment. On the fifth day he developed an extensive erythematous eruption over the limbs, trunk, and face, for which Dr. Hall was asked to see him. During the next few days he gradually became worse and died on the ninth day. At the necropsy nothing was found to account for death, and previously to the eruption the boy was doing very well. There were no throat symptoms whatever; there was delirium at night; the rash developed more each day. Dr. Hall quoted many recorded cases of similar groups of symptoms occurring definitely from boracic-acid poisoning.

The Franklin County (Pa.) Medical Society met at Chambersburg on April 21st and listened to an address on surgery by Dr. Joseph Price, of Philadelphia. Dr. H. G. Chritzman read a paper entitled “Organizations.”

Vanderbilt University, Nashville.—Dr. Ernest B. Sangree, assistant professor of pathology in the Medico-Chirurgical College of Philadelphia, has been elected professor of pathology and bacteriology in the Vanderbilt University, at Nashville, Tenn.

Medical Students in Vienna.—According to a report which has just been published, the Vienna School of Medicine was attended by 3,674 students during the past winter half-year, comprising 2,211 ordinary and 1,463 extraordinary students. The teaching staff consisted of 29 ordinary professors, 34 extraordinary professors, and 93 privat-docents and assistants.

A Compounder of Drugs.—The *Medical Press* relates an amusing episode which took place in a dispensary in a small town in Tipperary, Ireland. One of the dispensary patients was dissatisfied with her medicine and began to abuse the medical officer, who ordered her to leave the dispensary. As she would not go, he went out to fetch the porter, whereupon the patient locked herself up in the pharmacy, of which the key happened to be at hand, and occupied herself until the door could be broken open in mixing the contents of all the bottles. Before she could be removed she had compounded a shotgun prescription to the value of about \$250.

To Sterilize the Water of Paris.—An offer has been made by an inventor to the municipality of the city of Paris to sterilize five thousand cubic metres daily of water for public consumption at his own expense. After preliminary inquiry the municipality has decided to obtain an expert report upon the value of the proposed measure, and if it is found to be of practical utility the inventor's offer will be accepted as a preliminary to adopting the system in case the experiment is satisfactory.

Dr. A. R. Baker, for many years editor of the *Cleveland Medical Gazette*, has retired and has given over the editorial management of the journal to his associate for the past ten years, Dr. Samuel W. Kelley.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 3, 1896.

ANDREW H. SMITH, M.D., PRESIDENT, IN THE CHAIR.

The Thyroid Theory of Graves' Disease, with Its Bearing on the Surgical Treatment of the Disease.—DR. FRANCIS P. KINNICUTT read the paper, the discussion of which was postponed until the next meeting (see p. 541).

Suture of Ruptured Urethra.—DR. R. F. WEIR presented the patient and read the history of the case (see p. 651).

DR. CHARLES MCBURNEY inquired how long the suprapubic fistula remained open. Dr. Weir replied two weeks for drainage, and it was about two weeks longer before it healed.

Dr. McBurney remarked although the result in this case was nearly perfect, he thought it was quite open to discussion whether the means was worthy of adoption. In the first place, such injuries behaved beautifully under a much more simple method of management, the old-fashioned one which Dr. Weir himself had made use of probably a great many times, external urethrotomy and the subsequent use of sounds. Any one who had done this often could not have failed to be struck by the perfect repair which took place under such management. He was quite sure that personally he had never had failure. The moment that external urethrotomy was made, if it were free, the patient was removed from danger; the parts were drained, the passage of fresh urine over them never gave rise to complications, and the return of the urethra to practically normal condition was proven by examination with instruments many months, and even years, afterward. This was so universally true in cases of injured urethra that he thought it might fairly be questioned whether it was worth while or desirable to run certain risks—and there certainly were some risks—by sewing up the wound. There were not only some risks connected with sewing up the wound in the perineum when the urethra had been ruptured and there was infiltration of urine, but also in making the suprapubic opening into the bladder. Not infrequently there was difficulty in getting closure of the opening above the pubes. Altogether, it did not seem to him that the argument in favor of sewing up the urethra was a very strong one. If resection of the perineum in such cases were frequently followed by contractions of the urethra which gave rise to subsequent grave trouble, it would be another matter, provided these difficulties could not be overcome by other methods. But this had not been his experience. When he had a patient with rupture of the urethra he cut the perineum freely, subsequently used sounds, and if the urethra were clean he felt that the patient would be perfectly safe and would not have difficulty with the urethra, provided the use of instruments were kept up to prevent the possible occurrence of extra-urethral contractions.

DR. J. D. BRYANT congratulated Dr. Weir on his extraordinarily good result. Personally he had had no experience with opening up and suturing the ruptured urethra, but had always met the condition by making perineal section, referred to by Dr. McBurney. He thought it was always important in discussions of this kind to consider whether the operation which was brought before the profession for the first time was one of such simple nature or practical application that it could be employed by those not especially experienced

or favorably surrounded, with as great safety as an older and perhaps simpler method. It was not so much a question what Dr. Weir could do, or others engaged in hospital work, in which they were constantly called upon to meet the exigencies of the occasion, but rather what was the proper course to pursue by those with more limited experience.

Dr. Bryant would regard the introduction of the drainage tube into the bladder through a suprapubic incision as an additional element of danger.

DR. WEIR rejoined that we must, in the first place, consider the question in its true light. Sewing up the perineal wound partially or completely was purely a side issue. It had not often to be done. Nor was it often necessary to drain the bladder by suprapubic incision. One could get a good result without either of these procedures. It could be secured by leaving the catheter in the urethra to draw off the urine from the bladder, and by leaving the perineum open, simply stitching the urethra together, perhaps imperfectly. He could conceive great advantage in suturing together the ends of the completely divided urethra, or even the partially divided urethra. He did not agree with Dr. McBurney regarding safety from stricture of a patient with rupture of the urethra which had been treated simply by perineal incision. He had seen stricture result so many times that he did not attach much value to such treatment as a preventive of stricture. It was, however, a simple and efficacious method of preventing serious septic troubles from infiltration of urine in the perineum. But analogy would lead one to feel that here, as elsewhere, it was good surgery to closely approximate the parts and drain the bladder through a tube. In the thirty-five cases reported, the mortality had not been increased at all by this treatment; on the contrary, it had been less even than after perineal section. Also with regard to stricture, so far as these few cases had any bearing upon that question, the treatment was an improvement upon the older method.

The Management of Irritable Spine.—DR. VIRGIL P. GIBNEY read the paper (see p. 654).

Irritable Spine from the Standpoint of the Ophthalmologist.—DR. CHARLES S. BULL was called upon to discuss the paper from the standpoint of the ophthalmologist. He said that of the several classes of cases of irritable spine, there was only one in which he found the correction of any existing errors in the eyes of practical benefit. In this class there was no anatomical defect in the spinal column and no history of traumatism. He referred to those neurasthenic patients, mainly women, suffering from some optical error, usually astigmatism. It was well known that almost everybody had some optical error, usually astigmatism of low degree, and we were unable to tell until the accommodation had been paralyzed whether the defect was sufficient to require correction. It was necessary, also, to take into consideration the personal factor, for many persons with a given amount of astigmatism went along and attended to all their duties, perhaps using their eyes sixteen hours a day without complaining, while others required the correction of a quarter of a dioptré. In many of these cases he had noticed that the symptoms which the patients had located in the spine disappeared at once when the accommodation was paralyzed by atropine. It was very rare to find a young American of either sex who had not some muscular defect in the eyes; indeed, it was so common that our German confrères called it the *amerikanische Krankheit*. It was a singular fact that when the muscular error was considerable its correction by prismatic glasses almost never relieved the irritable spine.

From the Standpoint of the Neurologist.—DR. CHARLES L. DANA thought Dr. Gibney had presented

very accurately the neurologist's view of the condition known as irritable spine. Apparently the gynecologists, the general practitioners, orthopaedists, oculists, and others had taken hold of these cases so extensively that few now reached the neurologists compared with former times. Still, the patients who consulted him belonged to the class Dr. Gibney had described, and required similar treatment. In cases of traumatic origin there was sometimes a surgical lesion, as rupture of ligaments, strain of muscles, which gave rise to symptoms in addition to the psychical element. In the general run of cases, seen mostly in women, and being more or less idiopathic origin, so to speak, he believed the underlying cause was a defect in the nervous and muscular structure of the individual. In other words, he believed the spinal irritation was, in a great many cases, a teratological defect. Such patients were born, apparently, with weak nervous centres, and were not able to stand the strain of life upon their feet. One might almost class irritable spine among occupation neuroses, because it came from the continual use in the erect posture of muscles which supported and moved the trunk and which were unable to do so without pain. He believed that the underlying condition which we had to treat in almost all cases was asthenia, and if he should differ at all from Dr. Gibney regarding the treatment it would be in laying much more stress upon the importance of rest and gradual training of these muscles and nerves into stronger organs. He did not believe that the Paquelin cautery or counter-irritation in itself ever effected a cure. It had a good psychical effect. Dr. Dana was becoming more and more skeptical about there being reflex forms of spinal irritation. Not but what the eyes and uterus would, sometimes, produce symptoms of severe character, and symptoms which would disappear on treatment directed to the eyes, the uterus, or other pelvic organs, but, as a rule, they would not disappear permanently unless other treatment were given at the same time. The tendency of neurological thought now was most decidedly against belief in reflex neuroses. He thought he was safe in expressing the belief that there were no constitutional reflex neuroses. There were some reflex symptoms, but no reflex neuroses.

From the Standpoint of the Gynecologist.—Dr. WILLIAM M. POLK discussed the subject of spinal irritation in so far as it seemed to be connected with diseases commencing at the vulva and extending up to the kidney. He sometimes found conditions about the uterus, more especially backward displacement, the correction of which was followed by relief of spinal symptoms. Of course these people were liable to have the sensitive ovaries which belonged to hysterо-epilepsy, and since Dr. Dana did not admit reflex neuroses it might be that the ovaries were diseased in such instances, although the gynecologists had not been able to satisfy themselves that they were sufficiently diseased to set up the train of symptoms which had been attributed to them, for other ovaries which were much more diseased did not produce any condition at all similar.

After the gynecologists had gone over the pelvic region pretty thoroughly without getting much satisfaction in the treatment of so-called spinal irritation, etc., they turned their attention to the kidneys. He was ready to confess that they had found floating kidney, or, at any rate, displaced kidney had a very decided bearing on many such cases. He presumed this would account for the fact that Dr. Gibney had found the abdominal bandage so frequently of benefit. For a long time before the real nature of such cases was understood it was the custom to put on a binder over a pad, and the patients would go out feeling better. The supposition was that the relief was due to taking

off pressure from the pelvic organs by supporting those within the abdomen. In the light of late experience Dr. Polk thought it was more especially due to supporting the kidneys, which were disposed to sag.

He supposed that gynecologists relieved at least fifty per cent. of the cases of so-called irritable spine which came under their observation by paying attention to the condition and position of the uterus, while they accomplished very little in the other fifty per cent. if no operation were indicated. Regarding the location of the spinal irritation, when it was in the upper part of the spine, he must confess that they were able to accomplish very little by attention given to the organs which received treatment by gynecologists.

Dr. R. F. WEIR thought the remarks of Dr. Polk, with reference to spinal irritation being caused by floating kidneys, went to support the view which Glenard published in 1889, and which had been lately revived by Treves, that when there was dropping or pulling down of the upper abdominal organs one was apt to see such irritation. The kidney was only one of those organs, but the one whose displacement was easiest to recognize. The general condition had been demonstrated on the cadaver, occasionally on the operating-table; very rarely could it be proven before the knife was used. Since Dr. Weir's attention had been called to it, he had been able to recall several cases in which, while doing laparotomy, he had found this condition of things, which he was then unable to interpret correctly—a dragging downward of the abdominal contents, including the small intestine, mesentery, stomach, kidney, etc. In all these conditions the patients often derived much benefit from an abdominal band, which may have been suggested to them by their tailor.

Dr. KINNICUTT thought it was possible that one explanation of failure to give relief by fixation of the kidney in marked displacement of this organ was to be found in the suggestion of Glenard, taken up by others, that the displacement of the kidney was only a part of the falling down of many organs. Fixation of the kidney removed one factor in the production of the symptoms, but not all.

Dr. POLK, in order not to be misunderstood, said we should make a distinction between kidneys displaced without displacement of other abdominal viscera and those displaced with the other viscera.

Dr. WEIR: Of course the cases can be separated, but they are often associated.

Dr. POLK: Yes. In thin women we sometimes feel that the kidneys are loose, while the other abdominal organs are firm. A patient came to me just the other day, whose kidneys could be shoved down to the brim of the pelvis on both sides.

Dr. KINNICUTT thought it was often very difficult to determine whether there was or was not displacement of the other organs, and unless one made a very careful examination he was liable to be deceived.

Dr. POLK said he based his judgment on the ordinary outlines of the stomach as made out by percussion, by the firmness of the abdominal walls as the patient stood, by the muscular strength, and the fact that the kidneys were disproportionately movable. Not that they could simply be displaced an inch or two, but could be carried well down toward the brim of the pelvis. He would admit, however, that there was some difficulty in distinguishing between the two classes of cases.

Dr. DANA thought it would be unfortunate if it were allowed to go out as the expression of the opinion of the society that prolapse of the kidneys or of the abdominal viscera was at all identical with spinal irritation as described by Dr. Gibney and as it was seen every day. He had read the original paper of Glenard when it was first published, and had followed

up the literature, but while he thought abdominal ptosis undoubtedly had much to do with the symptoms which Glenard had described, these did not correspond with the symptoms of spinal irritation, and he did not believe we could often cure spinal irritation by anchoring the kidney or applying an abdominal belt. These measures might relieve some of the pains, but not all.

The President, DR. ANDREW H. SMITH, thought that if dislocation of the kidney was a cause the patient's symptoms should usually be referred to the right side, as the right kidney was the one dislocated in far the larger number of cases.

DR. WEIR said that personally he did not know that spinal irritation could be regarded as one of the symptoms of displacement of kidney.

From the Standpoint of the General Practitioner.

—DR. BEVERLY ROBINSON said that after all the specialists—gynecologists, surgeons, and others—had been consulted, there could be no doubt but what there remained in the wards of our hospitals during the course of the year a certain number of cases of irritable spine which could not be accounted for except on the broad ground that there were a number of women, both young and old, whose general nervous system seemed to be weak or impaired, which condition expressed itself in irritable spine. There was at present in his ward a young woman for whom almost every thing possible had been done by way of treatment, but without success, and for whose condition no cause could be assigned except that for six years she did not get good food, was overworked, and had little or no mental distraction. He felt certain that other physicians not infrequently met with similar cases. Under these conditions the cautery would relieve the symptoms as nothing else would.

DR. KINNICUTT remarked that his experience agreed with Dr. Robinson's, that in the majority of cases of irritable spine which came under his observation he could find no lesion to account for the condition. He could appreciate what Dr. Dana had said regarding an inherited weakness.

DR. POLK: With reference to Dr. Dana's comment on my suggestion concerning the influence of the kidneys in producing symptoms of irritable spine, you will, perhaps, recall the fact that in my remark I stated we found that the uterus seemed to be sometimes responsible for that set of symptoms and we sometimes found that the symptoms appeared to be due to the kidneys. All that I can add is simply this, that the irritable spine seemed to be relieved by treatment directed to the doubly displaced kidney. I could relate three such cases if time would permit.

Cyst of the Parotid Gland Removed Unruptured.

—DR. CHARLES MCBURNEY presented a specimen which he said was novel to him, an unruptured cyst of the parotid gland, fully as large as an English walnut, removed by enucleation without injury to the gland. The fluid contents were clear. The patient was a lady, seventy-three years of age: the tumor had existed three years, and had shown marked increase during the last six months. The facial nerve did not come into view during the operation.

Fresh Specimens of Appendicitis.—Dr. McBurney presented three fresh appendices, remarking that he did not think such specimens were of value unless seen in the fresh condition, before having been paced in alcohol or other preservative fluid. The first one was remarkable for its size, being over six inches long. It had been removed from a man, twenty-six years of age, during his first attack, a very acute one, of appendicitis. The chief cause was a marked constriction by bending at the attachment of the appendix to the colon, interfering with drainage. The second specimen had also been removed during a primary attack, but the condition which had brought it on had

evidently been of gradual development, although the man had been quite well. He was fifty-one years of age, had never been conscious of any difficulty in the abdomen, except that he was fat, until this acute attack of appendicitis developed, for which Dr. McBurney operated at the end of thirty-six hours. The specimen showed six strictures at points throughout the length of the appendix, there being a concretion between each constriction. Only one of these had caused perforation and given rise to this acute attack—the one immediately adjoining the colon.

The third specimen was from a boy, nine years of age; primary attack, very sharp symptoms, operation at the thirtieth hour. There were three concretions separated by more or less complete strictures. The distal one had caused perforation; the orifice was sloughing, and had the case been allowed to go on, no doubt the sloughing process would have quite destroyed the distal end, and if the boy had recovered it was probable the other concretions would have given rise to subsequent attacks. Slitting up the remaining portion of the appendix with the scissors, he called attention to the fact that the strictures separating the concretions did not completely occlude the calibre of the appendix and prevent all drainage. He thought almost all cases of appendicitis could be brought under the usual head of defective drainage. Whether the defective drainage was due to concretion, to stricture, or to flexure of the appendix, beyond that point one was likely to have disease. In almost all cases some such explanation was to be found. It was a rare thing to find a case in which the whole length of the canal was wide open and drainage into the colon was perfect.

ASSOCIATION OF AMERICAN PHYSICIANS.

Eleventh Annual Meeting, Held at Washington, April 30, May 1 and 2, 1896.

A. JACOB, M.D., OF NEW YORK, PRESIDENT.

First Day, April 30th.

The President's Address.—DR. A. JACOB, in his address, first referred to the work of the association. Whatever conduced to make up internal medicine, from the special biological study of a coccus to the prognosis in a particular disease, from the etiology of a morbid condition to its therapeutics, from the consideration of a local disorder to that of public hygiene, was well represented in the programme. He found it far from difficult, though perhaps superfluous in the presence of the representatives of what was best in American medicine, to express in a few words what he considered to be the relation of medicine as it was exhibited in this association and on its programme to medicine as it was taught and practised, either divided or in its specializations, and of this association to its national sister societies. At a time when a number of national special organizations had been in existence several years, it was founded, he took it, because the leaders felt that the natural tendency to the division of scientific labor should be, not checked, but guided by a controlling hand. From this point the president's remarks related chiefly, either directly or indirectly, to the dependence of specialties upon general medicine. He once asked one of the wisest members of the association what he had done in a certain case. The answer was, among other things, "I prescribed a surgeon." Even surgery belonged to medicine; only its art constituted a specialty. The advance of internal medicine growing out of special study was illustrated by reference to the work of Laen-

nec, Auenbrugger, Skoda, Wunderlich, Hebra, Karl Ludwig, Schmidt, Wormley, Richardson, Brown, Frazer, and others. We were amply justified in believing that internal medicine would soon reap many of the fruits grown on the fields of biological, and especially bacteriological, laboratory work, but which had thus far been harvested by external medicine only.

The normal vital processes depended upon two powers, the cells and the blood. The very structure and function of the former was acted upon or built up by the latter. Thus it appeared, as our master Virchow had but lately pointed out, that finally we returned to a species of humoral pathology, but not, indeed, to the crazes and diatheses of old. The president hoped soon to see a great work on hæmato-pathology containing the demonstration of the connection of external causes of every description which were working their general changes in the blood and through it in the tissues. Most of that book would be chemical. We would meet our old acquaintances leucin, tyrosin, lactic acid, etc. We would learn that the injection of chloroform and ergotin caused tetany in animals, that there were phosphorous symptoms resembling acute yellow atrophy of the liver, and the explanation of these and many other relationships.

The association had lost during the year Dr. James Edmund Reeves and Dr. J. West Roosevelt, both of whom had done valuable work and exhibited a highly scientific spirit.

Pasteur Memorial.—On motion of Dr. STERNBERG, the secretary, Dr. Huhn, was requested to receive contributions to the Pasteur memorial.

Vivisection before Congress.—Dr. SAMUEL C. BUSEY, of Washington, called the attention of the association to the bill before Congress which would prohibit vivisection in the District of Columbia. It was a matter of interest to the entire profession of the country, not alone to that in the District of Columbia. The Humane Society, which had presented the bill to Congress, accompanied it with a memorial signed by many physicians, bishops, and others throughout the country, favoring absolute prohibition of vivisection. Dr. Busey moved that a committee of five be appointed to memorialize Congress in opposition to the bill. The motion was adopted unanimously.

The president appointed Drs. Welch, Vaughan, Edes, Pepper, and Theobald Smith.

The "X" Ray in Medicine.—Dr. F. H. WILLIAMS, of Boston, showed an improvised tube made of a roll of cardboard with black velvet over one end, tungstate-of-calcium diaphragm, for use as a fluoroscope in connection with the Crookes tube. Dr. Williams related three cases of pulmonary tuberculosis in which he had been able to make out by physical examination an area of dulness, etc., in one lung, and by use of the fluoroscope had confirmed the diagnosis. The diseased area was darker than the remainder of the lung as viewed by means of the "X" ray. By the same means he had confirmed the diagnosis of hypertrophy of the heart as determined by percussion. One surgical case was related—bullet located by the fluoroscope in the arm, then removed by a surgeon.

The "X" Ray not a Germicide.—Dr. GEORGE M. STERNBERG read a letter from Dr. Stone, medical officer at Fort Leavenworth, giving results of experiments on bacilli with the "X" ray. They were negative—the bacilli developed under culture as freely as those not exposed to the "X" ray.

Dr. WILLIAMS said a similar result had been obtained by Mr. Keith, of Boston. Replying to a remark of Dr. Ernst upon the newspaper accounts of a depilatory effect, Dr. Williams said he had exposed his own head to the "X" ray and had lost no hair in consequence.

Dr. OSLER had had some gall stones exposed to the

"X" ray, held in the hand or rolled up in beefsteak, and the picture failed to show them.

Dr. WILLIAMS said he had had no experience with the "X" ray in gall stones.

Leucomain Poisoning—Continued.—Dr. B. K. ROCHFORD, of Cincinnati: "In a paper read before this association last year I made the assertion that leucomain poisoning is a most important form of auto-intoxication, which may manifest itself in at least three distinct but closely allied clinical forms, viz.: (a) A true migraine or leucomain headache. (b) A migrainous epilepsy or leucomain epilepsy. (c) A migrainous gastric neurosis or leucomain gastric neurosis.

"My studies during the past year have not only convinced me of the truth of these assertions, but they have also strengthened the belief which I had at that time that leucomain poisoning is largely responsible for the yet larger group of nervous symptoms so commonly associated with chronic alcoholism, chronic lead poisoning, and with other phases of the so-called gouty or uric-acid diathesis.

"The purpose of this paper is to present the evidence upon which this opinion is founded."

Cases were related of what is commonly called bronchial asthma, of lead poisoning, of alcoholic poisoning, and certain other conditions with nervous manifestations, in all of which during the attacks the urine contained xanthin, paraxanthin, and possibly other poisonous elements. These poisons were determined by chemical tests and by their effects on mice. The latter showed stupor, followed by slight muscular twitching, passing into tonic or tetanic convulsions. During the whole period there was intense dyspnœa, finally death. During the intervals between the attacks (with absence of nervous manifestations) there was absence of the poisons in the urine. Dr. Rochford said it had always been difficult to explain the headache and pain symptoms of lead poisoning by direct action of the lead on the tissues. He thought they were due to the xanthin, etc., circulating in the blood, the presence of which had been determined by his investigations. It was probable these poisons were present in the blood just before death in many instances. The urine never produced the characteristic toxic symptoms in mice when tests proved absence of the poisons named. It was an interesting fact that in ordinary epilepsy the xanthin bodies were absent, whereas in that form of nervous epilepsy which was intermittent with headaches they were present.

A Toxicogenic Germ Found in Ice Cream, and Its Chemical Products.—Drs. VICTOR C. VAUGHAN and GEORGE D. PERKINS, of Ann Arbor. In August, 1895, they had been furnished with some of the cream which had poisoned about fifty people at a social gathering. The symptoms were quite different in some respects from those observed in other cases of like kind. Among them, were nausea, vomiting, diarrhœa, pain in abdomen with the vomiting, feebleness of heart action, coldness. None died. In the cream they had found and isolated a bacillus, whose action they had studied upon animals, and had attempted to isolate the chemical poison. While they had been only partly successful in the latter, they had at least become convinced that the poison was not identical with any which had yet been obtained from milk or any of its products. Some of this in a man into whom it had been accidentally introduced had caused marked temporary symptoms of poisoning, and very slight symptoms in animals.

A Statistical and Experimental Study of Terminal Infection.—Dr. S. FLEXNER, of Baltimore, in this paper gave the result of bacteriological examinations in 793 post-mortem examinations made at Johns Hopkins College Hospital by Dr. Welch, Dr. Councilman, the reader, and others. Cultures were made

from various cavities and organs. Bacterial organisms might have been present in some, absent in others, but negative results did not necessarily mean absence.

Out of the 793 autopsies, 255 were in chronic heart or chronic Bright's disease, or the two combined. The result in 213 was positive, in 42 negative. In kidney cases of bacterial general infection the table showed streptococcus in 16 cases, staphylococcus aureus in 4, *M. lanceolatus* in 6, gas bacillus in 5, gonococcus in 2, etc. In heart cases without kidney disease, streptococcus was present in 9, *M. lanceolatus* in 2, staphylococcus in 1, bacillus coli in 1, etc.

Among local infections with chronic heart or Bright's disease were peritonitis, pleuritis, pericarditis, etc. Different bacteria were not infrequently present in the same organ. The source of entrance of the germs was known in some instances.

The paper as a whole brought forward evidence showing that in a very large proportion of cases the terminal event in the history of the disease was a bacterial infection, and that besides the local infectious inflammatory processes not uncommonly met with in the serous membranes, upon the endocardium, and in the meninges, examples of cryptogenetic infection likewise occurred and actual septicæmias were not infrequent. The experimental part of the paper referred to the bacteriological quotient exhibited by the blood serum of healthy human beings as compared with that of those who had suffered from some of the chronic diseases under consideration. There seemed to be diminished antitoxin power of the serum in the cases of chronic disease, more especially with regard to the staphylococcus aureus. In regard to this coccus it was observed also that the blood serum after passing through the placenta possessed no bactericidal properties.

DR. STERNBERG remarked that the latter observation, namely, that blood after having passed through the placenta had lost its bactericidal properties, favored the view which he had been supposed to entertain, that these proteid bodies when once in the circulation might perhaps be retained indefinitely.

DR. BORTON, on the other hand, cited an authority according to whose observations immunity had been transmitted from mother to offspring, presumably through the foetal circulation, and Dr. Flexner admitted that his own remarks applied with little force except to the staphylococcus aureus.

The Influence of Acute Alcoholism on the Normal Resistance of Rabbits to Various Forms of Infection.—DR. A. C. ABBOTT, of Philadelphia, said his experiments in the direction suggested by the title of his paper had been carried out in the laboratory of the University of Pennsylvania, at the instigation of a committee of fifty to investigate alcoholism. Several difficulties had been encountered, among them that of determining when the rabbits had received just enough alcohol, etc. The following was his summary:

"Under the daily administration of ethyl alcohol to the stage of intoxication, the normal vital resistance of rabbits to particular forms of infection and intoxication is seen to be diminished, while to other forms of infection and intoxication it is little, if at all, affected. This diminution of resistance is most marked in alcoholized animals that are inoculated with cultures of streptococcus pyogenes (erysipelas), an observation that accords with the results of clinical experience with alcoholic subjects suffering with phlegmonous and erysipelatos inflammations."

The Identity of the Streptococci and a Description of a New Variety.—DR. H. C. ERNST, of Boston, in this paper, took ground against the assumption that all streptococci were the same, varying only in intensity of virulence or in minor characteristics. In support of his view Dr. Ernst described what he called

the streptococcus aureus liquefians, a coccus which he had isolated in a case of fatal puerperal sepsis. Its appearance under culture was golden yellow, the chains were longer than the ordinary but becoming shorter under successful inoculations in rabbits.

Conditions Influencing the Appearance of Toxin in Cultures of the Bacillus of Diphtheria.—DR. THEOBALD SMITH, of Boston. "Any positive additions to our knowledge of the formation of poisons or toxins by bacteria, however slight, are of considerable importance, because the explanation of the nature and of the action of antitoxins seems likely to be delayed until those of the toxins are forthcoming. It is from this point of view that I present some facts, in part already published by others, which favor or oppose the accumulations of toxins in culture fluids. We have no reason to believe that the action of diphtheria bacilli on mucous membranes differs from that manifested in cultures. A complete knowledge of the favoring and inhibiting influences upon toxin formation might possibly furnish us with antitoxic weapons other than those now contained in antitoxin serum of the horse."

The author's conclusions were: 1. In ordinary peptone bouillon the best means of obtaining a concentrated toxin from diphtheria bacilli is to first eliminate the muscle glucose, preferably by allowing the beef to partly decompose. 2. A working hypothesis which interprets the variable phenomena of toxic production very satisfactorily assumes the toxin to be an intermediate product of metabolism of the diphtheria bacillus consumed in the course of growth. When the life of the culture is long drawn out by the presence of muscle sugar, the toxin is formed slowly and in part disappears, but may be made to reappear by adding more peptone. When the life of the culture is made short by keeping it in an alkaline medium and favoring aerobic growth, much toxin is produced and but little consumed. This hypothesis places all the phenomena on a strictly biological basis, and makes oxygen, acids, etc., act upon the bacteria by favoring or inhibiting their activity, and not upon their products. 3. The virulence and toxicity of diphtheria cultures are probably identical and should signify the toxin-producing power of diphtheria bacilli. 4. The increase in virulence of bacteria in mixed cultures may in most cases be due solely to a change of the culture fluid by one bacterium favorable to the toxin-producing power of the other. 5. The production of disease by bacteria should be studied quantitatively in bouillon as free from muscle sugar as possible, to which definite quantities of dextrose have been added. The amount of muscle sugar present is always to be determined by control cultures.

Diphtheria Antitoxin Sometimes Found in the Blood of Horses not Injected with Toxin.—DR. B. M. BOLTON, of Philadelphia, had been led to make observations upon this subject by the fact that some horses had shown violent reaction to injections of toxin which had little effect upon others. Injection of the serum in animals showed immunizing power by that taken from horses manifesting little reaction, and *vice versa*. Both classes of horses, however, seemed equally useful for the purpose of furnishing antitoxin serum when they had been passed through the regular toxin treatment.

In reply to Dr. Jacobi, he was unable to say whether the age of the horses had any bearing upon the amount of natural immunizing power of their blood serum.

Diphtheria Antitoxin Obtained by Electrolisis.—DR. B. M. BOLTON also read a paper which corroborated the observation that the prolonged action of a weak electrical current upon diphtheria toxin produces a certain amount of antitoxin. This antitoxin had not been produced of sufficient strength to be of prac-

tical use because of the large quantity which would have to be injected. As the antitoxin had been produced by the interrupted and not by the continuous current, two French observers had suggested that the change was not chemical, but caused by rapid vibratory action.

The Significance of Pathogenic Spirilla in American Surface Waters.—DR. A. C. ABBOTT, of Philadelphia. "An important obstacle in the settlement of the controversy concerning the relation between the spirillum cholerae asiaticæ of Koch and the many varieties of similar spirilla that have been discovered in the surface waters of western Europe since the late epidemic of cholera in Hamburg, is the fact, as pointed out by Dunbar, that many of these vibrios have been discovered in waters of localities in which cholera had been present or of those in which cholera subsequently made its appearance. It is of manifest importance that surface waters of localities that have not been visited by cholera at either a near or comparatively remote period should be subjected to careful investigation from this standpoint, in order to determine if similar vibrios are present in them also.

"With this in view the more polluted end of the Schuylkill River has been subjected to such study, with the result that a spirillum has been detected that possesses all the morphological, cultural, and pathogenic-group characteristics of the suspicious spirilla discovered in European surface waters.

"That this organism can have nothing to do with cholera is evident, as the last visitation of cholera to this city was in 1873, when eight cases were reported, six of which were of doubtful nature.

"In the event of an outbreak of Asiatic cholera in this country, it is essential for us to be familiar with the characteristics of spirilla present in polluted surface waters at times when the disease is absent, and it is for the purpose of obtaining such data that I make this contribution, hoping to induce other American bacteriologists to give special attention to our surface waters from this standpoint."

The Treatment of Anthrax in Rabbits by Intravenous Injections of Nucleinic Acid.—DRS. V. C. VAUGHAN, CHARLES T. MCCLINTOCK, and GEORGE D. PERKINS, of Ann Arbor, were the authors of a paper, a synopsis of which was presented by Dr. Vaughan. The nucleinic acid was obtained from a yeast grown by brewers. It was important that it should be pure. Some of the rabbits which had been inoculated with anthrax were used for control tests. Into the jugular vein of one set a stronger solution (ten per cent.) of nucleinic acid was injected, of another set a weaker solution. Nearly all the former died, fewer of the last named, while most of those injected with the stronger solution of nucleinic acid recovered.

Second Day—May 1.

Two Varieties of Tubercle Bacillus from Mammals.—DR. THEOBALD SMITH, of Boston. One of the cultures was obtained from a bull, the other from a bear through the guinea-pig. The nasua (bear) culture was presumably from the human subject, or the animal had been an intimate household pet of a man now dead of tuberculosis. The bovine bacilli were different from the nasua bacilli in nearly every culture examined, in being shorter and less curved. This difference was also manifest in preparations of a bovine culture isolated in 1886, which had been retained for this purpose. Furthermore, bacilli from a culture of human tuberculosis from Dr. Trudeau closely resembled the nasua bacilli and differed from the bovine bacilli.

A number of important questions were raised, he said, by these observations, but of these only one concerned

us here, that of the relation between human and bovine tuberculosis and the transmission of the latter to man. This question might be put in the following form: Were cattle attacked by different races of tubercle bacilli, or was there but one race adapted to the bovine body?

Koch regarded the tubercle bacilli in man and those in cattle as identical. Dr. Smith was inclined to the view that bacilli differed. The cultures which he had described had demonstrated this in an unmistakable manner.

Regarding the possibility of milk being a cause of transmission of tuberculosis, he called attention to the necessity for more information along the following lines: 1. The existence of races of tubercle bacilli (both human and bovine). 2. The identity or non-identity of bovine and human tubercle bacilli. 3. The effect of bovine tubercle bacilli on man. This problem could be attacked by cultivating bacilli from a case of tuberculosis contracted by drinking milk and testing them on cattle, as he had done. 4. More evidence on the subject of milk infection by tracing the source of the disease in infancy more carefully and by searching for primary foci of tuberculous infection at all autopsies on children. 5. Any existing difference between the disease produced in early life by human and that presumably due to bovine tubercle bacilli.

DRS. VAUGHAN, PEPPER, STERNBERG, and ABBOTT made some remarks, expressive of agreement with the author that these bacilli might be different.

A Case of Parasitic Chyluria with Filaria Sanguinis Hominis Nocturnæ in the Blood.—DR. F. P. HENRY, of Philadelphia, related the case, which occurred in a female, aged twenty-nine, who in early life had lived in South Carolina and Florida, and had never been outside the United States. It was, therefore, an indigenous case, the first one in Philadelphia; the infection had probably occurred about the age of twelve; the chyluria first manifested itself shortly after normal labor. The filariæ were present in the blood of the mother alone, not in the milk, nor in the blood of the infant. They were not very numerous, and were present at night only. The urine was repeatedly examined, but only once contained filariæ. These showed remarkable vitality under cold and heat, and one specimen under the cover glass showed movements after ten days.

Regarding treatment Dr. Henry said that thymol and quinine had no effect on the disease. The same was true of methylene blue, which had been reported of value in one case by Flint. In this regard his observation was in accord with that of Lavarán.

Dr. Henry referred to Manson's writings, wherein it is stated that the embryo came from an adult parasite over an inch long, located perhaps in the thoracic duct; that the mosquito became infected and alighted on water, and that it was by drinking the infected water that man became infected. There were three forms—the diurnal, the nocturnal, and the persistent.

Dr. Henry thought it possible for this affection to become indigenous to Philadelphia and other sections of our country, although the likelihood of so large a body of water as the Schuylkill containing a sufficient number of the parasites to infect many of those who drank of it was not great. As a precaution the water could be filtered. The author thought it would be undesirable, if practicable, to kill the mother parasite in the patient's system, as this would result in fatal abscess.

DR. ANDREW H. SMITH, of New York, mentioned a case in which the filariæ were found in the blood both day and night, but they were always dead.

DR. HENRY could offer no reason why the filariæ should have been dead unless compressed under the cover glass.

The Diagnosis and Treatment of Dilatation of the Stomach.—DR. WILLIAM PEPPER read the paper, which was a joint production by himself and DR. ALFRED STENGEL, also of Philadelphia. It was concluded that the term dilatation was applicable to a larger number of cases than was generally admitted. Various modes of determining dilatation and enlargement were referred to, but those considered most valuable by the authors were distention with atmospheric air introduced through a stomach tube with bulb like that of the Davidson syringe, percussion, both simple and aided by the stethoscope, and by the introduction of a certain amount of water in mapping out the lower border of the stomach. There was under normal conditions considerable variation in the size of the stomach and in its position. The lower border of the stomach should not be below the umbilicus, but such location did not necessarily mean dilatation. Illumination offered little. The authors pointed out dangers in the use of mechanical methods to determine the size and tonicity of the stomach. It was surprising how many cases of pyloric stenosis from one cause or another had improved under operation, usually performed for them by Dr. White, although essentially nothing may have been done by way of removing the obstruction. Lactic acid was not necessarily evidence of carcinoma. In auscultatory percussion the patient could hold the bulb of the stethoscope and move it about while the physician made percussion and mapped out the organs.

A Case of Leucocythæmia.—DR. J. H. MUSSER and DR. JOSEPH SAILER, of Philadelphia, were the joint authors of the paper read by Dr. Musser. The case was a typical one of leucocythæmia, except that there was general anasarca. There was also diarrhoea for a few days at the beginning, due to ulceration of intestine. Myelocytes were found and the differential count of blood cells was characteristic. The spleen and liver were enlarged and tender, and these organs and the glands showed characteristic changes at autopsy. Besides increased formation of white cells there seemed to have been a process of blood destruction toward the end. It was supposed the marrow would show disease, but it did not. The arteries were markedly atheromatous, the thickening having appreciably increased during the several months of illness.

Notes on the Treatment of Pernicious and Other Forms of Essential Anæmia.—DR. I. N. DANFORTH, of Chicago, was the author of this paper, which was read by Dr. Lyman. A case of pernicious anæmia was related, with account of treatment. Iron had no effect except to irritate the gastro-intestinal tract.

Acid preparations of phosphorus were of temporary benefit; hypophosphites were harmful, causing gastric irritation. Intestinal antiseptics were of considerable temporary service, beta-naphthol being representative. Yellow bone marrow produced unmistakable benefit within a week, and this increased to the end of two weeks, when it became disagreeable to the patient. It was soon continued in the form of glycerin extract, and again the blood improved. But the patient tired of the remedy, discontinued it, and did not have a relapse for some months; then the bone marrow, being renewed, failed and the patient went on to exhaustion. He was confident that but for the bone marrow she would have died eighteen months sooner. Arsenic had failed. In another case of anæmia bone marrow caused marked temporary improvement, but there was a relapse and the patient, a doctor, died.

The discussion, which was participated in by Drs. A. M. SMITH, JANEWAY, GRIFFITH, HARE, and others, went to show that bone marrow, arsenic, and other remedies sometimes apparently produced marked improvement in forms of essential anæmia, but the im-

provement was only temporary, and sometimes was observed after treatment had been left off.

Certain Effects of Bromo-Toxication.—DR. S. WEIR MITCHELL, of Philadelphia, in this paper related a number of observations of the effects of large doses of bromide upon the nervous system. The father of an epileptic girl increased the dose of bromide from sixty grains a day to one hundred and fifty grains. She was found with the head dropped forward, in a state of mental hebetude, saliva running from the mouth, eyes open, pupils enlarged, and hard to arouse; the general epileptic convulsions had ceased, but the lesser fits were quadrupled in number. Withdrawal of the bromides restored her to her normal condition, which was usually rather intelligent. A nurse by mistake gave two epileptic children nearly one hundred grains of lithium bromide a day for mild epilepsy. In a few days both were brought into a condition of extraordinary feebleness of mind and body. Neither of them could walk; the left leg was more affected than the right. They were restored within two or three days after withdrawing the bromide.

Dr. Mitchell related equally striking cases of melancholia, with and without suicidal tendency, produced by large doses of bromides in some form. The enfeebling effect of bromides upon the muscular system and upon the mind, or irritation of the latter, was sometimes seen in alcoholics or those suffering from insomnia who had taken the bromine in the form of bromo-caffeine, bromide of sodium, etc. Habitual drunkards sometimes said they became more drunk on one side than on the other, oftenest on the left. A similar result was observed sometimes from excessive doses of the drug under discussion.

DR. E. G. JANEWAY, of New York, had seen three deaths result from excessive doses of bromide. Autopsy revealed no other cause. He knew of two other fatal cases through coroners. The amount used per day in the former cases had been one ounce, six drachms, and three drachms, continued some time. He had seen less serious results in other cases, in alcoholism, in typhoid fever, etc.

DR. HOBART A. HARE, of Philadelphia, said the studies of Ringler and some others had shown that potassium was the base of some of our more poisonous salts. He had known citrate of potassium given for several days produce alarming nervous depression in a child. In some of the cases related by the author some other bromide was used than potassium; yet he would suggest that physicians should use the bromide of potassium less than they were accustomed to do, and employ, say, sodium bromide.

DR. LYMAN corroborated the author's observations, and DR. W. H. THOMSON related three cases of temporary mental alienation due to large doses of bromides.

DR. C. L. DANA had not noticed that difference in the effects on the nervous system between potassium bromide and other bromides suggested by some writers. It was well known that iodide of potassium was often administered in very large daily doses, over three hundred grains, without much depression. Small doses of bromide of potassium, etc., often had the reverse effect of depression, causing a feeling of cheer, and it was his custom to begin with only four to six grains.

DR. MITCHELL said he had never been able to see more depressing effects from potassium salts than from other bromides.

Idiopathic Osteopsathyrosis in Infancy and Childhood.—DR. J. P. CROZER GRIFFITH, of Philadelphia. Osteopsathyrosis, or fragilitas ossium, is a comparatively rare condition at any time of life, or dependent upon any cause. It is far most frequent in advanced years, and is then due to an atrophy of the osseous

structure. At other periods of life it may be symptomatic of other affections, such especially as certain nervous diseases, osteomalacia, rickets, etc.

There are still a number of cases remaining which may be called idiopathic, since they can be traced to no recognizable cause, and as most of them are not associated with any atrophy or other visible pathological alteration of the bone. Some of these occur in youth and adult life, but the writer confined himself to those developed in early years and reported a case in point.

This was of a boy who had several fractures, occurring at or soon after birth, and who, up to the age of two years, had suffered in all seventeen or eighteen fractures. The slightest cause was sufficient to produce them, and it was necessary to keep the child upon a stretcher, so great was the fragility of the bones. The general health of the subject was good, and there was no constitutional affection in him or in his parents which accounted for the condition.

The writer then reviewed the cases of unusual fragility in infancy and childhood of an idiopathic nature, which have been reported in medical literature, and discussed the etiology, pathology, diagnosis, and treatment, so far as it is possible with the little light which the reports shed upon the subject. The cause is, as the title indicated, unknown. With regard to pathology and diagnosis, the writer discussed briefly the relation of the disease to rickets, to osteomalacia, and to imperfect osseous development. The latter is especially exemplified in some of the reported instances of multiple intra-uterine fractures. The disease may, and probably does, bear a certain relation to these pathological conditions, but it is distinct from them. Certainly, in his opinion, it is not at all of a rickety nature, although it may sometimes be combined with rickets.

DR. LYMAN, of Chicago, said he had once seen a man of twenty-five, who up to that age had sustained thirty-three fractures. There was also a tendency to bending of the bones, shown in the pelvis, tibia, etc. The tibia was translucent to a ray of light. General health good. No fractures for two years, or since age of twenty-three.

Painful Points in Gouty Compared with Rheumatic Arthritis.—DR. WILLIAM H. THOMSON, of New York. The differential diagnosis between gout and rheumatism was usually simple enough in typical cases, especially when of recent origin, but in many chronic cases, especially when the joint complication had become general, it was not easy, and one frequently found gouty patients treated for rheumatism. For many years he had found in the two classes of cases a difference in the location of the pain on manipulation of the joint. This was more especially noticeable in the knees, but also in considerable degree in the ankle and other articulations of the extremities. In gout the greatest pain was elicited by transverse pressure on the condyles. Not so in rheumatism. Here in the knee the typical points of tenderness were around the tendon of the quadriceps just above and below the patella, and posteriorly along the tendon of the hamstring muscle. It seemed natural to infer that gout affected the periosteum chiefly, while rheumatism involved more the synovial structures.

Habit Chorea.—DR. WHARTON SINKLER, of Philadelphia, had found one hundred and forty-three cases of habit chorea out of a total of ten hundred and fifty-nine cases of chorea appearing at the dispensary, and from a study of these and other cases he had come to the conclusion that this affection was a true chorea, not a form of spasm or tic, as believed by some writers, including Gowers, for the greatest proportion of cases occurred during the second decade, none after the fourth. There was a heart murmur in thirty-two of the one hundred and forty-three cases. Season appar-

ently exerted no influence. Among medicinal measures, arsenic to the point of toleration was most efficient.

DR. OSLER thought the author had taken a step backward. The French were right in separating habit spasms from choreas. Personally he thought they were entirely different.

DR. PUTNAM agreed with Dr. Osler. Habit spasm described by the author belonged to the degenerative type far more than did chorea.

DR. WEIR MITCHELL said he had never been much wedded to names, and he was indifferent whether the condition was called habit spasm or chorea, but he had certainly seen cases of chorea pass into habit spasm—if you like.

The President, DR. JACOBI, had written upon the subject of facial spasms (which character most of Dr. Sinkler's cases showed) in 1886, and expressed the belief then, which experience had further confirmed, that the condition was due to irritation from nasal catarrh. Treatment of the catarrh was most productive of relief from the spasm habit.

A Method of Curing Tic Douloureux.—DR. CHARLES L. DANA, of New York, in this paper first referred to the rebelliousness of these cases to medicinal and even surgical treatment. One patient, who had had the Gasserian ganglion removed by a surgeon, suffered not only a recurrence of the pains but became insane. The method by which he and Dr. Elliot, of New York, had cured seven out of eight cases consisted in hypodermic injections of very large doses of sulphate of strychnine. Rest abed was enjoined during the treatment, and freedom from care. Strychnine injections were given once a day, beginning with, say, one-thirtieth of a grain and rapidly increased to one-fifth or one-fourth of a grain. Patients could not usually take more than one-fourth of a grain. The large doses had a peculiarly anodyne effect, quieting the patient for hours like morphine. Usually the injections were discontinued after five or six weeks, but might have to be renewed once or twice again. On discontinuing it he gave iodide of potassium, nitroglycerin, or other drugs. In a former paper he had impressed the importance of arterial sclerosis in neuralgic tics.

As this treatment had only been begun two years ago, he was hardly justified in speaking of the result as a cure, yet it had been in such contrast with that obtained by other methods that he wished to emphasize its value.

The Relation of Migraine to Neuralgias of the Fifth Nerve, Especially Supra-Orbital Neuralgia.

—DR. J. J. PUTNAM, of Boston. It was of that form of neuralgia which came with intermittency that he spoke. The cases had been described, he said, under the head migraine, but as a matter of fact they differed in history, course, and treatment. Early writers had regarded it as malarial, but malaria was rarely the cause. True, cases occurred in groups, but this was due to season of the year. Occasionally it began in youth and continued at intervals for years. The pain was deep, sometimes over the entire area of the supra-orbital nerve; sometimes most at one spot, as on the brow; occasionally associated with pains in other parts of the head. Usually there was an attack in the morning, a lighter one in the afternoon, perhaps a light one at night. Some persons had two attacks every year, spring and autumn. In relation to catarrh, it usually came on when the latter had reached the frontal sinus, but sometimes it was quite independent of catarrh. Sometimes there was a family history of this or migrainous affection. Treatment: quinine in large dose four hours before attack, arsenic, attention to nasal passages.

DR. W. H. THOMSON referred to his paper on fluid extract of ergot in periodic neuralgias.

DRS. FUSSELL and JANEWAY thought the author's treatment was not against a malarial origin.

DR. S. W. MITCHELL said he had many years ago given some attention to the time of occurrence of periodic neuralgias and their relation to the weather.

Virulence of the Diphtheria Bacilli Occasionally Found in the Throat in Cases Presenting the Clinical Features of Tonsillitis.—DR. H. M. BIGGS, of New York. Even to-day it was difficult for the profession to be convinced of the diagnosis of diphtheria without characteristic anatomical appearances. Studies by the health department demonstrated the following classes of cases: 1. Healthy throat in which diphtheria bacilli were present—almost always limited to persons who had been brought into close relation with diphtheria. 2. Simple anginas in which virulent diphtheria bacilli were found. From a sanitary point of view these cases must be regarded in the same sense as true diphtheria. 3. Cases of true diphtheria, presenting the ordinary clinical features of diphtheria with the bacillus. 4. Angina with membrane, no bacillus being found, could be regarded as diphtheria from some other organism than the Loeffler bacillus.

It was often asserted that by the result of bacteriological examination the total number of cases of diphtheria had been largely increased by the addition of cases of mild angina, which before such examinations had been regarded as simple angina. But it appeared from the studies of the health department that for a certain period one hundred and seven cases reported by physicians as diphtheria were excluded from diphtheria by result of bacteriological examinations, whereas during the same period only eighty cases had been pronounced true diphtheria on bacteriological examination which physicians had reported as false diphtheria.

The paper was intended particularly to emphasize the fact that all inflammations of the mucous membrane associated with the presence of the Klebs-Loeffler bacillus should be included under diphtheria, without reference to intensity or extent of process or character of exudate.

DR. WELCH, of Baltimore, said that in Baltimore bacteriological examination had confirmed the diagnosis of the physicians in over ninety per cent. of the cases when this had been of undoubted diphtheria.

Prognosis in Pneumonia.—DR. ANDREW H. SMITH, of New York (see p. 649).

DR. H. A. HARE, speaking of the comparative value of cold bath and coal-tar antipyretics, said the difference was that with the latter the oxidation processes were held in check and leucocytosis interfered with, while the reverse was true with the cold bath when there was indication for its use.

DR. WELCH thought it was not the local process in lobar pneumonia which gave rise to the severe symptoms, but rather the poison acting upon other vital parts of the body. Thus far the destructive influence of fever referred to by Dr. Hare rested upon ingenious theory rather than upon bacteriological basis.

The micrococcus lanceolatus of pneumonia stopped growing in a temperature above 41° C., but this did not occur in an ordinary case of pneumonia.

DR. A. H. SMITH thought too much attention was given to the treatment of the temperature in pneumonia. It was high too short a time to add much to the danger, and usually could be let alone. If one decided to use an antipyretic, cold water was appropriate.

Third Day—May 2d.

A Case of Œsophageal Hemorrhage with Cirrhosis of the Liver.—DR. G. M. GARLAND, of Boston, related the case. It occurred in a well-built man. The first hemorrhage was in 1888; recurrences followed up

to the fatal one in 1895. The loss of blood by vomiting and passage with the stools was great, amounting at times to more than two quarts. Toward the end particularly the blood came from the mouth almost constantly, without the act of vomiting. When he first saw the man in 1889 he and other physicians diagnosed ulcer of the stomach, and it was not until later that cirrhosis of the liver was discovered. At autopsy no source of hemorrhage was discovered except from the much dilated and very thin-walled veins at the lower end of the Œsophagus. The histories of three other cases had been furnished him by Dr. Osler and physicians in Boston. The dilatation of the Œsophageal veins leading up to hemorrhage depended upon obstruction to the portal circulation from cirrhosis of the liver.

DR. GRAHAM, of Toronto, mentioned a case reported by McKenzie, of fatal Œsophageal hemorrhage from varicose veins in a boy of seventeen years whose liver was healthy.

DR. S. WEIR MITCHELL had also seen a case of fatal Œsophageal hemorrhage in a child, in which autopsy revealed nothing but marked varicosity of veins in the lower part of Œsophagus. The attending doctor exclaimed, "Œsophageal piles!"—which graphically described the appearance.

DR. JACOBI remarked that a close study of the structural changes in the Œsophageal veins was desirable in order to explain why the hemorrhage should have been from these instead of from the more usual situation in the veins of the stomach, etc., in connection with cirrhosis of the liver. It was not improbable that those veins were atheromatous, for while atheroma was much more common in the arteries, it did sometimes occur in veins.

On Absorption in the Stomach.—DR. S. J. MELTZER, of New York, obtained the following results in some experiments relating to stomach absorption: Six to ten milligrams of strychnine, even on the full stomach of a rabbit, pylorus open, were sure to bring on tetanus in a short time. But where the pylorus was closed, even so large a dose as two hundred milligrams remained many hours in the stomach, producing no effect. It seemed, therefore, that the mucous membrane of the stomach did not absorb even the smallest fraction of strychnine. Next to the stomach, the mucous membrane of the Œsophagus absorbed strychnine poorly, while the pharynx absorbed it rapidly, as did also the rectum—the latter even better than the small intestine. Prussic acid was absorbed very well from the stomach even when the pylorus was ligated and the stomach full. Perhaps this was due in part to its volatility, as gases were readily absorbed from the stomach, and in part to a hemorrhagic condition which it caused on the surface.

THE PRESIDENT had for over fifteen years administered five or six drops of Magendie's solution without the addition of water, for the relief of cough. Morphine in the stomach had no such effect—facts which tended to support Dr. Meltzer's conclusion, based on experiment, that absorption was more rapid from the mucous membrane of the pharynx than from that of the stomach.

Congress Memorialized.—DR. WELCH read the report of the committee of five and resolutions were adopted protesting against action by Congress looking to the prohibition of vivisection in the District of Columbia.

Increase of Pneumonia.—DR. J. J. PUTNAM, of Boston, presented charts showing death rates from pneumonia in Massachusetts, Glasgow, and England. The death rate from this disease in some thirty years had increased five hundred per cent. The charts showed that it was far more important than, for instance, typhoid fever.

Dispensaries and Their Use in Teaching.—DR. M. H. FUSSELL, of Philadelphia, in this paper described the method of utilizing dispensary cases in teaching medical students at the University of Pennsylvania. Formerly, as in most other dispensaries, the cases had been instructive only to the attending physician and his private students, if to anybody. Now the history of every case was recorded on a printed formula, students in different classes were required to again take the history and make a diagnosis and suggest treatment. An instructor pointed out their errors. Where there was scarcity of material the ward instructor went over the case before the whole class, but the superiority of the first plan was evident, since it brought the student face to face with the patient, as he would be compelled to be in actual practice.

Mescal Buttons.—DRS. D. W. PRENTISS and F. P. MORGAN, of Washington. An outline of the paper was given by Dr. Prentiss. They had been led to investigate the properties of the mescal button (*Anhalonium Lewinii*) by an account of its use among the Indians on the Rio Grande given them by Professor Mooney. The Indians ate the button during religious ceremonies, remained in a dreamy state over night, had hallucinations of color vision, and felt no depressing effects subsequently. It produced wakefulness rather than sleep. Medical students who had partaken of it testified to like effects. The authors suggested the following therapeutic uses: For general nervousness, nervous headache, irritable cough, colicky pain, hysterical manifestations, in mental depression, etc. Five or six beans were taken to produce the hallucinatory effects. One had relieved irritable cough in an asthmatic patient over night. The bean or button grew on a cactus of the name given.

Many other papers were read by title.

Officers Elected.—Dr. J. M. Da Costa, *President*; Dr. F. C. Shattuck, *Vice-President*; Dr. J. Minis Hays, *Recorder*; Dr. Henry Hun, *Secretary*; Dr. W. W. Johnston, *Treasurer*; Dr. J. E. Atkinson, *Councillor*.

A vote of thanks was extended to the retiring president for the services which had made this meeting perhaps the most successful one in the history of the association.

Chlorosis and Fever.—Dr. Guomi has recorded eleven cases of chlorosis accompanied by febrile symptoms. From his personal observations and a careful study of the literature of the subject he thinks he is justified in presenting the following conclusions, which have been published in the *Deutsche Medizinische Zeitung* of March 16, 1896: Although the true pathogenesis of chlorosis has not yet been definitely established, it is nevertheless apparent that this disease is an *anæmia sui generis*. It is a primary affection of the blood. The coloring matter of the blood is always much reduced, but this reduction is not strictly proportionate to the diminution of the number of the red blood corpuscles. Simple chlorosis is not accompanied by fever. Often, indeed, the temperature may be subnormal. When fever does occur some intercurrent disease or secondary action must be thought of. The most frequent disease producing a rise of temperature in connection with chlorosis is an apex trouble of the lungs, generally tuberculous in character. Next in frequency we find constipation. In the latter case free purgation speedily results in the disappearance of fever. In chlorosis slight ailments of a thoroughly benign nature may result in a rise of temperature. There is no distinct clinical type of febrile chlorosis. In animals in whom artificial blood changes have been engendered, a febrile movement is never observed. The urine in chlorosis often shows a diminution in the amount of urea excreted. The excretion of uric acid is also reduced.

AMERICAN MEDICAL ASSOCIATION.

Forty-Seventh Annual Meeting, Held at Atlanta, Ga., May 5, 6, 7, and 8, 1896.

R. BEVERLY COLE, M.D., PRESIDENT, IN THE CHAIR.

General Session. First Day—Tuesday, May 5th.

(By Telegraph to MEDICAL RECORD.)

THE opening session of the forty-seventh annual meeting of the American Medical Association was called to order by the President, DR. R. BEVERLY COLE, of San Francisco, at 10:30 A.M. After a prayer by REV. DR. McDONALD, the address of welcome on behalf of the medical profession of Atlanta was delivered by DR. F. M. RIDLEY.

Address of Welcome.—He spoke not only for Atlanta, but also for the great commonwealth of Georgia, one of the thirteen original States which threw off the British yoke at Yorktown and proclaimed liberty to the world. An incidental allusion to the struggle of the patriots in Cuba was received with a burst of applause. The speaker referred to the former meeting of the association in Atlanta. This was not very many years ago, yet wonderful changes had come into the science of medicine since that time—greater perhaps than any that had been heralded in all the previous history of the healing art. We owed nearly all the progress which had ever been made to the labors of specialists. Galvani, Koch, Pasteur, Lister, and Georgia's own Crawford Long were all specialists, and indeed it is only by a division of labor that any great achievement can be accomplished. This meeting was a meeting of specialists who had come from all parts of the country to announce their own discoveries and to learn of those of others. It was with the expectation of great results from their deliberations that he had been commissioned by this happy, prosperous, proud old commonwealth to bid them thrice welcome.

Welcome by the Citizens.—An address of welcome on behalf of the citizens of Atlanta was then delivered by HON. JOHN TEMPLE GRAVES. He had enjoyed, he said, the address of Dr. Ridley, but he had also been greatly comforted by the prayer, for when a thousand doctors as determined looking as those he saw before him met together, a prayer was by no means amiss. He did not speak for the doctors, but simply as a citizen, and as such he thanked God the licenses of those before him had all expired by geographical limitation, for if his hearers should join forces with the doctors of Atlanta there would not be an appendix safe in the city to-night. Atlanta was so healthy that the doctors had perforce nothing to do but to chase the appendix. They were all rich, but had no patients, and would only occasionally, to keep their hand in, percuss a sound liver or feel the beats of a full and regular pulse. Atlanta was the city of conventions, and it was always happy to extend its hospitality to all, even politicians or commercial men, but it had never been so glad to welcome any as it was this great convention of America's representative physicians.

The report of the committee of arrangements was then read by DR. WESTMORELAND, after which came the president's address.

The President's Address.—The President, DR. R. BEVERLY COLE, then delivered his address. Eighteen years ago, he said, in this same city of Atlanta, he was elected to the office of first vice-president, his superior officer being then Prof. Lewis A. Sayre, of New York. He looked upon it as an interesting coincidence that it should be his privilege to return to this Athens of the South to round out his official connection with the American Medical Association. Af-

ter a few words in praise of the city and of its wonderful growth since the period referred to, Dr. Cole entered upon a discussion of some questions of importance to the profession.

A Lowering of the Standard of the Profession.

—The tendency of medical men of to-day is to depreciate the dignity of their profession and bring it to a commercial level. When the older members of the profession were yet young, to be a physician was considered the greatest of honors and the holiest of callings; the medical man was looked upon by those whose ailments he ministered to in a sense as a saint, and his word was law, to disobey which was a mortal offence. The doctor was a gentleman as well as a scholar, commanding the love and esteem of his patients and the community in which he lived. This was then the rule, but now it is the exception, certainly as to the scholarly attainments of the physician. The reason for this is undoubtedly to be found in the multiplicity of so-called medical schools with their bidding for patronage, the low standard of preliminary requirement, the limited curriculum pursued, and the superficial examinations. The ranks of the profession are overcrowded, and those who are in any manner qualified, together with many who are not, in order as speedily as possible to become prominent, resort either to the making of books while they are still without the least experience in the science of which they profess to treat, or organize medical schools and thus increase the evil of overcrowding. The only remedy for these growing evils is governmental interference and regulation of medical education, or at least of professional examination. In some of the States recent new departures in this direction have been made or attempted, giving evidence of a disposition to correct errors, but the orator questioned whether these new requirements and regulations were faithfully carried out. He feared the announced advance was not much more than a species of advertisement, intended to appease the anxiety and restless spirit of those who have been laboring assiduously to bring about a revolution in our system. New York, it is true, has taken through its board of regents a decided step forward, which if religiously carried into effect would meet and correct many defects, and the result would be highly satisfactory. Illinois also, and perhaps some other States, he said, are making efforts in the same direction, but the results of his observations were not such as to encourage him in the hope that the steps taken by these and some other States would be generally followed in the proper spirit.

Cut Rate Insurance Examinations.—Dr. Cole then referred to the cutting down of examiners' fees by two of the large life insurance companies. "No man qualified to make a thorough examination, if he be properly imbued with the value and importance of his service, will or can assume the responsibility attaching to his function as an examiner without an adequate return. Surely the fee of five dollars was small enough, and the offer of any sum less is simply an insult to an educated physician, and a bid for cheap, unscientific service, which can be had from the ranks of the unskilled and irresponsible. But these are not such services as a sound insurance corporation desires. Let every examiner plant his feet and decline employment without adequate compensation. Let it be published to the world that certain companies employ incompetent men, or, paying cut fees, receive cut services, and very soon will they discover their mistake and be brought to a realization of the fact that the best goods always command the best prices."

Foreign Practitioners in the United States.—Another question which the speaker thought the association should seriously ponder is that of reciprocity in medical practice between this and foreign countries.

In looking over the medical registers of the various countries, he said, it may be seen at once that the number of graduates of the medical schools is greatly in excess of the number of men engaged in the practice of their profession. If we seek the cause of this discrepancy we shall learn that from three-fourths to seven-eighths of those who do not remain at home come to America.

In Germany the examination for the doctorate is much less stringent than the "Staats-Examen," the former conferring no rights and the latter being indispensably necessary to entitle the candidate to the privilege to practise in the empire. Consequently the student who desires to emigrate may pass the required examination for the degree of doctor in medicine and then come to America and pose as a learned foreign doctor. Foreign governments, however, do not grant to Americans the right to practise in their countries. While these governments are to be commended for imposing a high standard of medical qualifications, yet it is a poor rule that does not work both ways. "I would not," Dr. Cole said, "have Canada, Great Britain, Germany, France, or any other country having these regulations and requirements recede one iota, but would rather encourage them to even higher aims; but I would have our own people adopt a similar system, through which foreigners coming here will be required to undergo a rigid examination before a national board of examiners, composed in part of the heads of the medical bureaus of the United States army and navy and partly of men appointed by the President or chief of the bureau of education, which board would have its headquarters at Washington."

The Moscow Congress.—The speaker then referred to the action of the committee of the Twelfth International Congress in excluding the English language, and said that this action was an insult to English-speaking people.

Clerical and Medical Bolstering of Quack Medicines.—The proneness of the clergyman to endorse every sort of proprietary and patent medicine should be overcome. The minister, whose duty it is to look after the soul, thinks he must take care of the body as well, and he not only presumes to prescribe for the sick man, but also to give his official endorsement to every nostrum put upon the market, without having the slightest knowledge of its composition or the nature of the disease for which he recommends it. If he conscientiously discharges the duties properly attaching to his own profession, he will have all he can do, leaving the investigation of disease and its treatment to those whose profession it is to deal with such matters. This pernicious practice is, however, not limited to the representative of the church, but extends to the ranks of our own profession. Medical men, particularly the younger, often attach their names to general recommendations and grant individual certificates setting forth the wonderful results of the employment of certain proprietary medicines. This is less excusable still, since such certificates carry with them the prestige of professional endorsement. It is in itself a gross violation of the code by which we profess to be governed. All such violations on the part of members of the association should be made punishable, the orator contended, at least to the extent of reprimand if not of expulsion.

Unjustifiable Operations.—In concluding, Dr. Cole deprecated the tendency to mutilate the human body without just cause and to cut off or out every offending part, instead of seeking to drive out the disease and save the part. It has been said that all there is of value in our science is in surgery, and even the laity are often eager for operation, as affording the speediest means of relief of their ills. Abdominal operations are sometimes not only justifiable but absolutely nec-

essary; nevertheless, it cannot be denied that they are performed too frequently. The mere fact that the improvements and advancements in surgical procedure make them relatively safe should not be accepted as an argument, and the speaker said that he looked with suspicion upon those who claim that, as no use can be assigned to the appendix vermiformis, it should be removed upon the slightest provocation or excuse.

On motion a committee was appointed to consider the suggestions contained in the address and report at a subsequent meeting.

Antivivisection Legislation.—A memorial was presented from the Medical Association of the District of Columbia, praying that the American Medical Association take action to prevent the passage of a bill now before Congress prohibiting vivisection in the district. If this passed it would close the biological laboratories in the district, including those of the army, navy, and marine hospitals service, and would prevent all serious medical research in Washington.

A committee was appointed to consider the memorial and recommend action of the association.

The Jenner Centenary.—DR. MARCY, of Boston, brought up the question of the Jenner centenary celebration, which it had been announced would occupy the whole of Thursday. Several gentlemen had prepared addresses, upon request of the committee appointed four years ago by this association, but upon arrival here the members had found no mention of the centenary in the official programme, and nobody seemed to know when the celebration would be held. Dr. Marcy moved, therefore, that the entire afternoon of Thursday be devoted to the delivery of the addresses prepared for the occasion. This was strenuously opposed by many who would hear of no interference with the work of the sections for which they had prepared papers to be read. After much discussion it was decided to hear the addresses after the general session on Thursday morning.

Pan-American Congress.—DR. READ, of Cincinnati, announced that the second Pan-American Medical Congress would be held in Mexico City in November next, and he moved that delegates be appointed by the association to attend the congress.

Election of the Secretary.—DR. LOVE, of St. Louis, asked what had become of a proposed amendment to the constitution, which he had offered in Baltimore, making the office of secretary one to be voted for each year. There was no notice of such amendment on the official programme. The secretary in reply read from the minutes of the Baltimore meeting to prove that the proposal of the amendment had not been acted upon and had therefore died. On motion the meeting was then adjourned.

Second Day—Wednesday, May 6th.

The session was called to order by THE PRESIDENT promptly at ten o'clock.

DR. WESTMORELAND reported in behalf of the committee of arrangements, and the secretary read the usual announcements. An invitation was received from the secretary of the Louisiana State Medical Society to the association to attend the annual meeting of the society in New Orleans on May 12th. It was accepted with the thanks of the association.

Early Publication of the Programme.—It was resolved that hereafter the programme of the annual meeting of the association be published in the journal two weeks before the date of the meeting.

The Permanent Secretary.—DR. LOVE, of St. Louis, brought up the question of the secretaryship at the Baltimore meeting. He said the nominating committee had recommended the election of a new secretary

of the association, but it was ruled that this was unconstitutional, and he called now for the reading of the section dealing with this matter. It was read and was found to provide that the permanent secretary should hold office until death, resignation, or removal by a two-thirds vote of the members present at an annual meeting. The speaker then said that he had introduced a proposed amendment to the constitution, providing for the annual election of the secretary. This proposed amendment was not ruled out, yet it was not printed in the programme to be acted upon at this meeting, and he called for the reading of the minutes of the Baltimore meeting for an explanation of the omission. Upon the suggestion of THE PRESIDENT the further discussion of this question was postponed until after the address on general medicine.

The Importance of Fevers in the South.—DR. WILLIAM OSLER, of Baltimore, delivered the address on medicine with this title. Referring to the fact that humanity has but three great enemies—fever, famine, and war—he mentioned the interesting circumstances that three of the greatest benefits conferred on mankind have been in connection with fevers—the introduction of cinchona, the discovery of vaccination, and the announcement of the principle of asepsis. He then discussed in a brief manner the way in which the continued fevers had been differentiated during the present century, and paid a tribute to the part which had been played in this work by the American students of Louis, the great French physician. The prevalence of typhoid fever in the United States was such as to make it to-day the fever of the country. He referred to its apparent increase in the smaller towns and in the country districts, and suggested that the profession in these parts should give very much more attention to local health matters. In the Southern States for many years typhoid fever was not supposed to be very prevalent, but of late physicians had begun to recognize that the increase was widespread.

He spoke of the necessity of knowing fully the complex and varied symptomatology of the disease, and of the unfailing accuracy with which it could now be differentiated from malaria. He then spoke of the contrast between the treatment of typhoid fever at the beginning and at the close of the century, and criticised strongly the so-called abortive and antiseptic plan of treatment which had been advocated in the journal of the association. He then discussed the importance of the study of malaria in the South from the new standpoint of Laveran's researches, and urged that the younger physicians should equip themselves thoroughly for this work, referring to a number of problems which yet awaited solution. Lastly, the speaker took up the question of the existence of a third type of fever in the South independent of both typhoid fever and of malaria. He held that the evidence was not conclusive as to its existence. On the contrary, the trend of opinion seemed strongly in favor of the view that it was typhoid fever, although he confessed that further work was needed before the problem could be declared settled.

On motion the thanks of the association were extended to DR. OSLER for his most suggestive address.

The Secretary Again.—The discussion of the alleged suppression of Dr. Love's amendment was then resumed. The speaker said that the matter was one which he would gladly not have taken up, but when once he had introduced a resolution he was not willing to have it suppressed, especially by the person whom it affected. The representatives of every State in the Union had declared that they wanted a more efficient secretary. One would suppose this would be sufficient to elicit a resignation from the undesired officer, but, as it was not, other measures must be taken.

DR. MCLEAN, of Detroit, ex-president of the asso-

ciation, was asked if he had ruled the amendment out of order at the Baltimore meeting, but he said he had laid down all responsibilities at the close of that meeting and he refused to reassume them by answering this question now.

On motion of DR. QUIMBY, of Jersey City, the question was laid upon the table for one year.

Another Alleged Suppression.—DR. BURT ELLIS, of San Francisco, said that he also had introduced an amendment to the constitution at the Baltimore meeting, but there was no mention of this in the programme, and he called upon the secretary for an explanation. The secretary was about to read the amendment referred to, when a Philadelphia member objected strenuously. The objection was sustained. Then the reading of the minutes of the Baltimore meeting was called for, but was hardly begun when the hour for adjournment came. The adjournment was appointed for noon, in order to give the members an opportunity to attend an old-fashioned Georgia barbecue at Lithia Springs.

Third Day—Thursday, May 7th.

The session was called to order shortly before ten o'clock. A call was made for the reading of the minutes of the Baltimore meeting and this at once gave rise to a dispute as to what constituted the official record, whether the printed report in the journal of the association or the written minutes in the secretary's book. As the discussion threatened to consume the entire session, the whole matter was laid on the table and the members were left in doubt as to whether or not there were any authoritative records of the proceedings of former meetings in existence.

The Report of the Trustees.—DR. MONTGOMERY then read the annual report of the board of trustees. It covered a period of eight months ending December 31, 1895. There was at that time a balance in the treasury of \$10,084.98. The loss to the journal by the new policy as to advertisements, enforced upon the trustees at the Baltimore meeting, was estimated at over \$3,000. It was thought desirable that permanent quarters for the association be secured, and the trustees asked permission to establish a building-fund. They also suggested that members of the association who have been on the list for forty years and over should be entitled to be made honorary members and receive the journal free of cost. On motion this report was accepted, and the trustees were granted permission to establish a building-fund.

Rush Monument Committee.—DR. GEORGE H. ROHE presented a report of the committee of the monument fund, which stated that it had increased by \$776 during the year—\$550 from the new subscriptions and \$126 from investment of funds already in hand. The total amount is now \$3,787.

DR. HOLDEN, of Vermont, renewed his offer of last year to be one of twenty to give \$100 each to complete the amount named for the erection of the monument.

Restriction of Entertainments.—DR. MCLEAN, of Detroit, said that while all the members were very appreciative of the hospitalities of the different cities visited by the association, he felt nevertheless that the entertainments were, and should remain, secondary to the scientific work, and therefore moved that future reception committees be instructed to provide for no entertainments which could in any way interfere with the work of either general sessions or sections. A resolution of similar import was read from the executive committee and was adopted, with the amendment that the secretary be instructed to have the resolution printed upon the programme of all future meetings.

A second resolution of the executive committee pro-

vided that no entertainments be given on the first evening of any annual meeting, so that the dinners of the sections might be given on that evening.

Next Annual Meeting.—The nominating committee made a partial report to the effect that the next annual meeting will be held in Philadelphia on the first Tuesday in June, 1897.

The officers nominated were Dr. Nicholas Senn, of Illinois, *President*; Dr. George M. Sternberg, U. S. Army, *First Vice-President*.

The "Address on Medicine" was assigned to Dr. Austin Flint, of New York; the "Address on Surgery," to Dr. W. W. Keen, of Pennsylvania; "State Medicine," to Dr. Jerome Cochrane, of Alabama.

Address on Surgery.—DR. N. SENN, of Chicago, selected for his subject, "Some of the Limits of the Art of Surgery." He said modern surgery has attained a degree of development which entitles it to the distinction of a science and an art. As a science surgery is of recent date, having been founded and perfected during the last half of the present century. As an art it has been practised for centuries by our ancestors with credit to themselves and benefit to the injured, the crippled, and the sick. When Boyer wrote the introduction to his classic work on surgery he expressed the conviction that surgery had reached perfection. How little did he dream of the great changes that would be wrought in the practice of his cherished profession by the progressive pathologists and surgeons of the next few generations! What a contrast between the standing of the surgeon of today in the community, in the profession, and from a scientific aspect, as compared with his colleagues of only a century ago!

Modern pathology and the new science of bacteriology have laid a permanent foundation for the steady and progressive advance of surgical thought and work. The inflammatory complications of wounds and the etiology of most of the chronic infective surgical diseases have been cleared up by bacteriologic investigations during the last twenty-five years, and the knowledge thus gained has enabled the surgeon to prevent in a large measure the former, and to treat intelligently and with increased success the latter. The wonderful development of operative surgery during the same time is one of the earliest and richest fruits reaped from the vast and fertile field sown and cultivated by bacteriologists of every civilized nation. Antiseptic and aseptic surgery has smoothed the rough and rugged pathway of the practical surgeon. The almost universal introduction of antiseptic and aseptic precautions in the treatment of wounds in private and hospital practice has nearly eradicated the three greatest enemies of the surgeon of old, namely, hospital gangrene, erysipelas, and secondary hemorrhage, and minimized the occurrence of suppuration and its manifold immediate and remote complications.

In considering special work, Dr. Senn said that the *furor operativus* manifested in special departments of surgery, and its obvious results, render the standing and legitimate scope of the general surgeon very uncertain and indefinite at the present time. Let the general surgeon turn to the right or to the left, advance or retreat, and he finds himself on reserved territory. As for the physician, he is expected to answer night calls, prescribe for diarrhoea and whooping cough, watch cases of typhoid fever, measles, scarlatina, and small-pox, and should complications arise and he fail to report to the proper authority he renders himself liable to censure. Much of this ill-applied energy in the surgical world has resulted in detriment to patients and in retarding actual surgical progress. Operative surgery has been carried to extremes.

The speaker next passed on to the consideration of antisepsis and asepsis, saying that the marvellous re-

duction in the mortality following injuries and operations which the present generation has witnessed is largely due to the prevention of wound complications by the employment of efficient antiseptic and aseptic precautions.

Phlegmonous Inflammation.—The employment of antiseptic and aseptic precautions in the treatment of intestinal and accidental wounds has greatly diminished the frequency of progressive phlegmonous inflammation and its often disastrous consequences. That such an occurrence cannot always be prevented, even by the most scrupulous care and attention to details, every surgeon of experience is willing to admit. In the most virulent forms of phlegmonous inflammation the most heroic and timely treatment, local and general, is often fruitless in averting speedy death. In the most desperate cases the surface lesion is often insignificant; the infection, following the lymphatic pathways, soon reaches the general circulation, resulting in death from acute sepsis before any decided gross pathologic lesions have appeared at the seat of infection or in any of the internal organs. How rapidly general infections may take place has been shown by the experiments of Schimmelbusch, who found micro-organisms in the spleen five to ten minutes after infection of a wound. Colin and Niessen demonstrated by their experimental work that amputation a few minutes after inoculation of the ears and limbs of rabbits with pure cultures of anthrax did not protect the animals against generalization of the disease. Such cases in the human being fortunately are seldom met with, but when they do occur the art of surgery is powerless in arresting the progress of the disease. Parenchymatous injections of solutions of carbolic acid or corrosive sublimate along the course of the inflamed lymphatics and the internal use of alcohol in heroic doses promise the most, but in the great majority of cases the extension of the infection continues and terminates speedily in death from general sepsis. In the treatment of diffuse phlegmonous processes it is now customary to make free incisions, establish free drainage, and disinfect the cavity by flushing it freely with a safe and yet efficient antiseptic solution, such as a saturated solution of acetate of aluminium, a three-per-cent. solution of carbolic acid, or a 1 to 5,000 solution of corrosive sublimate, and apply to the part hot compresses wrung out of the same solution.

Closely allied to phlegmonous inflammations of the soft tissues is acute suppurative osteomyelitis, as it is caused by the same kinds of microbes and results in more or less extensive destruction of tissue. The etiology and pathology of this disease are now well understood, and upon them is based the early operative treatment, which is generally indorsed by the profession at the present time. The early removal of the osteomyelitic product by operative interference, as a rule, relieves pain promptly, limits necrosis, guards against joint complications, and recognizes the danger from general sepsis. Immobilization of the affected limb in proper positions, and the exposure of the osteomyelitic focus by the use of the chisel or gouge as soon as a positive diagnosis can be made, are the modern resources which have succeeded in greatly reducing the mortality from this disease as well as its immediate complications and remote consequences.

Tuberculosis of Joints.—The speaker said that only a few years ago the surgeons who paid special attention to diseases of the joint were enthusiastic advocates of early resection or arthrectomy in cases of tuberculous joint affections. It was believed that such medical treatment would succeed in eliminating the local affection and in preventing the extension of it to distant organs by reinfection from the peripheral focus. Statistics prove that these hopes are unfounded, and conscientious surgeons have substituted largely in

place of operative treatment conservative measures. A change in practice has taken place, largely due to the beneficial effects obtained from intra-articular and parenchymatous injections of iodoform and glycerin. Dr. Senn has resorted to this treatment in hundreds of cases with the most satisfactory results. In about one-half or two-thirds of all cases of uncomplicated joint tuberculosis this treatment proves curative. It is of special value in the treatment of tuberculous abscess in communication with a tuberculous joint or bone. From one to three or four injections usually suffice in obliterating the abscess cavity.

Cancer.—Coming to the subject of malignant tumors, he said the essential cause of carcinoma and sarcoma remains to be discovered. The science of surgery must first divulge the true nature of tumors before we can expect a decided advance in their more successful treatment. The essential features of the modern treatment of malignant tumors he summed up very briefly as follows: Operate early and thoroughly. The treatment of inoperable sarcoma by injections of the sterilized toxins of the streptococcus of erysipelas and the bacillus prodigiosus has not equalled the expected results.

Brain Surgery.—In the orator's opinion, operative interference is absolutely indicated in fractures of the cranial vault under the following circumstances: (1) All open fractures, including gunshot and punctured fractures. (2) Depressed fractures attended by well-defined symptoms caused either by the depression or intra-cranial complications. (3) Rupture of the middle meningeal artery with or without fracture of the skull. The indiscriminate use of the chisel and the trephine in the hands of the inexperienced practitioner is fraught with danger and should not be encouraged by teachers and expert surgeons. Cerebral localization and aseptic surgery have made it possible to treat a few intracranial lesions successfully by direct operative interference.

Surgery of the Abdomen.—The abdominal cavity was largely a *terra incognita* to the surgeon of less than half a century ago. To-day it is the favorite battle-ground of the average surgeon and the select field of the so-called abdominal surgeon. Notwithstanding the wonderful improvements in the technique of operations upon the stomach, partial gastrectomy and pylorotomy have yielded anything but encouraging results. In nearly fifty per cent. of cases the patients subjected to radical treatment for malignant disease of the stomach succumbed to the immediate effects of the operation. Dr. Senn said he had opened the abdominal cavity for the surgical treatment of malignant disease of the stomach nineteen times, and in only one case did he find the disease limited to the organ first affected, and in this case the general health of the patient had been so broken down by the obstructive pyloric carcinoma as to contraindicate a radical operation. In all of the remaining cases a pylorotomy or partial gastrectomy was out of the question, as the carcinoma of the pylorus or stomach had extended to adjacent organs or had given rise to regional infections through the lymphatic glands sufficiently to contraindicate any attempts at radical removal of the disease.

The Generative Organs.—Dr. Senn next considered at length the organs of generation, saying that the greatest onslaught of modern surgery has been upon the organs of generation, male and female. The future historians who will record the work of many gynecologists belonging to the present generation will have reason to express their surprise at the disasters the art of surgery has produced when plied in cases far in advance of a scientific foundation. Here and there we hear a feeble voice protesting against the indiscriminate surgery upon the organs of generation of the opposite sex, but the mutilating work continues in

spite of such opposition and well-meant advice. Dr. Senn said that when he arraigned the gynecologists before such a representative body, composed of representative medical men of this country, for innumerable and inexcusable transgressions of the rules which ought to govern and control the art of surgery, he did not include the scientific, conscientious workers in that department of surgery, but his remarks applied to a class of routine operators which had recently grown to alarming dimensions, not only in this but in nearly every country which has been penetrated by the dim rays of so-called bold surgery. The new generation of doctors no longer finds satisfaction in practising in some rural district. Its members have their eyes on large cities and have heard of enticing fees paid to specialists for insignificant operations. Why buy a horse and saddlebags when a fortune awaits them in devoting themselves to a specialty, more particularly gynecology? The recent graduate or the man who has become disgusted with country practice seeks a much-employed gynecologist, follows his work for a month or two, and returns to his prospective field of labor a full-fledged specialist. He is now ready to extirpate the uterus, remove ovaries and fallopian tubes, sew imaginary lacerations of the cervix and perineum. Do you suppose that such an aspirant for gynecological fame ever examines a woman and finds her perfect? Is it not true that in nine out of ten cases he finds something to mend? In order to show that the speaker's views were real and not visionary, he related a few instances.

Laceration of the perineum is another subject of the amateur gynecologist. The extent of laceration and the symptoms caused by it are not always carefully considered in deciding upon the propriety of an operation. Dr. Senn said that to do an operation on the perineum in five or seven minutes still serves as an attraction for the lookers-on in many private hospitals and gynecological clinics. He fully appreciates the value of a well-performed perineorrhaphy in proper cases, but he was equally well satisfied that the operation has often been performed unnecessarily, and that it requires more than five or seven minutes to perform it properly.

The frequency with which women are being castrated is one of the most flagrant transgressions of the limits of the art of surgery. It is not unusual for one operator to exhibit from five to six normal ovaries as the result of half a day's work. All kinds of excuses are made for this kind of surgery. Dr. Senn asked the question: Where is this wholesale unsexing of our female population going to end? The beginning of the end has come. The army of women minus their essential organs of generation is beginning to raise its voice against such mutilating work. The number of women who willingly sacrificed their ovaries to restore their shattered health without securing the expected relief has increased to an alarming extent. This sad experience has made the gynecologists more desperate and bold. It is difficult to say where this rage for the removal of the female sexual organs will end, or what organ will be the next battle-ground for the aggressive gynecologists. The clitoris, the vagina, the cervix uteri, the ovaries, the fallopian tubes, the uterus and its ligaments have successively passed through a trying ordeal of operative furor. What the next fad will be is impossible to foretell.

He could not dismiss the subject of genital surgery without making a strong plea in favor of conservatism in the treatment of prostatic hypertrophy. Reference was made to the experiments of J. W. White on animals in this connection; also to the clinical experience of Ramm, whose results covered about the same ground as those of White, and who urged the utility of castration as a legitimate surgical procedure in the treat-

ment of non-malignant obstructive enlargements of the prostate. The reason the speaker alluded to this subject was this: he feared that when this operation on aged men for hypertrophy of the prostate becomes common property and is indorsed by surgeons of high standing, it would be misapplied in the same way, probably to a lesser extent than the removal of normal ovaries. Men will be castrated for stone in the bladder, chronic cystitis, and malignant disease of the bladder. It is not always easy or possible to make a positive differential diagnosis between simple hypertrophy of the prostate and some of the conditions which simulate it so closely. In doubtful cases it appears to him it would be advisable to make the diagnosis sure by a suprapubic cystotomy before resorting to a mutilating operation, rather than remove the testicles and later discover a bladder or encysted stone or malignant disease of the bladder or prostate. Castration is such an easy operation that every tyro in surgery will be tempted to perform it upon willing subjects suffering from obscure affections of the bladder complicating hypertrophy of the prostate gland. The Ramm-White operation deserves a fair trial at the hands of competent surgeons, in well-selected cases, but Dr. Senn apprehends evil in the future, not so much from the proper use as from the abuse of this procedure.

Finally, he had written and delivered his address with malice toward none, in the interest of the suffering portion of our population, for the true advancement of the science and art of surgery, and as a plea for recognition of the good work done by the great mass and backbone of our profession, the modest, toiling, inadequately remunerated general practitioner.

On motion the thanks of the association were extended to the author of the address.

Miscellaneous Business.—The report of the secretary was then read and accepted. That of the treasurer was not read, as this officer was absent.

Vivisection.—The report of the committee to consider the memorial of the Medical Association of the District of Columbia was presented. The committee presented a resolution that the association should protest earnestly against the adoption of Senate Bill 1,552, prohibiting experiments on animals in the biological laboratories in the district, and asked that an impartial investigation be made to determine whether charges of cruelty brought by the Humane Society, upon the strength of which the passage of this bill was urged, were true or false. DR. GARCELON, of Maine, opposed the resolution, but after an eloquent appeal by SURGEON-GENERAL STERNBERG it was unanimously adopted, and the secretary was instructed to send a copy of the resolutions at once to the commissioners of the District of Columbia.

The Cleveland Medical Society Outlawed.—The judicial council reported that no members of the Cleveland Medical Society should be admitted to membership in the association as delegates from that or any other society. A communication was received from the New York County Medical Association reaffirming its allegiance to the code of ethics of the American Medical Association.

The Jenner Centenary.—The programme of the Jenner centenary, to which it had originally been decided to give all of Thursday, was then read, and it was agreed that the rest of the day should be given to the addresses. The general session was then adjourned and the Jenner celebration was begun. The character of Dr. Jenner and the history of his discovery of the protective value of vaccination were the subjects of the first address. In the absence of its author, DR. N. S. DAVIS, the paper was read by DR. DIDAMA, of New York State. The paper recounted the well-known facts concerning the life of Jenner and the

manner of his great discovery, the story being told in an interesting way. DR. H. R. STORER, of Rhode Island, gave a list of the Jenner memorial medals, tablets, portraits, etc.

Scientific Researches Relating to the Specific Infectious Agent of Small-pox and the Production of Artificial Immunity from this Disease was the title of an address by GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General U. S. Army.

The experimental evidence relating to the nature of the specific infectious agent of vaccine and of variola was reviewed; also that relating to the genetic relation of cow-pox, horse-pox, and small-pox; and that relating to the production of artificial immunity by subcutaneous inoculations with vaccine lymph and by subcutaneous or intravenous injections of blood serum from immune animals.

The following conclusions were stated:

I. Small-pox, cow-pox, and horse-pox are genetically related, being different manifestations of the same infectious disease in different genera of animals (*Man, Bos, Equus*).

II. The specific infectious agent of variola and of vaccinia has not been demonstrated. The extended experimental investigations which have been made indicate that it does not belong to the class of microorganisms known as bacteria.

III. Various bacteria are commonly found in the lymph from vaccine vesicles, obtained either from bovine animals or from man. Among these are the well-known pus cocci, and these micrococci are probably largely responsible for the erysipelatous inflammation and other unpleasant complications which frequently result from vaccination with such lymph.

IV. Lymph preserved in glycerin after a time becomes sterile, so far as the presence of bacteria is concerned, without losing its specific virulence.

V. Immunity may be induced by subcutaneous inoculation of vaccine virus, without the development of a vaccine vesicle; and it is probable that the subcutaneous injection of lymph preserved in glycerin would give protection without any of the septic complications so common as a result of vaccination by the usual method.

IV. The blood serum of immune animals contains a substance in solution which destroys the specific virulence of vaccine virus when brought in contact with it.

VII. This substance is not present in sufficient amount to make the blood serum of immune animals available for the production of immunity in man (or for the treatment of variola). But it may perhaps be obtained in a concentrated form by chemical methods, and in that case would be likely to prove useful, and possibly specific, as a therapeutic agent in this disease.

VIII. The immunity resulting from the subcutaneous injection of vaccine lymph, like that resulting from vaccination in the usual manner, is gradually developed and is not complete until the eighth day,¹ depending, no doubt, upon a multiplication of the infectious agent in the body of the susceptible animal. On the other hand, the immunity resulting from the transfusion of a large amount of blood serum from an immune animal to a susceptible animal is an immediate result of such transfusion.

"The Propagation, Preservation, and Use of Vaccine Virus" was the title of an instructive address by DR. FRANCIS E. MARTIN, of Massachusetts. "The Statistical Evidence of the Value of Vaccination to the Human Race" was the title of the closing address by DR. EUGENE FOSTER, of Georgia. The celebration

was under the auspices of the American Medical Association and of the American Public Health Association.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A CENTRAL HOSPITAL BOARD—CHARITY ORGANIZATION SOCIETY—UNJUSTIFIABLE ARREST OF A DOCTOR—ARMY SURGEON'S GRIEVANCES—DR. FOWLER'S CASE—AN INDIAN CASE—DECIDUOMA MALIGNUM—CLINICAL SOCIETY—SARCOMA—SEROUS EXPECTORATION AFTER OR DURING PARACENTESIS.

LONDON, April 17, 1896.

A MEETING was held on Monday to consider the often-talked-of scheme for establishing a central hospital board for London. The meeting was called by the Charity Organization Society, a self-constituted body which has a certain number of supporters. At the same time this C. O. S., as it abbreviates itself, has inspired a good deal of distrust and here and there of opposition. It began work by offering to inquire into the antecedents and deserts of applicants to subscribers for pecuniary aid, so as to prevent undeserving mendicants from being assisted by several persons while more modest and more deserving sufferers were left unaided or inadequately helped. Out of this grew several modes of action, and the officers of the C. O. S. would like to subject all hospitals and charities to its influence or control. Of course this is sure to be resented, and many most generous persons refuse to have their charities directed by such machinery. It is not always easy to judge, but the C. O. S. certainly inspires no enthusiasm for its work, save in the breasts of its paid officers. I sometimes think its chief use is to provide them with nice berths. We have too many boards and societies, and to have one to report on the others has always appeared to me unnecessary. But to return to the proposal for a central hospital board. Such a plan was recommended by the Lords committee and is regarded with approval by some administrators, though probably on the ground that it would have no authority except to formulate its opinions or recommendations. Howbeit it was, at the meeting six hundred and fifty-eight general practitioners and one hundred and six consultants had filled up the form issued by the C. O. S. in favor of such a proposal. The actual scheme submitted to the meeting was for a board with one hundred and sixty-nine representatives of the medical charities, including five representatives of the general practitioners. What could such cumbrous machinery be expected to accomplish, unless to provide a better berth for the moving spirit of the C. O. S.? It was actually proposed to give representatives to the County Council and to the British Medical Association—the idea being apparently to popularize the notion by getting as many persons of as divergent views as possible to indulge in unlimited talk.

A gross blunder of the police is reported from Edinburgh. They arrested a medical man on a charge of murder by producing abortion. There was no evidence other than that the doctor had attended a woman with whom he had no acquaintance, and who told him she had been taking drugs to produce the miscarriage then going on. The authorities released him after a time, but it seems as if they had been culpably negligent of their primary duties. I fear there is no redress in such a case as this, but surely the procurator fiscal or sheriff ought to be called to an account. The dangers of a doctor's life seem ever increasing.

¹ Experiments of Bédère, Chambon, and Ménard (1896).

The secretary for war (Lord Lansdowne) has declined to reinstate Dr. Fowler, and his case will be brought before parliament. He was dismissed from the army in direct defiance of the regulations. So gross was the case that he was offered an appointment in the colonial service, but this cannot nearly compensate him for the loss of his commission, to say nothing of the unjust stigma. He entered a room and saw some unseemly conduct and remonstrated, with success. He did not report this incident, as the senior captain was present, whose duty it would be. Medical officers have no disciplinary authority outside their own department. A court of inquiry was held. What scapegoat could be found? Of course a doctor, who had no rights. He was accordingly condemned, in spite of the law that no officer or private can be condemned on statements made before such a court. Thus, to gratify the prejudices of combatant officers, a doctor is to be illegally ruined and the higher authorities refuse redress. No wonder vacancies in the army medical department cannot be filled up. It is whispered that Sir R. Buller is a determined enemy of the doctors. He is going to Egypt. If he happens to get wounded or sick he may change his notions as to the value of their services and the respect due to their calling.

Your readers may remember that it is not long ago since a surgeon-major in India was cashiered for asking a married lady when driving out for a kiss. Very improper doubtless, and the combatants concerned in dismissing him must be immaculate examples of British soldiers. Still I am sure that a combatant might have been more imprudent without risking expulsion from the army.

The Obstetrical Society has had a discussion on deciduoma malignum. One or two cases were reported, but they were not free from doubt. In fact, most of our authorities doubt the existence of such a condition. America and the continent supply all we know on the subject. It is thought by some of our ablest observers that a rapidly growing sarcoma is the true explanation of what has been observed. The normal foetal appendages are made up of rapidly growing elements, and this is the character of sarcomata. The microscopic appearances may, therefore, give rise to erroneous deductions. Great stress is laid on the metastases. Those and the primary disease may be malignant, but the question is whether the latter is really decidual. The preparations were referred to a committee for further investigation.

Before the Clinical Society of London on Friday last, Mr. Godlee gave some account of two cases of acute abscess of the liver operated on, both ending fatally.

A case of cranial cyst of sarcomatous origin, no recurrence two years after operation, was shown by Dr. Pitt and Mr. Lane. The patient, in 1891, first complained of a pain in the top of his head, where he found a soft swelling which when it bulged outward formed a tumor. On four occasions it became enlarged and painful, subsiding by the discharge of a considerable quantity of serum through an orifice which formed in the scalp. In November, 1892, the swelling measured about two and one-half by two inches. It fluctuated and also pulsated distinctly. A few days after its contents discharged themselves, about an ounce being collected and examined, when it was found to be simply serous. A depression three-fourths of an inch deep replaced the swelling and was bounded by a thin, irregular, bony margin, which in parts yielded slightly to pressure. In December, 1892, the scalp over this area was freely divided, when a space was exposed which extended some little way beneath the overlapping edge of bone. Covering the whole of the floor, being most abundant at its limits and destroying the overlapping bone, was a quantity

of some material sarcomatous in structure, as verified by subsequent examinations. As the growth was so soft and extensive it was not felt advisable to remove such a large area of bone and dura mater as would be required for its entire elimination, and the wound was closed. Since the operation, except for a temporary leakage of serum and a subsequent attack of erysipelas, the patient has enjoyed excellent health, and he had no return of the headache from which he suffered previous to the operation.

Mr. Makins recalled a case of a patient with a large tumor of the upper jaw, which had formed within a year and was attended by severe hemorrhage. He removed the upper jaw and scraped the base of the skull. It healed up by primary union and the patient left the hospital in a fortnight. He heard nothing more of the patient for between two and three years, when he came back with a large recurrence and an open ulcer with thick edges involving nearly the whole of the cheek. He was told nothing could be done for him and he returned home, where he resorted to some quack remedy. After a time the tumor underwent shrinkage, and in the course of five or six months it entirely cicatrized. The question arose whether or not it was a gumma, but a number of competent microscopists who had been shown the sections were strongly of opinion that the appearances were those of a sarcoma. He believed there were several other cases of the kind on record.

Dr. Samuel West drew attention to albuminous or serous expectoration after paracentesis for serous effusion, and related a case occurring just as forty ounces of fluid had been withdrawn by syphon. The cases of albuminous expectoration differ a good deal *inter se*. The attacks usually come on during paracentesis or immediately after it, sometimes as late as two hours after. They last for a short time, usually not more than an hour or two but occasionally longer. The quantity of fluid varies from a few ounces to even more than three pints. In character it is frothy, like that of acute bronchitis. It contains much mucin and little albumin. The physical signs are those of congestion of the lungs. There appears to be no necessary relation between the duration of the pleurisy prior to paracentesis and the liability to serous expectoration, but as a rule the cases have lasted some little time. It is not to be connected with the use of the aspirator, for some of the cases (as in this) occurred when the fluid was removed by the syphon only. The result is rarely fatal, and among the fatal cases some complication besides the effusion is generally found. The condition seems less common than it used to be twenty or thirty years ago, probably because of the earlier performance of paracentesis. Oedema of the lung is the only satisfactory explanation. In the non-fatal cases this oedema must be due to some transitory condition, and is probably in most cases to be connected with the sudden distention of the lung after it has been collapsed for some time. In the fatal cases some organic lesion is generally found in addition, which would account for the result.

Dr. Hale White related a case of a patient recently admitted, whose chest was full of fluid. As no improvement followed she was aspirated. Soon after she began expectorating this albuminous fluid, and it continued for four or five days in considerable quantities.

Dr. L. Benham said this phenomenon was not met with in oedema from ordinary causes, and suggested as a more probable explanation thrombosis of the pulmonary vessels.

Dr. S. West admitted that in the recorded cases pulmonary thrombosis was very commonly observed, and it certainly looked as if it must be due to some complete obstruction of the vessels. In respect to Dr.

White's case, it was rare for a case to go on several days, forty-eight hours having hitherto been the longest period. Minor cases did not require any active treatment, and in the acuter cases there was no time to do anything.

DR. MCARTNEY'S MEDICAL TREATMENT OF APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. McCartney's contribution to the subject of the medical treatment of appendicitis in the *MEDICAL RECORD* for May 2, 1896, is too important to be lightly considered by any of us, because it shows the earmarks of correct diagnosis and of unbiassed report in showing what opium will really do in real appendicitis. Too large a proportion of cases that are cured by medical treatment are like the European typhilitis cases, not appendicitis at all. Dr. McCartney has apparently diagnosed appendicitis correctly in twenty-four cases and has carried the patients through to an interval stage without a death. For physicians who are not in control of better resources for their patients this heroic opium treatment, like the sweet-oil treatment, certainly merits attention and a place of record in medical history. To be sure, the ground will have to be gone all over again with most of these cases within the next ten years and some of the patients will be lost eventually in their subsequent attacks. Tuberculosis of the appendix, large enteroliths, strangulating adhesion bands, portal embolism, and several other common fatal complications of appendicitis will not down; but, nevertheless, we must all remember what medical treatment did in twenty-four exacerbations of appendicitis. It is, of course, too late in the day to argue that medical treatment should often be substituted for surgical treatment in the cities, where the patient can have skilled surgical attention. Dr. McCartney probably did not mean that. The etiology and pathology of appendicitis are now fully understood and the surgical death rate in skilled hands has been reduced to a fraction of one per cent. in interval cases and in cases operated upon in advance of pus formation or of septic peritonitis, so that we must look to diabetes cases and dilated heart cases and things like that for the surgical death rate. In just such cases, however, I am likely to employ Dr. McCartney's plan in the city. In appendicitis discussions it is interesting sometimes to leave out the question of death rate altogether and talk only of the suffering rate. For instance, in one of Dr. McCartney's cases the abscess fortunately emptied through the bladder. In one of my patients, who had been under medical treatment, the pus fortunately escaped by way of the mouth and the vagina simultaneously, after perforating the lung, but I was obliged to remove the appendix after a subsequent attack, because the patient began to weary of fortunate evacuations of pus. In another one of my appendicitis patients, in whom the whole gangrenous cæcum sloughed off under medical treatment, the pus fortunately escaped through both buttocks, which it perforated after burrowing.

I am sure that if Dr. McCartney could spend the time and the money to acquire facility in operative work which would allow his patients to emerge safe and sound from timely operations, it would save him many a weary ride over the hills—but there's the rub. The general practitioner to-day must have so much information upon so many other things equally important with appendicitis that time is too short to cover the length of art. I much regret that Dr. McCartney in his contribution twice refers to the fee as a motive in surgical work. That idea lowers the caste of his whole article. I do not know a surgeon of importance

who ever thinks of the fee in the presence of life-saving work. We all go out in the stormiest midnight to places where we would not ask an assistant to go. We travel miles by railway to patients who probably cannot even pay our car fare. We all put our hands into our pockets to help some poor devil who cannot pay for hospital board. We all do in the city precisely what Dr. McCartney probably does in the country, but the most fortunate patient is the one who is situated where he can really have the best treatment, and the best treatment in appendicitis cases is not medical treatment of any sort.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, NEW YORK,
May 3, 1896.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a paper on "The Lesions of the Appendix Vermiformis and Cæcum Demanding Surgical Interference," which I read before the section on surgery of the New York Academy of Medicine, November 14, 1892, which, together with the discussion in which the medical and surgical sides of the question were ably represented, was printed in the *MEDICAL RECORD* of November 26, 1892, I said in closing the discussion "that cases should be selected with care, but usually for operation, and that if all of a thousand suspected cases were operated upon, the mortality would probably be fifty per cent. less than in another thousand cases which physicians now let pass without operation."

In the light of a further experience I now believe that if the error of operating upon every suspected case of appendicitis were made, and such operation were done by a surgeon who knows what practical asepsis and careful technique are, the death rate would not be five per cent. With all this, I do not believe that every case is an operative case or that an operation should be advised or permitted in every instance. I hold that a surgeon of ripe experience, or a physician of equal experience, can tell in the vast majority of instances when operation is indicated and the class of cases in which operation can be postponed under careful watching.

I am led to make this communication to the *MEDICAL RECORD* from reading an article by Dr. W. N. McCartney in the May 2d number of this journal, entitled "Appendicitis from a Medical Standpoint," in which the author does me the honor of quoting some of my contributions to this surgical subject. He says that in the *MEDICAL RECORD* of April 28, 1894, I insisted that "appendicitis should always be regarded as a surgical disease." The author further contradicts my statement that the great danger is peritonitis, by saying that "the safety lies in the peritonitis would be more proper, and there is no peritonitis in the fulminant cases," which is a most astonishing proposition. It will probably surprise the surgical profession to know that fulminating appendicitis, which is the most formidable kind, resulting from rapid death of the wall of the appendix, or perforation, in either of which conditions septic organisms pass through the diseased and non-resisting membrane or through an aperture into the peritoneal cavity, will not produce peritonitis.

Dr. McCartney adds that during the past six years he has seen twenty-four cases of appendicitis and that all recovered. I once heard a physician say at a meeting of the American Medical Association, when this subject was being discussed, that he had had seventy-five cases with equally phenomenal success.

I venture to say that Dr. McCartney with twenty-four recoveries in twenty-four cases of appendicitis without surgical interference stands aloof in the history of

medicine. To those of us with whom hardly a week passes without seeing one or more deaths from neglected cases of this affection, it is incredible that any such result could ensue.

I have full confidence in the sincerity and candor of this physician, but I am sure he erred in his diagnosis, and that such teachings as he essays are fraught with danger.

It so happens that in the same number of the MEDICAL RECORD in which Dr. McCartney's paper appears there is published another paper on this subject by Dr. Samuel Lloyd, who presents the question chiefly from the medical aspect of this lesion in an examination of five hundred and fifty-eight cases with two hundred and sixty-three recoveries and two hundred and ninety-five deaths. Of this number two hundred and twenty-six were operated upon, with one hundred and ninety-two recoveries and thirty-one deaths—a mortality of 13.6 per cent. Two hundred and sixty-five were treated conservatively; sixty recovered and two hundred and five died—a mortality of seventy-seven per cent. The author closes by saying—what every reasoning man must appreciate—that this is a dismal showing for the conservative treatment of appendicitis. If those five hundred and fifty-eight had within the first twelve hours of the first symptoms of the attack been turned over to a competent and conscientious surgeon, does any sane man believe that any such mortality rate would have occurred, and can such believe that, had these patients been operated upon, of the five hundred and fifty-eight cases two hundred and ninety-five would have died? Under proper conditions not fifteen in the five hundred and fifty-eight should have perished.

If I may be permitted again to state my views, I would formulate them as follows:

1. Appendicitis is strictly a surgical lesion, and the cases which are permanently cured without operative interference are either mild in type, the process of infection being gradual and limited and of such character that it is rapidly hedged in and arrested by rich plastic exudate with adhesions, the canal of the tube being meanwhile restored, permitting drainage of the infected tube into the cæcum, the plastic exudate subsequently undergoing absorption; or the successful issue is the result of blind chance in the formation of adhesions which are strong enough to force the abscess to break either through the abdominal wall at some point or into the rectum, bladder, vagina, or intestinal tube, all of which conditions are fraught with great danger to life and subsequent usefulness, and all of which can be prevented by early operative interference.

2. There are cases which do not require operation. They belong to the group just mentioned, in which the septic process is mild and in the vast majority of cases readily recognized by the experienced clinician. None the less, these cases should be under surgical observation for operative interference should the symptoms of infection become pronounced. It is probable that the proportion of cases which recovers under so-called conservative management would number about fifteen in every hundred, which might be increased if it were permitted to include cases which recover from a single attack, but which are subject to repeated seizures (recurring appendicitis).

JOHN A. WYETH, M.D.

NEW YORK, May 7.

Deafness.—Any child whose hearing is defective or doubtful should be examined by a medical expert as to the state not only of the ears, but also of the tonsils and naso-pharynx.

Reviews and Notices.

THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. By HENRY ASHBV, M. D. Lond., F.R.C.P., and G. A. WRIGHT, B.A., M.B. Oxon., etc. Third Edition. Edited for American Students by WILLIAM PERRY NORTHRUP, A.M., M.D. New York: Longmans, Green & Co. 1896.

THIS book comprises the detailed management of the surgical and medical diseases in children.

It is divided into thirty-seven chapters and contains about two hundred illustrations, many of which are superfluous.

A great many points have been added in this new edition and a great many articles have been omitted. So, for example, we find a small article on gonorrheal ophthalmia. Page 53 has a new style of nursing-bottle, with a few remarks. We notice that bromoform is not even mentioned in therapeutics of pertussis.

The author omits many new drugs, and it is proper to note that to-day, when antitoxin is considered a specific for diphtheria, that we find the space on page 293 devoted to some device of an American physician to give hypodermic injections of an antiseptic liquid by a many-pointed syringe. In the appendix, page 771, the author gives considerable space to antitoxin. The treatment of diphtheria is gone over, and the author quotes Dr. Welch extensively, whose strongest remark is that it is the duty of every physician to use antidiphtheric serum, and that beyond doubt antidiphtheric serum is a specific curative agent for diphtheria, surpassing in its efficacy all other known methods of treatment. The name of Dr. Louis Fischer is not mentioned. Why?

Again, it is noticeable that while a sterilizer was illustrated and endorsed on page 739, edition of 1893, in this third edition, on page 798, Freeman's Pasteurizing apparatus is shown and endorsed.

The remarks on matters relating to hysteria are interesting.

The book has evidently not been entirely rewritten, for most chapters begin and end exactly as did its predecessor.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By JOHN V. SHOEMAKER, M.D., LL.D. Third Edition. Thoroughly Revised. F. A. Davis Company, Publishers, Philadelphia. 1895.

THIS elaborate work has been compiled into one volume of over 1,100 pages, instead of two volumes as heretofore. The author has kept the work in accord with the United States Pharmacopœia of 1890. A great many new drugs have been added, amongst them being tolysal, tolypyrin, salocoll, salacetol, chlorphenol, bromphenol, formalin, dulcin, tannigen. Animal extracts and immunized serum, or antitoxins, have been added, giving this new book a very modern appearance.

The type is clear. It is full of very practical recipes, making it valuable for the average practitioner. It certainly deserves recommendation and endorsement.

THE MEDICAL MUSE, GRAVE AND GAY. A Collection of Rhymes Up-to-date, by the Doctor, for the Doctor, and against the Doctor. Collected and Arranged by JOHN F. B. LILLARD. New York: I. E. Booth. 1896.

THERE are a few poems in this selection. The other things are the veriest doggerel, that would be a discredit even to the new poet laureate. If the compiler had used more discrimination, the book might have passed as affording amusement to the doctor and his young children, but some of the verses admitted are simply nasty and unfit for any but professional eyes. The typography of the book is in keeping with its contents.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In Photo-Lithochromes, from Models in the Museum of the St. Louis Hospital, Paris, with Explanatory Woodcuts and Text. Edited and Annotated by J. J. PRINGLE, M.B., F.R.C.P. Philadelphia: W. B. Saunders. 1895. Part II.

THE second fasciculus of this set of striking pictures tends to strengthen the favorable impression made by the first.

The reproductions of the museum casts, while impres-

sively natural, cannot be said to be exactly lifelike, and the layman usually exclaims on seeing one of these lithochromes, "Was that taken from a dead man?"—the eye being of necessity closed when the impression for the model was taken. There are four face pictures and one of the hand in this number, besides several woodcuts.

In one the erythematofollicular variety of lupus erythematosus is shown; in a second hypertrophic or elephantiasis rosacea; in a third is most beautifully depicted a circinate papulo-squamous syphilide showing peculiar cockade figures; and following it is a two-figured plate of xanthoma planum et tuberosum.

Nothing further need be said of the descriptive text than that the articles are respectively from the pens of Hallopeau, Besnier, Thibierge, and Darier.

EPITHELIOMA PRIMITIF DE L'URÈTRE. By MELVILLE WASSERMAN, Lauréat de l'Institut (Académie des Sciences); Docteur des Facultés de Médecine de Paris et de Heidelberg; Ancien Assistant de la Clinique Chirurgicale de Heidelberg.

AT the surgical congress held at Lyons in 1894 Professor Albartan read a paper on primary epithelioma of the urethra, with a report of a case upon which he had operated that year.

The specimen was examined microscopically by Dr. Wasserman, and his interest in this rare affection was so great that he determined to collect, if possible, all the cases which had been reported. The results of his labor have been published in the above monograph.

The author was able to find records of forty-seven cases, covering a period from 1831 to 1894.

From an analysis of these cases the conclusions arrived at are as follows: Primary epithelioma of the urethra is a rare disease, and occurs with about equal frequency in the male and female. It has no special predilection for any portion of the canal. Histologically, the tumor consists of pavement epithelium. Recurrent gonorrhoea and traumatism favor its development. In the male it is generally complicated by urinary fistulae. The diagnosis is at the present time rendered easy by means of the endoscope. The most probable source of error is cancer of Cowper's glands, but the situation and symptoms are different. The prognosis is grave. Resection of the urethra may give a good result in the very early stage. When the disease has reached considerable development, amputation of the penis or removal of all the genital organs is the only treatment. In the female, if more than one-half of the canal is involved, the utility of an operation is doubtful. Where the disease is so far advanced as to render a radical operation impossible, suprapubic cystostomy, or, in the female, the formation of a vesicovaginal fistula may be employed as palliative measures. The work is illustrated by some excellent plates.

AN ATLAS OF THE NORMAL AND PATHOLOGICAL NERVOUS SYSTEMS, TOGETHER WITH A SKETCH OF THE ANATOMY, PATHOLOGY AND THERAPY OF THE SAME. By DR. CHRISTFRIED JAKOB, Practising Physician in Bamberg, formerly First Assistant in the Medical Clinic at Erlangen; with An Introduction by PROF. DR. AD. V. STRÜMPPELL. Translated and Edited (authorized) by JOSEPH COLLINS, M.D., Instructor of Nervous and Mental Diseases, New York Post-Graduate Medical School, Visiting Physician to the Hospital for Nervous Diseases; Attending Physician to St. Mark's Hospital. Pp. 230. Published by William Wood and Company, New York. 1896.

THIS work is the second of the series of hand atlases which have been announced to be published by this house. The publishers have departed from the usual form of atlases, abandoning the large and cumbersome quartos for the small octavo, which can conveniently be held in the hand.

Every year witnesses an advance in the illustrative method of presenting the facts of science to its students. In this book the acme has been reached. Every device of ingenious illustration has been employed—the photographic, the schematic, and the diagrammatic; color sketches and folding plates displaying regional sections. The reproductions of microscopical appearances with the staining are very perfect. As new stains are continually being used which bring out fresh facts in regard to the histology of the nervous system, the publication of this work is very timely, for it will bring the student and the practitioner up to date in these interest-

ing and important particulars. To the student it will be especially useful as an aid in that intricate and bewildering labyrinth of facts to be acquired in order to understand the brain and nerves, as well as their development. To the physician not versed in nervous diseases, the chapters on pathology and therapeutics, while not elaborate, form a brief compendium, which will be useful in suggesting a diagnosis in puzzling cases in which the question of brain or nerve lesions arise.

The translator's task has been no easy one, but it has been performed in such a conscientious manner as to contribute to the success of the work.

ATLAS OF NERVE CELLS. By M. ALLEN STARR, M.D., Professor of the Diseases of the Mind and Nervous System, College of Physicians and Surgeons, Medical Department of Columbia College; Consulting Neurologist to the Presbyterian and Orthopædic Hospitals and the New York Eye and Ear Infirmary; with the co-operation of OLIVER S. STRONG, A.M., Ph.D., Tutor in Biology, Columbia College, and EDWARD LEAMING, M.D., F.R.P.S., Instructor in Photography, College of Physicians and Surgeons. With 53 Plates and 13 Diagrams. Published for the Columbia University Press by Macmillan & Company, New York and London. 1896.

THE paper, typography, and beautifully reproduced plates of this quarto atlas give it the appearance of an *édition de luxe*.

The histological technique is discussed by Dr. Strong, who did the staining and made the sections for the photographic plates, which Dr. Leaming produced. This chapter cannot fail to be of interest and service to those who are studying the histology of nerve tissues by Golgi's or the impregnation methods, that of precipitating metallic salts in and around the nerve elements. It is this method, as Dr. Starr says, which "has revealed many facts hitherto unknown and has given a conception of the nerve structures and the connection of the nerve cells both novel and important."

In addition to the demonstrations of the nerve cells of the spinal cord, cerebellum, and brain cortex which have been studied by Golgi and others, the writer has presented original work in the studies of the corpora quadrigemini, optic thalamus, and lenticular and caudate nuclei.

The explanation of the plates and the exposition of the subject display the clear, concise, and comprehensive style characteristic of Dr. Starr.

The photographic plates have been done in the most careful manner, and their reproductions are most artistic, but, with a few exceptions, they fail of lucidly expressing what the writer desires, and serve as a most excellent illustration of the impossibility of using photography to express scientific facts, except where plane surfaces alone are to be represented. The diagrams which are given to show the relations of the parts and the courses of nerve fibre are excellent. If, side by side with the photographic plates, diagrammatic representations of the cells had been given, it would have helped the reader very much.

HINTS AND SUGGESTIONS AS AIDS IN THE CARE AND PRESERVATION OF THE TEETH AND THE RELATION OF THE DENTAL ORGANS TO OUR HEALTH. By CHARLES G. PEASE, M.D., D.D.S. Published for the benefit of the laity.

WHILE this book contains some advice which might be followed with profit in the care of the teeth, its principal object seems to be to advertise the author and inform the public how many distinguished titles he possesses, and how many papers he has read before various societies.

The homœopathic therapeutics and materia medica at the end of the book are calculated to excite laughter in this day of rational and scientific medicine.

METATARSALGIA. (Morton's Painful Affection of the Foot). Its Causes, Symptoms and Treatment, with Illustrative Cases and Bibliography. By THOMAS S. K. MORTON, Professor of Surgery in the Philadelphia Polytechnic, etc. Reprinted from the Transactions of the Philadelphia Academy of Surgery, Meeting of March 6, 1893. Second Edition. Enlarged and Revised. Philadelphia: 1895.

THE affection of which this little brochure treats is not a very uncommon one, and the suffering which it produces is frequently so great that the author has done well in bringing the subject again before the profession.

The cases cited seem to have been of the severest type and

chiefly those in which the trouble had existed for a long time without treatment, and based upon these cases the only plan of treatment advocated is amputation of the offending toe. But there are many cases presenting somewhat milder symptoms, yet suffering from considerable pain and disability which are due to a shortened tendo Achillis and the consequent imperfect flexion at the ankle. These cases are promptly and permanently relieved by thoroughly stretching the contracted tendon and the plantar fascia.

HANDBOOK FOR HOSPITALS. By ABBY HOWLAND WOOLSEY. Third Edition. G. P. Putnam's Sons.

A THIRD edition of this valuable little work has made its appearance in a very handsome dress. The chapter on "Air Supply and Heating" should furnish useful suggestions to superintendents of many an overcrowded and poorly ventilated hospital.

STUDENTS' AID IN OPHTHALMOLOGY. By GERTRUDE A. WALKER, A.B., M.D., Clinical Instructor in Diseases of the Eye at the Woman's Medical College of Pennsylvania. With forty illustrations and colored plate. Philadelphia: P. Blakiston, Son & Co.

THIS small publication, consisting of one hundred and eighty pages, designed for the use of students is a fair example of its class. The necessarily brief exposition of the subject is excellent in the consideration of ophthalmoscopy, refraction, and allied topics, but is weak in the consideration of the diseases of the eye, particularly regarding etiology and pathological anatomy. A glossary of derivations is added which is of value to students and will be appreciated by them.

There is an absence of technical terms that will render the perusal of this work an easy task to the undergraduate in medicine.

EPIDEMIC OPHTHALMIA, ITS SYMPTOMS, DIAGNOSIS, AND MANAGEMENT, WITH PAPERS UPON ALLIED SUBJECTS. By SYDNEY STEPHENSON, M.D., F.R.C.S. Ed., Surgeon to the Ophthalmic School, Hanwell, W. Edinburgh and London: Young J. Pentland. New York: Macmillan & Co. 1896.

THIS volume of two hundred and seventy-eight pages is well printed on heavy paper, contains twenty-five illustrations, and is of convenient size. There is one colored plate illustrating the known specific micro-organisms found in the conjunctival sac in the course of conjunctival affections. The contents of the volume are divided into five parts, four chapters and an appendix. The first part treats of "Epidemic Ophthalmia, Its Symptoms, Diagnosis and Management"; the second of "A Clinical Enquiry into the Prevalence and Significance of the Follicular Granulation of the Conjunctiva"; the third of "The Treatment of Trachoma and Its Complications"; the fourth of "The Treatment of Follicular Conjunctivitis." The appendix deals with "Lavatory Arrangements." The four forms of epidemic ophthalmia, *i.e.*, acute contagious conjunctivitis (catarrhal conjunctivitis), purulent conjunctivitis, trachoma, and diphtheritic conjunctivitis, are exhaustively discussed. Their causes, symptoms, prevalence, course, results, and treatment—preventive and immediate, medicinal and surgical—plans for isolation, etc., are treated of in the fullest manner. The evidence of wide observation which the work affords and the numerous references to literature on the subject entitle the opinions of the author to the highest respect. The directions and suggestions regarding the construction of lavatories, use and care of towels, and the general conduct of the washing of children and adults in order to prevent the contraction and spread of contagious eye disease, are admirable and are directly applicable to residential schools, asylums, penal institutions, etc.

The volume is one that should be in the hands of every physician, as its application to sanitary requirements and preventive medicine is general.

AN AMERICAN TEXT-BOOK OF OBSTETRICS FOR PRACTITIONERS AND STUDENTS. By JAMES C. CAMERON, M.D., etc. RICHARD C. NORRIS, M.D., Editor; ROBERT L. DICKINSON, M.D., Art Editor. With nearly nine hundred colored and half-tone illustrations. Pp. 1,009. Philadelphia: W. B. Saunders. 1896.

THE introductory chapter on "Anatomy" by Piersol and the section on the "Physiology of Pregnancy" by the same

author, comprising one hundred and forty-four pages, are exhaustive. Palmer contributes several valuable sections on the "Diagnosis of Pregnancy," among which we note as especially interesting the portion devoted to the breast signs and changes in the uterus.

The important chapter on "The Pathology of Pregnancy" contains sections by Davis, Etheridge, and Kelly, with one on "Diseases of the Fœtus" by the lamented Dr. Earle (completed by Mergler). Those on accidents and surgical operations and on extrauterine pregnancy are of great practical value. The chapter on "The Physiology of Labor" by Dickinson is enriched by numerous original illustrations from the pencil of that accomplished artist, while the monograph on the "Conduct of Normal Labor" by Jewett, in regard to both the text and the illustrations, is beyond criticism.

Reynolds contributes upward of one hundred pages on the mechanism of labor, presenting the subject with his well-known accuracy and attention to detail. The chapter on "Dystocia," by Hirst is exhaustive, presenting an elaborate study of contracted pelvis. The "Physiology of the Puerperium" by Jewett and the pathology of that state by Garrigues and Norris, include about one hundred and fifty pages with a copious bibliography.

The chapter on "Obstetric Surgery," is so full and so richly illustrated that it seems more like a new monograph than the presentation of a familiar theme. The minute directions for performing the various operations will be extremely valuable to the general practitioner. Jewett's section on "Symphyseotomy" is the best that has yet appeared in English. A short practical section by Hirst on "Celiotomy for Puerperal Sepsis" concludes a volume to which it is impossible to do justice in a short review.

ELECTRICITY IN ELECTRO-THERAPEUTICS. By EDWIN J. HOUSTON, Ph. D., and A. E. KENNELLY, Sc. D. New York: The W. J. Johnston Co., 253 Broadway.

THE time is near at hand when every medical school in the land will be obliged to make electro-physics and electro-physiology a part of its curriculum.

It means much to the medical profession, therefore, when men of the highest standing among physicists take thought and time to write a book on electricity in electro-therapeutics.

Physicians, save the favored few, are handicapped by their lack of knowledge of the fundamental principles of electro-physics, a knowledge which is absolutely necessary to an intelligent appreciation of the value of electricity in medicine.

Either they must take time for the works devoted to electricity and magnetism in their broadest aspect, or else be content with such out-of-date handling of the subject as is contained in the books devoted to electro-therapeutics.

Here, however, is a book up to date, written for and adapted to the physician's needs. It is impossible to conceive of a simpler and a more scientific presentation of the subject. One great charm of the book is its absolute freedom from all historical data, theories, and expressions of controverted ideas.

The medical student or physician who thoroughly masters its contents is in a position to undertake the study of electro-therapeutics intelligently.

It seems invidious to distinguish when all is good, but the chapters on "Frictional and Influence Machines" and "High Frequency Discharges" are unique in their treatment, and to one in the habit of handling such machines and currents most suggestive and helpful.

COLOR VISION AND COLOR BLINDNESS. A Practical Manual for Railroad Surgeons. By J. ELLIS JENNINGS, M.D., St. Louis, Mo., Formerly Clinical Assistant, Royal London Ophthalmic Hospital, etc. With illustrations. Philadelphia: F. A. Davis Co. 1896.

In this volume of one hundred and fifteen pages the subject of color blindness is concisely and briefly treated. After a short historical sketch the finer structure of the retina is discussed, the writer apparently accepting the views regarding the histology of the layer of rods and cones, advanced by Norris and Wallace. These views have not yet been substantiated by the researches of others. The physics of light and color are treated in a simple, clear manner, and rendered quite attractive. The various theories of color perception and color blindness are referred to briefly, after which follow chapters devoted to an analysis of the various forms of color

blindness and to the detection of the defect. Special tests are mentioned. Acquired color blindness is considered. The book is of convenient size, is well printed, and is admirably suited for any medical man who does not desire more than a practical knowledge of the subject.

VOICE BUILDING AND TONE PLACING. By H. HOLBROOK CURTIS, M.D. New York: D. Appleton & Co.

THIS really excellent little book was written, we rather imagine, to give a setting to the chapter entitled, "Tone Placing," in which Dr. Curtis gives "his method of relieving injured vocal chords by tone exercises."

Dr. Curtis has been subjected, in our opinion, to much unjust criticism on account of his methods of procedure in treating the singing voice.

We are compelled to say, however, that this is partially his own fault, for, in a paper setting forth the principles laid down in Chapter VII. of this book and read by him several years ago, he put the subject in an unfortunate manner and did himself and his method injustice. This is not the case in this present treatise, in which the whole matter is clearly, tersely, and scientifically expounded.

Speaking generally of throat practice, the treatment of the vocal cords, strained or in a state of inflammation from whatever cause, is, both in this country and in Europe, a reproach to our throat specialists. In making this charge we know whereof we speak, from a more or less intimate acquaintance with the prominent laryngologists in both Europe and America.

In the practice of most men that delicate and beautiful piece of our anatomy, the vocal cords, is sorely abused; what with eternal sprays and applications of zinc, nitrate of silver, tannin, and heaven knows what other astringents, with now and again the cautery for the removal (sic) of singer's nodules, no wonder so many voices are permanently injured. And much credit is due to Dr. Curtis for having been the first to perfect a rational and scientific method of treating injured vocal cords by natural means.

The steps by which Dr. Curtis arrived at his method are very interesting. Briefly, he noticed in certain cases that on phonation the slit of the glottis was concave and the cords farther apart than usual, with a consequent loss of tension, weakness of attack, and inability to "hold" the note.

In another class of cases he found that though the patients had precisely the same symptoms the slit of the glottis was convex, the vocal cords touching each other at a certain point, where, from constant attrition, a nodule had developed.

On inquiry he found that in the first class the singers practised exclusively with the sound of long O and with no attention to respiration, and that the second class used the sounds Ah and long E, in their exercises, with the explosive attack known as "coup de glotte."

It occurred to the author to have the first class exercise with Ah and E, the second with O, with the exceedingly interesting result that the inflamed cords rapidly rehabilitated themselves, or, as he puts it: "To our utter surprise we found both pupils absolutely cured of the symptoms of which they complained, at the end of a very few lessons, and each roundly denounced the method and the teacher who had lead them into such error."

It goes without saying that in either case, while the change in the exercises temporarily relieved the pathological condition, constant practice would simply have changed one condition for another.

Dr. Curtis, therefore, was led to seek some exercise and method of attack in which the vocal cords should be to all intents and purposes parallel in the emission of all notes, and the glottic aperture neither convex nor concave.

The exercises by which this end is accomplished are fully described in the work. It only remains for us to say that of our own knowledge a number of singers have adopted the same, not only to the temporary relief of their inflamed vocal cords, but to the permanent preservation of their voice.

We cannot too heartily recommend this excellent though simple method to those who have the care of the speaking or singing voice, and we hope that the laryngologists will throw aside all prejudice in the matter and make a trial of what Dr. Curtis recommends, on its own merits.

We have devoted considerable space to this particular chapter, but the whole book is well done and suggestive, written in a scientific spirit, and contains much that is new, especially the chapters on respiration and the registers.

THE TOXIC AMBLYOPIAS: THEIR CLASSIFICATION, HISTORY, SYMPTOMS, PATHOLOGY, AND TREATMENT. Being an Essay to which was awarded the Alvarenga Prize of the College of Physicians of Philadelphia, October, 1894. By G. E. DE SCHWEINTZ, A.M., M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, Clinical Professor of Ophthalmology in the Jefferson Medical College. Philadelphia: Lea Brothers and Co.

THIS volume, consisting of two hundred and thirty-eight pages, is excellently printed in large type on good paper and is well bound. Section I. is devoted to the consideration of the classification of toxic amblyopias: quite an elaborate form of classification is adopted, based on the effect of the different agents on the eye, on the central and peripheral nerve tissue, and on the system at large. Section II. takes up the consideration of amblyopia from alcohol and tobacco and considers it exhaustively. Points for the differential diagnosis between the amblyopia from alcohol and tobacco and those from non-toxic retro-bulbar neuritis, disseminated sclerosis, locomotor ataxia and "scotomatous atrophy of optic disc" are given. The toxic effect produced by alcohol and tobacco, disulphide of carbon, iodoform, nitrobenzol, coal-tar products, arsenic, lead, mercury, ergot, the anæsthetics, opium, cannabis indica, quinine, salicylic acid, filix mas, and many other less important substances are discussed. The extensive bibliography appended to each division of the subject and the reports of original research indicate the exhaustive nature of the author's inquiry. Prolixity in the wording of the text is avoided without impairing the clearness with which the facts and theories are presented. It is little to say that the work reflects great credit on its author; it affords a comprehensive exposition of the subject up to date and is of value to the general practitioner as well as to the specialist.

THE FUNCTIONAL EXAMINATION OF THE EYE. By JOHN HERBERT CLAIBORNE, JR., M.D., Adjunct Professor of Ophthalmology, New York Polyclinic. With twenty-one illustrations. Philadelphia: Edwards and Docker Co. 1895.

THIS volume, consisting of ninety-six pages, is well printed from good-sized type. Aside from the printer's art the volume has nothing to commend it. Under the title "The Functional Examination of the Eye" the subjective examination of the refraction only is considered, a very small part of the work indicated by the title. This might be condoned if the topics treated of were well presented; as it is, the style leaves much to be desired. The statements made exhibit a lamentable degree of inaccuracy in many instances. Instead of being concise and lucid, many of the passages are verbose and difficult to understand. The chapter on mydriatics is probably the best one in the book, but it fails to mention the danger of exciting acute glaucoma in elderly individuals by the use of such drugs as atropine and duboisine. There is no index.

A Loud Heart Murmur.—Dr. F. R. Gibbs reports a curious case in *The Lancet* of April 4, 1896: The patient, a bright and intelligent schoolgirl, aged fifteen years, belongs to a family many members of which suffer either from phthisis or cardiac disease. Her personal history is good. She has never suffered from any serious ailment and has always enjoyed fair health. The cardiac mischief causes no other symptom than the fact that she easily gets "out of breath." The heart is not enlarged or dilated, there is a good first sound, followed immediately by a murmur and a low second sound. The murmur is mitral, and this is the interesting feature of the case, for it can be heard when the patient is fully dressed at a distance of twelve feet or more. It can also be heard when with the chest exposed she is placed three feet away from a closed door and the listener is at the same distance on the other side in the hall. As might be expected, the murmur varies somewhat in intensity from day to day, but it is only very rarely that it cannot be heard a foot away from the chest without the stethoscope.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 25, 1896:

	Cases.	Deaths.
Tuberculosis.....	242	124
Typhus fever.....	1	0
Typhoid fever.....	5	2
Scarlet fever.....	86	10
Cerebro-spinal meningitis.....	4	5
Measles.....	453	20
Diphtheria.....	283	38

Dr. Jones (*N. W. Lancet*) lays down the broad rule that no examination of the heart can be considered completed when one has neglected to examine the patient in both the upright and recumbent postures.

Koch's Circuit.—To prove that a microbe is the cause of disease it must fulfil Koch's circuit. It must always be found associated with the disease; it must be capable of forming pure cultures outside of the body; these cultures must be capable of producing the disease; and the microbe must again be found associated with the morbid process.—*DA COSTA (Manual of Modern Surgery, 1895).*

Heart Pain.—Taking consecutively a hundred cases of coarse and decided forms of disease of the heart which have been under his own immediate care, the author has found that in just half the number there was no complaint whatever of pain in any part of the chest. Seventeen referred the pain generally to the front of the chest; fifteen to the back (especially between the shoulders); twelve suffered pain at the epigastrium; eleven suffered pains on the left side of the chest; while two referred their suffering to the right side. Those who localized the pains to the exact area of the heart were but eight, and of these two complained of it only after exertion. One described it as a sense of extreme soreness at the apex, while in another it partook of the character of neuralgia about the left breast. Only eight per cent. complained of pain directly referred to the situation of the organ diseased.—*A. ERNEST SANSOM, M.D., F.R.C.P. Lond., "The Diagnosis of Diseases of the Heart and Thoracic Aorta."*

Induced Labor in a Case of Previous Cæsarean Section.—*Dr. Schlaepfer* records the case of a woman, twenty-seven years old, who was delivered by Cæsarean section of a dead child at the termination of her first pregnancy. Conceiving again a year and a half later, and desirous of having a child, and presenting a simple flat pelvis of the first degree, it was concluded to induce premature labor during the ninth month. This was with some difficulty effected after the introduction of a bougie and subsequently of a water-bag, the child being delivered after version. The infant was asphyxiated, but was resuscitated after some manipulation. The placenta came away after expression; the uterus contracted well and presented a depression upon its anterior surface, supposedly corresponding with the cicatrix of the previous section. This depression had not before been appreciable, nor was it so subsequently.—*Centralblatt für Gynäkologie.*

Hours of Sleep.—A healthy infant sleeps most of the time during the first few weeks, and in the early years people are disposed to let children sleep as they will. But from six or seven years old, when school begins, this sensible policy comes to an end, and

sleep is put off persistently through all the years up to manhood and womanhood. At the age of ten or eleven the child is allowed to sleep only eight or nine hours, when its parents should insist on its having what it absolutely needs, which is ten or eleven at least. Up to twenty a youth needs nine hours' sleep, and an adult should have eight. Insufficient sleep is one of the crying evils of the day. The want of proper rest and normal conditions of the nervous system, and especially of the brain, produces a lamentable condition, deterioration in both body and mind, and exhaustion, excitability, and intellectual disorders are gradually taking the place of the love of work, general well-being, and the spirit of initiative.—*The New York State Medical Journal.*

How Long Should the Treatment of Syphilis be Kept up?—*Kaposi (Wien. Med. Wochenschrift)* questions the effectiveness of the method of continuous treatment which Fournier praises and which consists in treating the disease for years, alternating between mercury and iodide of potassium. With a single course of treatment of several months, or two or three courses in two years, Kaposi has seen his patients get well and bring healthy children into the world. He considers it both useless and dangerous to prolong treatment beyond limit. He also thinks it quite possible that the great frequency of affections of the nerve centres, usually considered as due to syphilis, may be caused by a too prolonged treatment. The initial treatment should be continued for some time and carefully watched. The first treatment should not be repeated unless one is confronted by some unexpected accident. Occasionally syphilitics who are healthy in appearance and feeling may receive a second course of treatment during the first year. Kaposi considers syphilis a curable disease.

Physiology as She is Taught.—A twelve-year old boy wrote the following composition on "breath": "Breath is made of air. We always breathe with our lungs, and sometimes with our livers, except at night, when our breath keeps life going through our noses while we are asleep. If it wasn't for our breath, we should die whenever we slept. Boys that stay in a room all day should not breathe; they should wait till they get outdoors. For a lot of boys staying in a room make carbonic acid, and carbonic acid is more poisonous than mad dogs; though not just the same way. It does not bite; but that does not matter as long as it kills you."—*Bristol Medical Journal.*

Rampant Protectionism for French Physicians.—*The New York Times* is informed that French medical students are angrily complaining that they are crowded out of their own schools by youths from abroad, and French doctors are even more indignant because these foreigners, instead of going home after acquiring a knowledge of physics and surgery, settle down in France and compete with the native practitioners. Of the six thousand students in the Paris Medical School, it seems that one thousand are aliens, and the proportion is almost as large in provincial institutions, notably at Montpellier, where the students have just held a mass meeting and adopted resolutions in which they declare that "the invasion of foreigners constitutes an obstacle to our studies and a threat for the future." To prove the latter assertion, they point to the fact that already, of every five doctors in France, one is foreign born. As a remedy for these evils, *Dr. Brouardel*, the senior member of the Paris Medical Faculty, has seriously advised the Minister of Public Instruction to create a new and special medical diploma, which shall not confer upon its owner the right to practise as a doctor in France. This is certainly a most curious condition of affairs. Unfortunately, the statistics at hand do not reveal how many of these interlopers are American.

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Original Articles.

THE CLINICAL DIAGNOSIS OF VASCULAR LESION IN THE PONTO-BULBAR REGION, WITH ILLUSTRATIVE CASES.

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ALTHOUGH the pons and the oblongata represent the crossing and close juxtaposition of many sensory and motor pathways, in addition to being the seat of origin of practically all the cranial nerves, yet so definite is our knowledge of these very intricate segments of the nervous system that from a viewpoint of semeiology and diagnosis we are able to localize a lesion in them with more accuracy than in many other parts of the nervous system which anatomically are much less complex. Diagnoses made clinically have received in many instances such accurate post-mortem corroboration that positive statements seem justifiable concerning the seat and confines of the lesion in such cases as I am about to report. The occurrence of vascular lesion, and by such I mean the lesion of hemorrhage, embolus, and thrombus, in this locality is not frequent, and when it does occur death, and that not long delayed, is the usual result. The cases reported herewith may be considered uncommon.

The following case of alternate hemianalgesia has a clinical history which points with accuracy to a definitely localizable lesion in the pons:

M. G., male, thirty-nine years old; born in Sweden; married; by occupation a salesman. Sixteen years ago he had the initial lesion of syphilis, which was treated for five weeks until the primary manifestations disappeared. Since then he has had no anti-syphilitic treatment. A few months after infection he had the common cutaneous and mucous-membrane manifestations of syphilis. He has not been a very hard worker nor is he given to excesses of any kind. He has not suffered from rheumatism, gout, or any infectious disease, and, in fact, except for a tendency to constipation, he has been very well. On July 17, 1894, he ate excessively of beef, pork, cabbage, and pastry. After dinner he returned to his work, and soon complained of great pain and distress in the head and stomach. As his bowels had not moved for several days he attributed these symptoms to constipation, and for their relief he took a large dose of castor oil. He then complained of vertigo, was very much nauseated, and vomited severely. When he tried to stand his legs would not support him; the left side of the body seemed powerless. Although he could move the arm and leg he did not seem to have any strength in them. There was no loss of consciousness. On the way to the hospital he noticed that he saw everything double, and that speech had become thick. The next day he had trouble in swallowing; things went down very slowly and water and other liquids frequently regurgitated through the nose. Inability to articulate became more pronounced, and it was with difficulty that he could make people

understand. The inability to speak was not at all of the nature of aphasia, but a dysarthria rather, almost anarthria. There was continual twitching of the lower lid and of the portion of the face just below it. A short time after he was taken to the hospital he noticed a numb sensation in the left side of the face and the right side of the body, although he could feel a touch in these parts. He remained in the hospital six weeks, and during this time the diplopia had begun to disappear and speech had become somewhat more intelligible. Hiccough was a very troublesome symptom during two weeks of his stay in the hospital. The vertigo and unsteadiness still continued, and when he left the hospital, although he had the use of his extremities, he was so uncertain in gait that he had to be steadied.

On September 25, 1894, he entered Prof. C. L. Dana's clinic. The patient, a tall man, appeared well nourished. He walked without trace of paralysis, but with an uncertainty of gait which reminded one of a drunken person. When he stood it was with the feet wide apart; when he walked he was obliged to steady, not sustain, himself with a stick, and the feet were widely separated to give him a broad base of support. The right side of the body was stronger than the left, and the knee jerk on the left side was livelier than on the right. If the patient was balanced he could support the weight on either leg. The left upper extremity was weaker than the right. Examination for sensory defects revealed the presence of analgesia and thermo-anæsthesia of the right side of the body from the middle of the neck downward, and of the left side of the face and head. The following diagram gives a graphic representation of the sensory defect (Fig. 1).

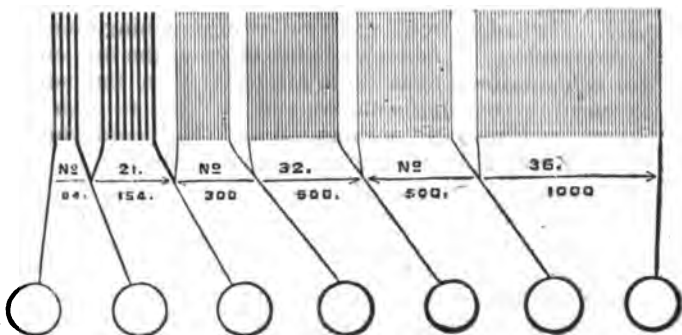


FIG. 1.

Sensibility to touch, as well as the muscular sense, was preserved. The strongest spark from a static machine applied to the right side of the body did not cause a wince, and on the right side of the body and the left side of the face the patient could not discriminate between a test tube containing hot water and one containing water ice cold. Examination of the eyes showed paresis of the external rectus of the left eye, homonymous diplopia at all distances, paresis of the superior rectus of the same eye, the false image above the true one. A prism of 9° base up fused the images. Analgesia of the cornea of the left eye, redness, and continual lachrymation; and, in addition, a congestion of the optic disc of the left eye and a fulness of the veins of the fundus. Right eye normal. Slight evi-

dences of defective innervation of the seventh nerve, particularly in the lower part of the face of the left side. Voice nasal and whining, but no dysarthria.

Examination, February 3, 1895: Station and gait were improved, but he stood and walked with widely separated feet. No evidence of motor hemiplegia. Tongue deviated slightly to the left, although this was more apparent than real, as the left side of the mouth was not drawn back as far as the right. The soft palate and upper portion of the vault of the pharynx were raised higher on the right side than on the left. No pharyngeal anæsthesia. The left eye was red and continually irritated. Persistent treatment was necessary to check ulceration of the cornea, which began some months before. There was evidence of vasomotor paresis, and a continual redness of the left ear. Sensory examination revealed practically the same condition as when the patient was last seen. A pin could still be jabbed into the flesh of any part of the right half of the body to the distance of half an inch without causing any pain. The cornea of the left eye was so anæsthetic that the blunt end of a pencil could be rubbed across it. Pulse, 80; respiration normal, but labored on exercise. There was some difficulty in swallowing water; it seemed to stick in the throat, but did not regurgitate. Speech was somewhat nasal and whining. There was a great deal of frontal headache, occipital dulness and heaviness, and vertigo. The legs tired very easily and the right side particularly, but he was able to do some work if he remained seated. He was easily excited and made nervous. Ocular conditions were the same as before, but he said he used the right eye to see with and consequently did not have diplopia.

Examination, July 15, 1895 (one year after onset of disease): He complained of feeling bad in the head and of a continual staggering feeling. He said that if any one called him or he was interrupted suddenly, or if he attempted to get out of the way of anything, such as a vehicle or a car, he became all mixed, all turned around, could not quite appreciate his surroundings, and was unable for some time to orientate himself properly. The right leg felt weaker than the left, and he had a tendency to walk, to stagger, and to fall toward the left. He could walk all right if he steadied himself with a stick, and he did not tire very easily. He had no trouble in swallowing anything except cold drinks. If he took a drink of water the first one or two swallows went down all right; then the next seemed to stop in his throat, and he "had to push it down." Fluids did not regurgitate. He could whistle and cough, and in the latter gave a good tone; but he could not sneeze. He felt worst on arising in the morning; his legs were stiff and he had heavy, dizzy sensations in the head. It did not make his face tired to chew food or to talk. Noise distressed him more than anything else. It gave him a confused, restless, disturbed feeling in the head, particularly in the left parieto-temporal region. When one touched, rubbed, squeezed, or applied electricity to the outside of the right arm, the patient felt a pulling sensation in the left side of the head. His gait was that of a drunken man, with a tendency to fall to the left. Knee jerks equal on both sides. Dynamometer: right, 95; left, 80. Relatively there was the same strength in both legs. Tests for sensibility: Patient felt the slightest touch of cotton on the right side as well as on the left; the area of analgesia was the same as before, but the intensity of it was much less; although he did not feel the prick of a pin, it did hurt if it was jabbed in, and the strong sparks of a static machine were uncomfortable; there was still thermo-anæsthesia, but compared with that present on the first examination it was much less. Muscular sense was preserved. There was less anæsthesia of the left eye than formerly, the touch of

the blunt end of a pencil or of cotton causing him to wink. There was evidence of previous trophic changes in the left cornea and also haziness. After first coming under treatment the patient gained between thirty and forty pounds, and became obese and unwieldy. This increase he was now rid of. He was again able to work at his former occupation, but earned only something more than one-half of his former wages.

December 28, 1895: The right side of body and the left side of face were less analgesic than on previous examinations, but lack of pain sensibility was yet well marked. Tactile sensibility in all parts of the body was exquisitely preserved. There was distinct perversion of thermal sensibility on the right half of body and left side of face. Cold was almost always felt as hot, and in certain places, such as the right side of the abdomen, it caused a "burning" sensation. It is to be remarked, however, that this perversion of temperature sense was not so much a thermal anæsthesia as it was a latency of thermal recognition. Thus, he said that he often burned the right hand and did not know it till after it was done. There existed a persistent association of cephalic sensation and impressionability of the right upper extremity to irritation. For instance, if the right hand was put in cold water, he complained of a tingling, tense, pulling sensation in the left side of the head—not in the epicranial structure but deep down "in the brain." These sensations were in that part of the head where the motor areas are located. Muscular and articulatory senses normal. Slight ataxia of the left upper and lower extremity. Slight tendency to fall to the left. Knee jerks normal.

To recapitulate briefly the symptoms in this case in the order of their occurrence:

1. Vertigo of sudden onset and great severity.
2. A feeling of loss of strength in the left side of the body.
3. Diplopia, homonymous, due to paresis of left external rectus.
4. Dysarthria.
5. Dysphagia.
6. Irritation symptom: persistent twitching of the left lower lid and of the part of the face below it.
7. Crossed hemianalgesia and thermo-anæsthesia.
8. Involvement of lower portion of left facial.
9. Ataxic paresis of the right half of the body, more of the upper than the lower extremity.
10. Paresis of the superior rectus and analgesia of the cornea of the left eye.
11. Gait unsteady, tendency to fall toward the left.
12. Difficulty in quick physical orientation.
13. Diminution of sense of hearing in the left ear.

The treatment to which he was subjected consisted of the persistent administration of iodide of potassium in moderate doses and the vigorous use of tonics, graduated exercise, electricity, massage, etc.

Let me now refer briefly to the nature of the lesion in this case before speaking of its localization. The fact that this patient had syphilis which received no treatment save local applications, and the fact that the attack came on suddenly and that it had not been heralded by premonitory symptoms, speak in favor of rupture of a blood-vessel rather than a blocking-up of its calibre, as does likewise the persistence of the symptoms and their slow amelioration. The influence of syphilis in determining rupture of blood-vessels in the brain has not received the emphasis and recognition which the statistical frequency with which it is an antecedent of hemorrhage warrants. This fact is well brought out by Dana in a recent contribution to the cerebral apoplexies.¹ The influence of severe indigestion in precipitating an apoplexy has often been alluded to. Syphilis is a most important causation of

¹ MEDICAL RECORD, February 23, 1895.

thrombosis of the blood-vessels in general, but suddenness of the attack, absence of premonitory symptoms, and slight amelioration of the symptoms are not suggestive of thrombosis. The intactness of the valvular apparatus of the heart and the absence of any source from which it might arise bear evidence that the disease was not the result of an embolus. Yet withal, rupture of one of the vessels of the pons is an extremely rare occurrence, and the diagnosis of hemorrhage is at best but problematical, while the comparative frequency of thrombosis makes the latter probable. If the original lesion was hemorrhagic, the focus must have been very small and the ruptured vessel very slight. Hemorrhage into the pons is survived very exceptionally. Its occurrence is attended by loss of consciousness, which almost always is the precursor of dissolution. Repeated attacks of general convulsions which often occur bespeak the same issue. A lesion in the pons which will produce convulsions must either be of considerable extent and severity, or it must be in the immediate vicinity of the motor tracts, as the convulsions are caused by irritation of the latter. On the other hand, if the lesion were a thrombosis of specific origin, it is probable that the area of softening which would result, or a recurrence of the thrombosis, would have caused other symptoms before now. If it were a hemorrhage and a very small one, there would have occurred in a few days after the attack a coagulation of the blood, which would become softened and resorbed, and then a fibrous wall about the little cyst would form, which, contracting, would leave only a small cicatrix. The slight destruction of tissue about this and the secondary degeneration would account for the course of the disease since then and the surviving symptoms.

A retrospect of the findings on examination of this case shows that there was defective action of the external rectus, which is supplied by the sixth nerve; analgesia of the left side of the face and left eye in the territory of the sensory distribution of the fifth nerve. The fact that the patient had no difficulty in chewing and that this exercise, likewise talking, did not make the face tired, shows that the motor division of the fifth nerve was intact. Immobility of the mimic muscles in the lower part of the face showed the involvement of part of the seventh nerve or some of the cells forming its nuclei. Analgesia and thermo-anæsthesia of one-half of the body and of the opposite side of the face and head indicate a disturbance in the tract of the sensory pathways which conduct pain and heat sensations at a location brainward to their complete decussation. The striking disturbance of gait and orientation which the patient presented are considered typical of cerebellar disturbance. The disturbance of hearing in the left ear which the patient noticed shortly after the onset of his disease, and the continuance of it to the present time, and particularly the distress in mind and body produced by noises, bespeak some involvement of the pontine eighth nerve, its nucleus, or, barely possible, the nucleus of Deiter. It is now well established that such disturbance of equilibrium may be explained by the involvement of those fibres of the auditory nerve in the pons which convey equilibratory sensations to the cerebellum. The distressing vertigo from which the patient suffered and from which he yet suffers is a frequent symptom of pons lesion, when the lesion involves the lateral portion or when the fibres of the middle and inferior cerebellar peduncles are involved. It may also be the result of involvement of the intra-pontal portion of the auditory nerve. The anarthria and dysphagia, the latter due to involvement of the motor glosso-pharyngeal, are common symptoms of disease of the pons, and are often referred to as cerebral pseudo-bulbar symptoms. The very slight ataxic paresis of the right side may

indicate an involvement of the tract of muscular sense, which in the pons is known as the fillet or lemniscus. The fact that there was never any motor hemiplegia in the literal interpretation of such designation, and the fact that there are not now nor has there been any evidences of secondary degeneration in the motor pathways, such as spasticity, exaggerated reflexes, clonus, etc., which would necessarily have followed if the continuity of any motor conducting-paths had been interrupted, goes to show that the lesion did not implicate those tracts. That the only focus of disease that will produce such a grouping of symptoms must be located in the posterior or dorsal portion of the pons, and in its middle third, is very apparent. A lesion which produces alternate hemianalgesia, thermo-anæsthesia, slight ataxic paresis, and involvement of the fourth, fifth, sixth, seventh, and eighth nerves, must be in the reticular formation of the pons on the side opposite to which the analgesia is in the extremities, and on the same side as the facial involvement. It must involve some of the fibres of the fillet or lemniscus in order to cause the ataxic paresis. It must encroach upon the nuclei or emerging root fibres of the sixth, seventh, and eighth nerves in order to account for the homonymous diplopia, the lower facial palsy, and the disturbance of hearing. The cerebellar gait, or, better, the disturbance of equilibration, the mental confusion so readily produced by auditory impressions, and the tendency to fall toward the left, may also be explained by involvement of the intra-pontal portion of the latter nerve, or at least that part of it which conveys impulses to the cerebellum. To account for the paresis of the superior oblique muscle on the left, it is necessary that the lesion interfere with the conductivity of the left fourth nerve fibres after its crossing between the two superior cerebral peduncles and behind the upper part of the fourth ventricle in the superior medullary velum—that is, the issuing root of the opposite fourth nerve as it passes through the ventral part of the pons. The fact that there was no paralysis of the extremities indicates the integrity of the pyramids, and, moreover, it shows that the lesion was not sufficiently anterior in the pons to interfere with any of those fibres. The integrity of motion of the parts supplied by the fifth nerve shows that the lesion did not extend very far laterally. It is worthy of notice that the patient avers that he has had a tendency to fall toward the left—the side on which fibres going to the cerebellum, auditory or other, must be involved. Although much significance is not attached to the symptom to which side the patient tends to fall, yet the common opinion is that such a tendency is toward the side opposite to which the disease is located.

There are a few cases similar to this in the literature, some of which are accompanied by post-mortem details, while others are clinical studies. A case reported by Weir Mitchell¹ resembles it somewhat. Starr² has recently reported a case in which the symptoms correspond very closely to those of this one, except in his case the sixth and eighth nerves were not permanently affected.

In a case reported by Senator³ a fifty-six-year-old man awakened one morning and complained of vertigo, difficulty in walking, tendency to fall to the left, disturbance of speech and of swallowing, and a sensation of cold in the left half of the face. Examination showed no disturbance of consciousness, tachycardia, tendency to fall to the left on standing and walking. On lying down there was no ataxia, and the performance of movements was unimpaired. There was no paralysis of the tongue or palate, simply difficulty in swallowing and hoarseness, which was due to in-

¹ Transactions of the Association of American Physicians, 1892.

² MEDICAL RECORD, February 11, 1893.

³ Archiv f. Psychiat., vol. 11, p. 713.

complete apposition of the vocal cords. Sensibility in the left half of the face and on the right half of the body was completely lost. The left half of the tongue, the left cornea, conjunctiva, and nasal mucous membrane were also anæsthetic. Skin reflex normal, patellar reflex lost on both sides. Hearing and taste normal. The autopsy showed a thrombosis in the course of the left vertebral artery and an area of softening in the outer inferior portion of the left half of the medulla. The thrombus was situated at the point of exit of the anterior spinal and the posterior inferior cerebellar. The area of softening extended above as far as a cross-section of the crus pontis, and below almost to the apex of the calamus scriptorius, turning inward to the raphe and reaching apparently as far as the vagus nucleus. Externally and laterally it seemed to project further brainward into the pons. Microscopically it was seen that the focus involved the left restiform body, the neighboring portion of the funiculus cuneatus, and the lateral column, as well as the ascending root of the trigeminus and a portion of the vagus nucleus. The fact that in this case of Senator's there was no involvement of the sixth, seventh, and eighth nuclei, shows wherein it differs from my case. This is explained by the fact that in the latter the lesion was in relatively the same plane but at a different level; that is, it extended further brainward. Otherwise the cases are very similar.

In my case, therefore, the localization of the lesion is as follows: It is situated in the pons at the level of its middle third below the point where the ascending and descending roots of the fifth nerve unite. The structure known as the formatio reticularis is the part chiefly involved. On account of absence of paralysis the lesion must be dorsad of the pyramids. It has some extent in the dorso-ventral plane—sufficiently far to involve some fibres of the lemniscus, thereby causing ataxia of the anæsthetic limbs. It must extend some distance in the cephalo-caudad plane—caudad sufficient to produce involvement of the sixth, the eighth, and possibly the ninth, but not sufficiently cephalad to involve the third nucleus. Laterally it involves the seventh, and mesially it extends to the eighth.

CASE II.—Bulbar thrombosis. C. J. R.—, single, thirty-two years old, occupation detective. Father died of tabes, mother of nephritis. There is nothing in his personal history bearing on the present illness. A few years ago he had a cough and occasional slight hæmoptysis, from which he recovered. He has been a moderate but steady drinker, rather intemperate sexually and in the use of tobacco. He denies rheumatism, syphilis, and infectious disease. His present trouble began in the spring of 1893. Previous to the attack which we are about to describe, he had had a great deal of frontal and occipital headache, which he attributed to "bilioousness," and for some days immediately antecedent to the attack he felt depressed, nervous, and easily agitated. One Sunday morning in the spring of 1893, while riding down-town in a horse-car, he remarked that he could not control the face, that it would twitch, particularly on the right side. This was disagreeably apparent to him when he found himself smiling at a person whom he did not know and whom he had no desire to greet. Later he noticed that his speech was not so distinct as usual and that articulation had a tendency to be stumbling and incoherent, quite like that of a drunken person. He does not recollect that it had a nasal twang. He could not handle properly the right side of the face; that is, it would not obey his wishes. On eating, food would get between the gums and the cheek and would have to be dislodged with the finger. While asleep saliva would dribble from the right side of the mouth. There was no trouble in swallowing, at least

his attention was not attracted to it. At this time there was some weakness of the left side of the body, of both arm and leg, and although the right side of the body was not parietic, it was nervous and trembling. He could not write very well with right hand, not because it was weak, but because he could not control it properly. The strength of the left side of the body was more impaired when he felt cold. He remembers that it was impossible to whistle at this time nor could he wink the right eye. He remained at work and continued to smoke, but noticed that his cigar would go out continually while smoking it. These symptoms lasted about six weeks and gradually passed off. During the following summer he considered himself quite well, except that two drinks of whiskey would go to his head and make him feel drowsy, weak, and queer; previous to the attack he could take from eight to twelve drinks a day without any disagreeable manifestations. He noticed also that he was extremely nervous and prostrated after coitus. Smoking would affect him very much the same way as whiskey. During the summer he had considerable headache, tired easily, was irritable and impatient, lost confidence in himself, and had cramps in the legs frequently. In the beginning he took rheumatic medicine for a few days, but aside from this he had no treatment.

The second attack was on November 22, 1893. He was on duty in the depot of a neighboring city where he had an assignment. While waiting he noticed that his speech was getting thick and indistinct; he talked as if he were extremely drunk. Speech continued to grow worse during the day, and the next morning he noticed that it had a peculiar nasal twang. Previous to this time his voice had no nasal intonation. The morning of the day following the attack there was lack of mobility in the use of the face and lips, and three days later there was great trouble in swallowing. It was hard work to get anything down; water would choke him, but would not regurgitate through the nose. Solids went down with more readiness than liquids, but very slowly. On the second day after the attack he remarked that the left half of the body was very weak, the arm weaker than the leg. It was very difficult to lift the arm above the head and the left leg dragged, particularly when he got nervous or excited. He remarked also that the lower lid of the left eye was hanging, that he could not close this eye, and that the left side of the face would not respond to the will. Later, on attempting to shave, he could not make tense the skin over the left side of mouth by endeavoring to compress the lips. When he laughed the corner of the mouth would pull to the right side. Bladder, bowels, vision, hearing, and taste seemed normal. Cardiac palpitation was troublesome, and he was very much frightened. Emotionally he was easily upset and was particularly prone to tears without assignable cause. There were no pain, paræsthesiæ, or objective sensory symptoms, so he states. After several weeks the symptoms began to abate, the difficulty in swallowing being the first to improve, then the weakness of the left extremities.

Examination February 20, 1894, three months after second attack: General appearance that of a moderately well-nourished young man. Immobile, staring expression of countenance. Ocular aperture equal on both sides; pupils contracted to light and accommodation; range of mobility of eyeballs limited; visual and color field unchanged; optic nerve normal in appearance; vision $\frac{30}{60}$, both eyes. Ears, R. H. D., $\frac{2}{8}$ with watch; L. H. D., $\frac{1}{12}$. Tuning-fork heard, right, twelve seconds; on mastoid, six seconds. Left, heard ten seconds; on mastoid, six seconds. No change after inflation. Membrana tympani dull and in-drawn. Sense of smell and taste normal. No noticeable asymmetry

of facial innervation; on smiling the aperture of the mouth was slightly greater on the left side; he could puff out both cheeks equally. No defect of sensibility in the area of distribution of the trigeminus. Tongue somewhat immobile, more unwieldy in movements toward the left. Anæsthesia of the fauces, tonsils, and pharynx. The palate was raised sluggishly on intonation. He had difficulty in puckering and compressing the lips and could not whistle. Speech drawling; voice had marked nasal twang, especially with such letters as b, d, j, p, q, u, v, etc. When asked to repeat the alphabet he became mixed toward the last. Station good; gait natural. No static or sensory ataxia of upper extremities. Knee jerk increased on right, normal on left. Same with elbow reflex. Grip of right hand nearly double that of left; similar disproportion in strength of legs. No apparent muscular atrophy. Tremor of both hands, more of the right than of the left. Pulse, 96. He frequently felt faint, especially when excited or nervous. Face readily became blanched or suffused. Slight trouble in swallowing. Larynx: abduction of vocal cords normal; anæsthesia could not be made out. Efforts at coughing were toneless. He complained of being very nervous and was exhausted easily, especially in the afternoon; he had a sensation as if something was holding him down, pushing him down by the head, a sinking sensation. It fatigued him to talk and to eat. Sleep was not refreshing; he felt stiff and cumbersome in the morning. He was emotional and had crying-spells. Noises and excitement had a very bad effect on him.

It is unnecessary to give in detail the results of careful and repeated electrical examinations that were made, other than to say that the facial nerve and the muscles supplied by it responded to the faradic and galvanic currents on both sides. Although the records show individual variations at different times, they were not constantly in favor of either side and reaction of degeneration was never present.

Examination six months later, September 24, 1894, revealed practically the same conditions, except that there was slight diminution in size of the left upper and lower extremities, particularly manifest in the shoulder and thigh. The left half of the body was weaker than the right, and myotatic irritability, manifested by increased elbow and knee jerks and ankle clonus, was greater on the left side. There were no sensory disturbances except the loss of sensibility in the fauces and pharynx and absence of the palatal reflex. The tongue was less unwieldy, did not get caught between the teeth, and substances that he swallowed had no tendency to get into the larynx. He had gained eight pounds in weight, was not so emotional, had no syncopal attacks, could read a long sentence without stopping to breathe, and he did not become fatigued so easily. He had a stiff neck very often and a heavy dull feeling in the back of the head. Faradic contractility on both sides of the face was equal, the cheeks, lips, and muscles supplied by the fifth and seventh nerves all responding. The tongue felt flabby and showed sluggish electrical irritability.

Examination, July 2, 1895: He complained of general weakness, backache and headache in the morning, which wore off after he had been up for a time. There was considerable pain in the back of the head and in the eyes, particularly if he became tired. Fermentative dyspepsia continued, a symptom which had been troublesome from the beginning. When the head bothered him he had a weak, faint sensation in the stomach; when he became nervous, the contents of the stomach soured, and he felt a fluttering sensation in the abdomen and had an evacuation of the bowels. He had better control of himself generally and more confidence; speech was better until he became tired; then it was nasal, squeaky, and drawling. He com-

plained of a dry sensation in the throat; when nervous he had a tense drawing sensation in the lips and mouth, as if a rubber band were stretched across it, could not raise his voice, and felt that it was held by something at the pomum Adami. Fluids did not regurgitate except in gargling, when if he happened to throw the head back fluids would come through the nose. He had no feeling, he said, in the back part of the mouth and throat, and noticed that when he went in bathing he had to be very careful that water did not get into the air passages. Bladder, bowels, and sexual functions normal. He had seminal emissions when fatigued. Circulation good. All the symptoms were greatly accentuated when he was tired; at such times he could not keep his eyes fixed on an object and had a feeling that some one was stuffing cotton in the eyes and in the left ear. Taste, touch, and smell normal. He could make a whistling noise, but not a tune; cough was nearly toneless. He swallowed fluids and solids equally well, but had to be careful, for if he attempted to swallow rapidly he choked. Occasionally the tongue would get in the way of the teeth, especially if he was excited or tried to hurry; he was unable to draw the tongue down on the right side. Partial paralysis of the soft palate, palato-glossus, and palato-pharyngeus muscles. Anæsthesia of the soft palate and of the back of the pharynx. Paresis was shown by the inability to draw the muscles of the soft palate upward. No anæsthesia of the epiglottis or of the larynx. The epiglottis seemed to close properly when the patient had singultus. In the larynx a partial paralysis of the arytenoides caused incomplete closure of the cartilaginous glottis. The imperfect tension of the vocal cords signified imperfect innervation of the crico-thyroid. Abductor muscles normal. The palato-pharyngeal reflex was slow and when a bit of cotton was carried into the palato-pharyngeal vault it was keenly felt. The patient was able to stand easily on either foot; the tendon jerks were exaggerated on the left side; the superficial reflexes were normal. Dynamometer: right hand, 95; left hand, 75. There was no ataxia of station or of locomotion. When he tried to shut the eyes an involuntary grimace resulted. An extremely annoying symptom to the patient was involuntary and uncontrollable smiling. These outbursts might be the result of some excitation by no means humorous. For instance, when riding in a car or sitting in church or theatre, if he happened to meet a woman's eye, his face would break into a smile or broad grin. The upper lid of the left eye and the left side of the face were not so expressive and were less mobile than the right side. Voice about as formerly, bulbar. With some amelioration of the symptoms, and a moderately good condition of his general health and strength, which allowed him to earn a living by a light occupation, this represents his condition to-day, now more than two years after the original trouble.

A brief recapitulation of the symptoms show in first attack:

1. Premonitory symptoms of some weeks' duration; then twitching of the right side of the face.
2. Gradually increasing dysarthria.
3. Immobility of the right side of the face. Inability to wink right eye.
4. Some weakness of left half of the body.

These symptoms gradually abated, but he remained very nervous and very susceptible to all sorts of excitation.

Several months later a second attack of sudden onset occurred.

1. Dysarthria, rapidly increased, nasal twang.
2. Dysphagia.
3. Weakness of the left side of the body, slight hemiplegia.
4. Left side of face immobile.

5. Examination some time later showed no cutaneous sensory disturbance.
6. Hemiparesis of the left side.
7. Exaggerated tendon reflexes on the left side.
8. Tongue somewhat immobile; some anæsthesia of the fauces, tonsils, and pharynx; difficulty in puckering the lips; inability to whistle; speech drawing and nasal; dysarthria; some tachycardia.
9. Partial paralysis of the arytenoideus, imperfect innervation of the crico-thyroid.
10. Involuntary smiling and grinning, uncontrollable.
11. Some atrophy of the musculature of the tongue and slight wasting of the left upper and lower extremities.
12. General bulbar symptoms, vasomotor, tremor of hands, emotionalism, band sensation around lips, nervousness, amyosthenia, etc.

First, as to the nature of the lesion. The age of the patient is against hemorrhage; the absence of a syphilitic, rheumatic, or diathetic history against thrombus; and the integrity of the valvular apparatus of the heart against embolism. Nevertheless, the premonitory symptoms, extending over a considerable time and varying from day to day dependent upon the condition of the patient's vitality and the inroads being made on his stock of vital resistance; the gradual onset of the disease; the severity of the first attack, reaching its height only after several hours, and then the slow amelioration after the symptoms had persisted for a time, bespeak unequivocally, the absence of diathesis or previous syphilis notwithstanding, in favor of thrombosis. The occurrence of a second attack, although not in the same blood-vessel or locality, bears testimony, I believe, to the correctness of this view. We are assisted in the localization of the lesion in this case not alone by a consideration of the symptoms briefly recapitulated above, but by a consideration of the symptoms that are absent. In the first place, integrity of the third, fourth, fifth, sixth, seventh, and eighth nerves; the absence of sensory disturbances, tactile, thermal, pain, and muscular in the face as well as on the body; and the absence of equilibrium disturbance exclude a pons lesion. (We have taken it for granted that the symptom complex is either pontal or bulbar.) The twitching of the face and the succeeding immobility are irritative symptoms of the seventh nerve or nucleus involvement. The fact that there was no diminution of faradic irritability or a more susceptible response to the positive than to the negative pole, that is, reaction of degeneration in the seventh nerve and its musculature, shows that the involvement of the seventh was of sufficient severity to produce irritation but not to produce paralysis. Dysphagia and anæsthesia of the soft palate and back of the pharynx point to involvement of the glosso-pharyngeal; tachycardia and paresis of some of the intrinsic muscles of the larynx to the pneumogastric. The integrity of the spinal portion of the eleventh is shown by the equality of the shoulders and normal appearance and activity of the trapezius and sterno-cleido-mastoid muscles of one side as compared with the other. Involvement of that portion of the eleventh which comes from the medulla is shown by paresis of the vocal cords and velum palati. The involvement of the twelfth nerve is shown by the dysarthria, by the diminution of the mobility of the tongue, by the ease with which it becomes fatigued, and above all by the diminution in volume which the tongue has undergone.

Thus it will be seen that the lesion must have involved the ninth, tenth, and twelfth nerve nuclei. In addition there was motor paresis of the left side, which, although now considerably less than in the beginning, is still apparent on examination. There are also to be elicited on this side of the body physical

signs, such as increased myotatic irritability, exaggerated triceps and patellar reflex and ankle clonus, for the occurrence of which we may positively postulate a lesion somewhere in the motor tract which has caused a secondary degeneration to go on from the level where the focus is situated to the end of the fibres whose continuity it severs. That is, starting from the lesion, there has formed in the pyramidal tracts extending downward a pathway of connective tissue. It is to the presence of this newly formed tissue in the place of the normal neuraxons that we attribute the weakness of the left side of the body and the increased myotatic irritability. The cranial nerve involvement points to a certain level in the medulla. It is natural to infer that the involvement of the motor tract is at the same level, and as this level is above, or brainward to the decussation of the motor tracts, the lesion must be on the side of the medulla opposite to the hemiplegia, viz., on the right side. We may say, therefore, that the lesion in this case is on the right side of the medulla, extending above from the nucleus of the ninth (the glosso-pharyngeal emerging immediately below the facial) down to near the beginning of the motor decussation. The severity of the lesion has been expended principally in a ventro-dorsal direction and not laterally, as the absence of sensory disturbances, of ataxia, and of incoordination indicate. The intensity of the anatomical lesion was probably from below upward, as the slight involvement of the facial indicates. The symptoms now resemble those of an ordinary case of bulbar paralysis, except that they are more unilateral and less progressive. In fact, in this case the symptoms are not progressive, they are retrogressive. In the usual case of bulbar palsy of two years' duration it would be very unusual if the patient were able to return to work. It is probable that the anatomical condition at the bottom of not a few cases of bulbar palsy is primarily thrombotic in the beginning. But in most of these cases the process of thrombosis is a slow one, and occurs coincidentally in more than one small vessel, so that the secondary process is a slow but progressive one, and partakes more of the nature of a slow degeneration depending upon insufficient blood supply than it does of a sudden inhibition of function due to cutting off a considerable blood supply and a partial restoration when vascularity has become readjusted. In this case the artery that was thrombosed was the right anterior spinal, a branch given off from the vertebral immediately after the posterior inferior cerebellar. The median branch of this artery passes dorsally in the raphe and divides in the median portion beneath the nuclei situated near the floor of the fourth ventricle. The pyramids are supplied either from this artery or directly from the vertebrals. It is well to remember that the artery on the right side, the side in which the lesion is situated in this case, is very much smaller than the left.

Of the symptoms that have been enumerated, one or two deserve especial mention. The attacks of involuntary laughter or grimacing of which the patient complained are interesting. These manifestations in the emotional muscles, aside or divorced from any psychical accompaniment of the emotional state, have been noticed in other focal diseases of the brain, particularly in capsular lesion (Bechterew), in lesion of the basal ganglia (Brissaud), in lesion of the bulb (Collins), and in multiple sclerosis. They are to be explained on the supposition that the reflex centres in charge of the physical or mechanical side of the emotional display are, by reason of disease in themselves or on their connection, disassociated in part from the higher centres which preside over the psychical side of the emotions. In such case the normal relationship existing between the psychical areas and the

purely reflex is perverted, and cognizance of the former to a pleasurable impression may be manifested by tears, or *vice versa*. In a similar way may be explained the absence of inhibition of which these patients complain. An impulse coming down from the psychical areas is not given the usual reception by the reflex centres, on account of their disease, and the result is that the efforts at inhibition or control go askew.

CASE III.—E. M——, thirty-one years old, by occupation a painter, entered the hospital for nervous diseases in September, 1894. He is married and the father of three healthy children. In March, 1894, he had a severe diarrhoea which lasted for some weeks; cause unknown; eight to ten stools a day. Present illness began in May. The onset was sudden. He was all right the evening previous to the onset of his illness. The first symptom was a severe prolonged chill, followed by violent vomiting—hæmatemesis. Shortly afterward he became delirious. He was treated in Roosevelt Hospital for pneumonia. After he had been in the hospital about two weeks it was noticed that he could not talk plainly; speech became stumbling and nasal; fluids came through the nose; finally articulation became so imperfect that his wife was quite unable to understand him, and he had trouble in swallowing.

Examination, February 27, 1895: Face expressionless and staring; mouth open; lower lip hanging; he looked as if about to cry. Body not emaciated; circulation fairly good; pulse rapid and weak. He was unable to whistle, but could puff out the cheeks. There was no dribbling of saliva. The tongue could be protruded and turned from side to side; there was slight unwieldiness when he carried it to the roof of the mouth. There was no atrophy of tongue; it did not get in the way and get bitten. Speech was marked by dysarthria, almost complete anarthria, and was very nasal. He could not cough and efforts at coughing were toneless. Pharynx sensitive, although not completely normal. The patient found it quite impossible to speak a word distinctly; he slurred the vowels and was unable to pronounce consonants. Knee jerk marked by exaggeration. Trapezius reflex lively; triceps reflex increased. Slight ankle clonus. No atrophy; muscular strength good; surprisingly strong grip. Moderate hyperalgesia, particularly of the lower extremities. Some ataxia of upper extremities. Pupils contracted to light and distance; no ocular palsies. Bowels and bladder were normal; he had had no trouble with them. When he stood his body was flexed on the pelvis and he could not walk without holding on to something. The head was bent forward. Psychically, memory was good and apparently unimpaired; he was easily moved to tears and easily depressed. He showed a tendency to fall forward when standing or attempting to walk, although when he was made to stand up erect, with feet together and eyes closed, he did not sway. Pulse easily excited, about 100. Apparently he had no difficulty in swallowing. No evidence of atrophy in tongue or palate, extremities, lips, etc. Electrical examination showed that the faradic current produced contraction in the muscles supplied by the fifth and seventh nerves, in the tongue and soft palate, and all the muscles of the extremities.

November 13, 1895: Mobility of eyeballs intact. No nystagmus. Functions of third nerve normal; pupils contracted to light and accommodation. Mobility of forehead and eyelids fairly good, but movements slow. Muscles of expression seemed to be in a state of persistent relaxation, but were slow in psychical response. He could blow out both cheeks equally, could pucker the lips, but was unable to whistle. Sensibility of both sides of the face preserved and acute. Jaw clonus very marked. No drooling.

Movements of tongue free and dexterous. The uvula raised itself promptly and vigorously when he said "ah!" Palatal reflex intact. No anæsthesia of pharynx or uvula. In the lips, face, and tongue faradic irritability was preserved. The reflex for swallowing situated on the front of the throat above the pomum Adam; was easily stimulated by the faradic current. Sense of taste was normal. There was almost complete anarthria. The act of swallowing was performed rapidly and apparently with ease. On account of the loss of prehensibility of the lips there was some apparent disturbance in taking food and fluids into the mouth, but when they were once in he disposed of them easily. The eighth nerve was intact. Pulse weak and feeble in character, about 90 per minute, and easily accelerated; arterial tone sluggish. Knee jerks lively and exaggerated; slight patellar clonus on both sides; no ankle clonus. There was some apparent spasticity, but it could be overcome without difficulty. There was no ataxia of the lower extremities. The superficial reflexes, plantar, abdominal, and testicular, were normal. Sensibility seemed to be entirely intact. Dynamometer: right hand, 80; second trial, 60; left, first trial, 60; second trial, 50. There was considerable ataxia of the upper extremities. A peculiar kind of a tremor was to be seen in the index finger and thumb of the right hand when he made efforts of prehension. It was manifested when the patient tried to pick up in succession a number of small coins. When he succeeded in getting the second one between the fingers, which he did with a great deal of clumsiness, the fingers and thumb took on a movement very similar to the pill-rolling movement of paralysis agitans. This was the only purposive movement by which the tremor could be detected. It was more marked in the right than in the left hand. There was considerable spasticity of the upper extremities, more passive than active. The elbow reflexes were exaggerated. Myotatic irritability of the upper extremities and of the shoulders was abnormally lively. There was no muscular atrophy. The patient held himself in a flexed, rigid position, with the head bent forward; the thorax was fixed, and he was unable to furrow between the shoulders. The posture of the patient reminded one forcibly of paralysis agitans. The patient was barely able to stand alone with the feet wide apart and was not able to stand with the feet together. When he walked it was with the same rigid fixation of the body, and he reminded one of a stilt walker. There was more spasticity of the upper than of the lower extremities, and there was likewise greater incoordination and diminished dexterity of the upper extremities. Although he had really great strength in the hands and arms, he could not handle a knife and fork; meat had to be cut for him. It should be emphasized, however, that real ataxia was not very marked.

January 1, 1896: Tactile, temperature, and pain sensibility exquisitely preserved. All these were preserved with noticeable acuity in the face as well as on the surface of the body. Muscular and articulatory senses normal. Palatal sensibility and palatal reflex preserved. Corneal reflex prompt and active.

The clinical history of this patient is not an easy one to construe. The most important points in its development are that it came on during an acute infectious illness, true lobar pneumonia or grippal pneumonia. The striking clinical features of the disease were difficulty in swallowing, difficulty in phonation and articulation, regurgitation of fluids through the nose, and a positive loss of definite association between muscular strength, which was always quite well preserved, and ability to use this strength. At the present time there is no way of determining from the course of the disease what the actual lesion in the medulla was. That it was in the medulla, I

think there can be no doubt, as the one extra-medullary disease with which it might be confounded, associated neuritis of the bulbar nerves, can be excluded by the course of the disease.

The diagnosis in this case must be between poliomyelitis bulbi, acute inflammation in the substance of the medulla analogous to anterior poliomyelitis, and thrombosis of one of the bulbar arteries. The first disease, as is well known, is a very uncommon one. Yet a sufficiently large number of cases which have been carefully studied clinically and anatomically to have firmly established its reality have been reported. It occurs, like its analogue, anterior poliomyelitis, in the wake of acute infectious diseases, such as pneumonia and influenza. From its clinical history it cannot positively be differentiated from thrombosis and hemorrhage of the medulla. Its occurrence, however, may be conjectured mainly by the onset and course of the disease. In the former the symptoms unfold themselves with less brusqueness than in the latter. In the beginning of the former disease many groups of ganglionic cells or nuclei of the medulla may apparently have been seriously affected, on account of more or less complete inhibition of function, but after the acute manifestations, those corresponding to the exudative stage, have subsided, it will be seen that only a part of a nucleus or of more than one nucleus may have suffered any permanent damage. The course of the disease from this time onward is of more diagnostic significance. In poliomyelitis bulbi the disease will make no progress. That is, there will be no symptoms corresponding to those which may occur after thrombosis and which are dependent upon softening or other nutritive disturbances. Likewise there will be no considerable improvement, except in a general way and except that which can be explained by predicated assumption of function in part by those cells of a nucleus that have escaped serious injury.

In this case the symptoms have remained stationary for nearly two years. The patient presents in no manner the syndrome of chronic degenerative bulbar paralysis, except that the *facies* remind one of the latter. The functions of the tongue, which were first impaired, are intact and point to integrity of the hypoglossal nerve. It is only the nuclei of the glosso-pharyngeal and pneumogastric that would seem to be affected in conjunction with affection of the central motorial neuron projection, the pyramidal tracts. Further than this it does not seem justifiable to make a pathological diagnosis.

As was said in the beginning, the object of this paper is to utilize clinically for the benefit of our patients knowledge gained by the study of similar cases on the post-mortem table and in the laboratory, that it may guide us in our therapy.

47 WEST THIRTY-EIGHTH STREET.

Tabes Dorsalis and Syphilis.—Dr. Storbeck (*Zeitschrift für klin. Med.*, Bd. 29, p. 141) gives the following statistics derived from the histories of one hundred and eight cases of tabes in the hospital and private practice of Professor Leyden. Twenty-two of these were syphilitic; twenty-three had doubtful histories and in sixty-three syphilis could be excluded. If one-half the doubtful cases were really syphilitic the result would be 30.6 per cent., which Storbeck, from the frequency of syphilis, thinks is not higher than could be expected, so that the relation of the two diseases does not seem to him established. The value of the article is augmented by the fact that it contains short clinical histories of the one hundred and eight cases and a table showing the percentage of syphilitic cases in tabes according to forty-eight authors, from the ninety-seven per cent. of Déjérine to the zero of Mayer.

A SINGULAR CASE OF PATENCY OF A GÄRTNER'S DUCT.

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THE patient was nearly fifteen years of age, very large, well-developed, and in perfect health of body and mind, but all her life had been greatly annoyed by a constant watery discharge from the urethra. The exact amount of the discharge could not be estimated. That it was considerable may be inferred from the fact that it kept her underclothing wet all day and saturated a protecting napkin at night.

She retained her urine the normal length of time; urinated freely and without pain or discomfort. The discharge from the urethra was not modified in quantity by the erect or recumbent position, nor by the empty or distended condition of the bladder. The most careful examination of all the pelvic organs revealed nothing abnormal, excepting a slight ridge or fold of mucous membrane in the vagina on the right side anteriorly. This elevation or ridge ran from the upper third of the urethra upward to the junction of the vagina and cervix uteri.

Its presence attracted my attention but did not impress me as anything of importance. The urethra was rather short but normal in every way, and the urethral ducts also; and I presumed that the muscular tissue might be defective at the neck of the bladder, and hence there might be a slight incontinence. This, however, was not sustained by the clinical history. The patient was admitted to my sanatorium, where I was able to investigate the case thoroughly.

Under the observations of a skilled nurse it was determined that the discharge came from the urethra and that there was no leaking from the bladder. I then suspected that there might be an irregular implantation of one ureter. A cystoscopic examination was made and both ureters were found in their normal position and were performing their function all right. Double bladder was thought of, with a communication between the one into which the ureters entered and the other. This idea was abandoned, because no known derangement of development could eventuate in such a malformation. Being unable to find any cause for this discharge in any lesion of the bladder, I examined the fluid and found that it contained a very few epithelial cells and a trace of albumin, but none of the constituents of urine. It was not urine at all, as had been supposed. A number of endoscopic examinations of the urethra were made at different times in the hope of finding the opening into the urethra, with most discouraging results. Finally, on one occasion, after making a prolonged exploration (with a fine probe used through the endoscope) of the upper part, I withdrew the instrument a very little way and observed a jet, as fine as a hair, of clear fluid. The discharge had been stopped by the pressure of the endoscope, and on the removal of the pressure the discharge came with force enough to make it visible. I then tried to introduce a probe into the opening, but that was impossible, owing to its small size. The opening, I observed, was at the place where the small ridge in the vagina joined or disappeared in the wall of the urethra. I at once concluded that this ridge contained a patent Gärtner's duct that was the source of the discharge. Several other careful and prolonged efforts were made to probe the duct in order to confirm the diagnosis, but without success.

Though much gratified with having discovered with reasonable certainty the nature of the trouble, I was perplexed about the treatment, but finally determined to close the entrance of the duct into the urethra. This was accomplished by passing a ligature round that portion of the vaginal wall (close to the urethra)

which was presumed to contain the duct. The ligature was tied quite tight, and to my great satisfaction the discharge was promptly and completely stopped. The following day the ridge in the vagina was enlarged considerably, most at the upper portion. This confirmed the diagnosis of a patent Gärtner's duct. I then divided the ridge or fold of the vagina just above the ligature, and about a drachm or two of clear fluid escaped. I then cut away the whole of the ridge of the vagina. In the portion thus removed I found the duct, which was very small at the lower part but large enough at the upper part to admit a pocket-case probe.

There was some bleeding, which was arrested with a tampon. The vaginal wound healed readily, leaving the end of the duct open through which the probe could be passed up to the parovarium. A clear discharge, in diminished quantity, continued. Tincture of iodine with five per cent. of carbolic acid was injected into the duct. After this there was pain and some rise of temperature, which subsided in about thirty-six hours. Several days after this there was a slightly colored discharge, very small in quantity, which subsided completely, and there was an end to the trouble. Apparently the portion of the duct left became obliterated. All examinations were made and the treatment employed without anæsthesia, which shows that my patient possessed remarkable self-control and was quite heroic.

This is the first case of patency of Gärtner's duct opening into the urethra that I have ever seen; neither have I found any such case recorded in the literature on the subject. The case must be of special interest to the profession on account of its being unique, the difficulties of diagnosis, and the special treatment required, which proved successful. The subject is of personal interest because it confirms the opinion that I have always held, that Gärtner's ducts are quite distinct from the ducts of the urethral glands, which I described years ago.

This whole subject has been treated in an original and masterly way by Amand Routh, M.D., B.S., M.R.C.P., in vol. xxxvi. of the Transactions of the Obstetrical Society of London. In this valuable contribution, entitled "On Cases of Associated Parovarian and Vaginal Cysts Formed from a Distended Gärtner's Duct," he gives the history of cases occurring in his own practice and that of others. He also relates two cases in which the persistent Gärtner's duct opened into the vagina. One is by Mr. Milton, of Cairo, Egypt, and the other by Lawson Tait. The following gives Dr. Routh's views on this question:

"Details of three cases of the above are given, and also of two analogous cases of patency of the whole length of the duct, with an anterior opening allowing free discharge, and thus preventing distention of the duct along its course.

"Comparison is drawn between such cases and those of distended but imperforate Müller's ducts.

"Evidence adduced from these cases is thought to establish, or at least to render plausible, the following propositions:

"1. That Gärtner's duct can be traced in some cases in the adult female from the parovarium to the vestibulum vulvæ, ending just beneath and slightly to one side of the urethral orifice.

"2. Homology tends to show that Max Schüller's glands are diverticula of Gärtner's ducts, just as the vesiculæ seminales are diverticula of the vasa deferentia. Some evidence is given that Skene's ducts are not necessarily identical with the anterior termination of Gärtner's ducts (as most of those who have traced Gärtner's duct to the vestibule have thought), but that Skene's ducts lead directly and solely from Max Schüller's urethral glands, Gärtner's ducts being continued

to the vestibule, behind but parallel to Skene's ducts.

"3. That Gärtner's duct, if patent, may become distended at any part of its course, constituting a variety of parovarian cyst if the distention be in the broad-ligament portion, and a vaginal cyst if the distention be in the vaginal portion. The cases described are instances of the association of both of these cysts, owing to simultaneous patency and distention of both portions of the duct.

"4. Attention is drawn to these cases as affording explanations of some obscure cases of profuse watery discharge from the vagina, not coming from the uterus or bladder.

"5. The question of treatment is also approached, and the opinion is expressed that where the whole duct is distended the vaginal part of the cyst may be laid open as far as the base of the broad ligament, and the broad-ligament portion encouraged to contract and close up.

"A very valuable work on The Duct of Gärtner, by Bland Sutton, was published in 1886, giving his results of examinations of seventy cows; and Mr. Alban Doran, in his review of this work, points out that as Gärtner's ducts are generally admitted to be the homologues of the vasa deferentia, and as the vesiculæ seminales are diverticula of the vasa, close to their termination on the floor of the prostatic urethra, it follows that the Max Schüller's glands of the female urethra are the homologues of the vesiculæ seminales, and he agrees with Bland Sutton in thinking that in woman, as in *Boas*, Skene's tubes represent the anterior termination of Gärtner's ducts. This latter conclusion is not, I think, correct.

"When this view was expressed in 1886, no cases had been published of a persistent Gärtner's duct opening at the base of the vestibule; but the cases now given, and other cases of cysts formed out of the vaginal portion of Gärtner's ducts, show that the opening of Skene's ducts and the opening of Gärtner's ducts are not necessarily identical in situation."

I am glad to add this case in further evidence of the ground taken in my first studies in this department.

CASE OF TUBERCULOUS ORCHITIS SUCCESSFULLY TREATED BY THE GALVANIC CURRENT—PERMANENT CURE.

BY HALSTED BOYLAND, M.D.,

OF THE FACULTY OF MEDICINE OF PARIS; FORMERLY PROFESSOR IN THE BALTIMORE MEDICAL COLLEGE, ETC.

THREE years have passed since this case was treated and as there has been no relapse the result obtained may be regarded as a permanent cure.

Mr. H—, when seen by myself for the first time in November, 1892, was suffering from what he supposed was a swelled testicle combined with irritability of the bladder. He had been a dyspeptic for some years past, gradually losing in weight, and presented at this time a slightly cachectic appearance; both lungs were perfectly normal, however, and the heart's action was good. There was no albumin nor sugar in the urine, but some engorgement of the liver existed. All these symptoms yielded to the treatment instituted, namely, four grains of benzoate of lithia in a glass of vichy water morning and evening and a pill at night composed of rhubarb, blue mass, taraxacum, and quinine—one grain each. The cachectic symptoms rapidly disappeared, having been entirely due to the liver. The restless nights of which the patient had complained were more quiet and there was a general improvement at the end of a week, except as regards the testicle; this had increased a little in circumference, the enlargement being on the right

side and about the size of a very large hen's egg. The question of general tuberculosis was now solved and put aside, while local tuberculosis became more and more probable. The absence of any syphilitic taint, past or present, excluded the diagnosis of syphilitic orchitis; then the slow and insidious development of syphilitic testicle was wanting. In this case the increase in volume had been only moderately rapid, and there had at no time been lancinating pains nor was there any hereditary taint either of syphilitic or cancerous nature; the diagnosis of malignant tumor of the testicle was therefore excluded. A small opening established itself a few days later, from which a thick, whitish, caseous matter could be pressed. The testicle on being squeezed was not particularly painful nor had it been all along. The lancinating pains so characteristic of cancer had always been absent. A microscopical examination of this matter revealed the bacillus of Koch. There was, therefore, no longer any doubt regarding the diagnosis—the case was evidently one of tuberculous orchitis. Here, then, we had a case of tuberculous orchitis absolutely circumscribed and no tuberculous deposit in any other organ, it being the second case of this kind that has happened in the writer's experience and controverting entirely the received opinion that when local tuberculosis exists there are always tuberculous deposits in other organs, notably in the lungs. A microscopical examination of the sputa resulting from a slight morning cough showed no bacillus of Koch and the physical signs of the lungs were normal.

It was now decided to have recourse to galvanism in the form of the constant current, in accordance with which daily applications were begun by placing the electrode of the positive pole directly on the testicle and that of the negative pole on the spermatic cord. The duration of each application was ten minutes, the strength of current being ten milliamperes, the first application being made on November 6, 1892. The effect of the current was almost instantaneous. At the end of each application the testicle was undoubtedly smaller than at the beginning and drawn up to the superior region of the scrotum. Each day there was perceptible diminution in its size, observable also before applying the current. The secretion through the opening, however, did not keep pace with the diminution in size; on the contrary it became more abundant and thinner, but did not at any time assume the character of pus. The testicle was now washed out internally with lukewarm water and a solution of camphorated naphthol and olive oil, two drachms to the ounce, injected through the opening in the scrotum directly into the tuberculous mass, the testicle having been well pressed and all detritus and caseous matter thoroughly gotten out beforehand. The quantity injected each time was two drachms. The electrical application was then made and the wound subsequently pressed with camphorated naphthol. The discharge began to diminish and to thicken somewhat, the caseous character changing to a fluid of a smooth, whitish consistency, which in two weeks more became serous, very scanty, and a few days later ceased altogether. The testicle was now reduced to four-fifths of its volume at the beginning of the treatment, and the general health of the patient was satisfactory. In order to be sure that no pockets nor secondary deposits had been made and left in the testicle, a small incision was made followed by a thorough examination. Nothing was obtained beyond a few drops of blood. The testicle presented a consistency similar to the normal one, although there was, as a matter of course, some obliteration of the epididymis, which formed a thick mass with the testicle and spermatic cord. The wound healed in twenty-four hours by first intention, when the electrical treatment was resumed. This was on December 28th, or just

one month and two days from the time when the case was first taken in hand. There had been from December 18th a slight return of the old irritability of the bladder, doubtless sympathetic, for it was confined to the trigonum, and there was no prostatic disease nor enlargement of any kind, as digital examination proved. When the discharge had disappeared and the testicle had become so much reduced in size, the vesical irritability entirely ceased and never returned again, removing with itself all doubts as to its origin.

The daily galvanic applications were continued until January 13, 1893, when the testicle was reduced to the normal size and there was a *restitutio ad integrum*, the only difference between the right and left sides being a scarcely perceptible feeling of thickening of the epididymis at its junction with the cord, all the parts being now perfectly and easily recognizable by palpation. There had naturally been considerable obliteration of the afferent and deferent vessels, also of the seminal ducts, followed, however, by a reconstructive metamorphosis, and although the question of impregnation from the testicle that had been diseased might be open to some doubt, it really made no difference practically, as that on the other side had remained perfectly normal. During the ten days in which there was a slight return of the vesical irritability a current of the same strength, ten milliamperes, was passed through the bladder for five minutes immediately after treating the testicle; the positive electrode being placed on the perineum, the negative just over the pubis, avoiding of course the bone, which being a non-conductor would have seriously interfered with the current, although it would not have stopped it altogether, as we know by our experience of sending a current from one mastoid process to the other. The only other change made in the treatment was to increase the strength of the camphorated naphthol solution from that of two drachms to the ounce or one-quarter used in the beginning, first to four drachms to the ounce or half strength, then to six drachms to the ounce or three-quarters strength. Each of these solutions was used for a few days progressively, when the naphthol camphré was used pure until the wound healed entirely.

The patient, who had been confined to his bedroom for some weeks, dating from the 26th of November, was able to go out for carriage exercise the latter part of December and to come to me for treatment on and after January 1st, the testicle being treated at his apartment in the morning in the usual way. I gave him static electricity as a general tonic in the afternoon. My dielectric machine is one of Carré's, No. 4, the largest size constructed, with an ebonite disc sixty centimetres in diameter and capable of giving sparks twenty-seven centimetres in length. The electromotor force of these machines is reckoned by the rheostat voltameter at about ten thousand volts, static volts differing considerably in force from those of the continued galvanic or alternating currents. The patient is placed on the isolator in direct communication with the machine by holding in his hand the metallic conducting-rod, and for fifteen minutes is subjected to the effluvia of ozone alternating with static sparks; this was done daily for thirteen days, at the end of which time he left me entirely cured, having recovered his normal weight and color. He wrote to me some months subsequently and after his return to America, saying that he has had no return of his old trouble. He came back to Paris about two years from the time he ceased treatment and was then still in good health. In this paper the term orchitis is used in its general sense, although the main seat of the disease was the epididymis, the body of the testis being only in part indirectly affected, the thickening of the tunics giving

as usual in the different varieties of orchitis the appearance of one solid voluminous inflammation—hence the generic term orchitis. There are undoubtedly cases in which the testis proper is primarily affected, the epididymis remaining intact, but these are rare, and even then the immunity of the epididymis is not absolute, there being almost always some participation in the pathological process, whether sympathetic or direct. In passing the current through the bladder, care should be taken to have the electrode to be placed on the perineum made oblong and narrow to fit the parts, that placed above the pubis being about two inches in diameter. The ascending current is preferable. Although the question in which direction the current should be passed, up or down, in general is still in discussion, the author would say after an experience with electricity of many years that he has found the ascending current detergent, decongestive, and dispersive; the descending current, on the contrary, sthenic, reconstituent, cumulative. The action of the galvanic current on the tissues is purely chemical by cataphoresis and it is for this reason that it is destined to render still greater successes than any yet achieved in medicine or surgery.

How came this testicle to be tuberculous, there being no tuberculous deposit in any other organ nor any tuberculous history in the family for several generations back? As it is well known that the bacillus of Koch is carried in the mucous membranes of the mouth in health, it must be, according to the evidence furnished in this case, that the same bacillus is stored away in other membranes and organs, where it remains latent and innocuous until the bactericide condition is overcome by general weakness and a porte d'entrée is found always in the locus minoris resistentiæ. The etiology and semeiology of circumscribed tuberculosis would carry us too far beyond the limits of this paper, which is essentially a clinical one.

PSEUDO-MALARIA.

By REG. A. FERGUSSON, M.D., L.R.C.P. EDIN.,

BAKERSFIELD, CAL.

"THE term malaria should be limited to a definite disease in which we know there is a specific infectious origin" (Rotch).

My proposition is, that in the genus of diseases called malaria there are two species:

- (a) A true malaria due to earth-bred protozoa, and
- (b) A pseudo-malaria due to the presence in the system of toxic metabolites or of ptomaines.

For fourteen years it has been my fortune to have under observation the endemic diseases prevalent during the agricultural development of a new country and the growing up of a community. Bakersfield is the county town of Kern County. Kern Valley is the southern portion of the great San Joaquin Valley of California.

In a given locality the peculiar conditions of climate, of soil, and of water, the drainage and general sanitation, the manner of living of the inhabitants, and the presence or absence of malaria are the initial factors in the production of the diseases endemic in that locality.

The climate of Kern Valley is subtropical, continental, and dry, and, as in all districts away from large bodies of water, the tendency is to cool winters and hot summers. The rainfall averages five inches a year and occurs during the winter and spring. The mean winter temperature is about 52° F. The mean summer temperature is about 83° F. The annual range is from about 28° F. in December or January to 110° F. in July or August. The variation during the twenty-four

hours is from 25° F. to 50° F. The soil is principally a richly fertilized, deep alluvium, annually watered by the waters of Kern River and other mountain streams. The inhabitants are agriculturists or of the usual occupations of a small town, and are mostly immigrants from maritime and temperate continental climates.

Previous to the last fifteen years the rich soil had not been brought under cultivation and its energies were not expended in the growth of cultivated crops, but in rank vegetation; the land was intersected by sloughs and lakes and sluggish streams overflowing in the spring and drying up in the summer and autumn; the inhabitants obtained their drinking-water from these sloughs and streams or surface wells, and lived as only the inhabitants of a newly settled agricultural country may live. Under those conditions the most evident endemic disease of the country was due to an earth-born poison which invaded the body by the intermediate agency of the damp miasm and the drinking-water. Clinically this disease presented all the types of intermittent and remittent fevers called malarial. It also occurred as a pernicious, rapidly fatal intoxication, and as a chronic cachexia with degeneration of the blood and tissues, but most frequently it presented itself as a continued remittent fever. This latter type had a most unenviable notoriety throughout California and was known as "Bakersfield" or "Kern Island" fever. It was a remittent fever of severe type, with disintegration of the red blood corpuscles, and was variously complicated by every morbid condition that may arise from active or passive congestions of any of the internal organs. The most fatal complication was pneumonia. These diseases were due to hæmatozoa. In their treatment quinine was the only medicine that could be relied upon.

Since 1884 there has been a rapid disappearance of these protozoic diseases. During the past fifteen years there has been a radical change in the physical conditions of the country. The soil, naturally well drained by substrata of sand and gravel, has been brought under cultivation and its energies expended in the growth and sustenance of cultivated crops; particularly in the production of vast fields of alfalfa (lucerne). This plant, like unto the eucalyptus, sends down tremendous roots into the soil, acting as living drains, and offers an immense area of green foliage to the air. The swamp lands have been reclaimed, the waters dammed off from the lakes, and sloughs and their beds turned into cultivated ranches. The waters of Kern River are diverted into irrigating ditches free from rank vegetation and filled with running waters. The water supply for drinking-purposes has ceased to be from surface wells and sluggish streams. It is now obtained from deep wells and artesian fountains, of which the source is the everlasting snows of the high Sierras and the course of which is through underground gravel strata deeply hidden from protozoic infection. Under these conditions of soil and water-supply malaria due to hæmatozoa has ceased to be endemic in Kern Valley. "Bakersfield fever" is an exorcised spectre.

The species of malaria which I have been led, by clinical observation and the results of treatment, to regard as pseudo-malaria is still prevalent. It is a comparatively mild disease.

The symptoms of this disease vary from those of a mild indisposition or "bilious attack" to those of a more severe toxæmia. Instead of the unconscious feeling of well-being that accompanies good health there is a depressed feeling, with a sense of being tired and listless, and a strong disinclination to bodily or mental exertion. With this are associated general aches through the body and limbs, markedly under the shoulder-blades and around the waist; dull head-

ache, giddiness, and disturbed and dreamful sleep; foul tongue and bad taste, especially on awakening; anorexia; stomachal cough and foul breath; the functions of the alimentary organs are sluggish and irregular; liver dulness is sometimes slightly increased, with some tenderness of the capsule. The skin is usually dry and harsh, sometimes has a soft velvety feel; the sudoriparous glands are irregularly superactive and the perspiration is somewhat disagreeable; the conjunctivæ are muddy. The urine is highly colored and offensive. The spleen shows no morbid physical signs. There may be a slight tenderness over the splenic region, but it appears to be due to disturbance in the colon. There is always chilliness, sometimes there are mild rigors, and moderate irregular pyrexia. Patients with a history of previous protozoic toxæmia often show marked paroxysms and periodicity in the symptoms, and sometimes increased splenic dulness and skin pigmentation; it is in these cases that quinine medication is liable to be abused.

The above symptoms are due to some intoxicating element coursing with the blood and permeating the tissues. In the cases I have had under clinical observation I strongly doubt that an invading protozoon is a factor. The causes of this disease are errors in the adaptation of the manner of living to the habitat, and to errors in alimentation. These errors produce disturbances in the chemical and physical forces by which the cell protoplasm is transformed into simpler chemical elements unfitted either for the economic functions of the system or for excretion, and they interfere with the process by which the living cells take up and convert into their own proper substance the nutritive material brought to them by the blood. Hence toxic metabolites are produced in the system. These errors also bring about putrefaction of various kinds of albuminous matter in the alimentary canal and thus produce ptomaines.

These errors occur most markedly where a people have changed their habitat and not their habits, and where their modes of sustaining and protecting their bodies have no regard for their special conditions and special needs. This pseudo-malaria, as a result of these errors, is more prevalent when a change is made from a climate where the strain on the organism is on the lungs and kidneys to one in which the strain falls on the liver and skin, as from a maritime to a dry, hot climate.

If alimentation errs from excess, from insufficiency, from poor quality of ingesta, in cookery, in non-adaptation to the locality and climate in which the subject lives, or if the living tissues and cells fail in the proper construction of the digestive ferments or in the proper destruction of effete material so as to fit it for elimination by the excretory organs, or if the excretory functions be vitiated in their action, there accumulate little by little in the liquids and organs of the economy various products, more or less toxic, which impress on the organism a vital depreciation with this pseudo-malaria as a common consequent.

The most frequent complications of this disease are functional derangements of and eventually chronic organic changes in the liver and other alimentary organs, and chronic dermatoses.

The indications for treatment are to remove the faults of the environment and of the daily habits of life, to correct the habits of food consumption, to set right the nature and composition and the cookery of the available foodstuffs, to protect the skin, and by so doing the nervous system from strain, especially the strain of sudden changes of temperature; to cleanse the alimentary canal, to increase the functional activity of the liver and intestinal glands, to stimulate metabolism, and to increase elimination by the skin, kidneys, and lungs.

Quinine is not a specific in this disease, and is possibly beneficial only in so far as it may stimulate metabolic action.

Progress of Medical Science.

Division of the Vas Deferens in Prostatic Hypertrophy.—Dr. Reginald Harrison recently delivered an address on this subject,¹ from which we gather the following: In 1893 Dr. W. White, of Philadelphia, suggested that castration might be tried as a remedy for troubles connected with certain forms of prostatic hypertrophy, with the result that this practice has now been adopted in numerous instances with some amount of success. It is interesting to notice, now that attention has been called to the possibility of its practical application, how often the fact has been stated in surgical literature that interference with portions of the genito-urinary tract is followed by atrophy of the prostate. If we turn to records of injuries to the vas deferens it will be found that Birkett, Hilton, and others have shown that atrophy of the testis is a sequence in the human male of rupture or section of this duct. If this is so, why should we not take advantage of it, and in this way induce prostatic atrophy without resorting to castration? It is probable that in a certain number of prostatic cases the amount of shrinkage of the gland necessary to make all the difference between a life of misery and one of comfort is comparatively slight. This is a conclusion which may fairly be drawn from the observation that, although prostatic enlargement is common, only a small number of males thus affected can be said to suffer from it. Dr. Harrison's method is described by him as follows: After trying several plans for dividing the vas after passing through the external abdominal ring, subcutaneous and otherwise, the following appears to be the best: The scrotum having been shaved and prepared antiseptically, the tube is carefully sought for as it enters the scrotum. It being held subcutaneously in position between the finger and the thumb, a vertical incision through the skin is made over it to the extent of an inch or so. The spermatic cord having been recognized, the vas is separated from the other constituents by the finger and forceps by merely carefully tearing away the connective tissue about it. In doing this care should be taken not to drag on the testicle too much, but to support it while a loop of vas is detached, so that the connections of the former may not be loosened. The vas should be well cleared of all other textures, and then a loop of it is gently drawn out through the wound with a blunt hook. The loop is then encircled below the hook with a silk ligature not too thick, which is tightly knotted. The ligature is cut off short, the extraneous portion of vas removed by scissors, and the pedicle dropped into its place. The wound is closed with a catgut suture or two, and fitted with a small drainage tube. There is no bleeding worth mentioning if the operation is done in this way, and the wound usually heals in the course of a few days. He has reasons for believing that in a short time the vas, thus treated, becomes converted into a fibrous cord, which eventually, with the corresponding testicle, undergoes atrophy. If the vas, before the ligature is applied, is carefully cleared of other tissues, pain is not usually complained of, as is often the case when the whole thickness of the spermatic cord is included in a ligature, as is sometimes done in cases of castration. Both vasa may be so treated simultaneously, but he prefers doing one

¹ "Clinical Remarks on Division of the Vas Deferens in Cases of Obstructive Prostatic Hypertrophy," by Reginald Harrison, F.R.C.S. Eng. Reprinted from *The Lancet*, February 22, 1896.

at a time. In the opinion he has formed as to the utility and propriety of dividing the vas in cases coming under this category he does not stand alone, and unless mistaken he anticipates that further evidence in support of it will soon be forthcoming. The literature, however, will already be found to confirm some of the conclusions he has thus ventured to formulate. Too much importance must not be attached to some experiments on animals which have been made in connection with this subject. The moral influence of certain conditions and the material changes they give rise to, in their relation to the genital function in the human male, find no counterpart in the animal species. In offering these remarks on this aspect of a most important subject, he does so in the belief that the case as he has endeavored to put it, though not fully proven, has been sufficiently made out by direct and indirect investigation as to warrant a fair trial being made of it before we adopt castration as a remedy for prostatic hypertrophy and certain of the troubles arising out of it. In a paper read since these remarks were made Professor Guyon, of Paris, has added important testimony in favor of this proceeding. He publishes the particulars of two cases of bilateral division of the vasa in men seventy years of age or thereabout, in which the benefits obtained were prompt and conspicuous, and in correspondence with effects already noted.

Lung Surgery.—Dr. Péan, of Paris, has made a special study of pulmonary surgery and announces the following conclusions: 1. The surgery of the lung, like that of the viscera, has of late made much progress, thanks to the perfection of our anatomical knowledge and to the improvement in operative procedures for the arrest of hemorrhage. 2. Equally favorable conditions for surgical intervention do not occur in all affections of the lungs. 3. Wounds caused by contusing bodies, by stabbing and cutting instruments, and by gunshot projectiles of small and medium calibre usually heal well without causing supuration or troublesome reaction. 4. The danger which results from such injuries is due, not to the injury of the lung structure itself, but rather to the multiplicity and extent of the wounds and to the lesions of important neighboring parts. 5. The surgeon should not intervene too hastily in these injuries, either by making a simple exploration or by attempting to extract a projectile which can be seen near the surface. 6. Large projectiles, such as fragments of shell, give rise, especially on the field of battle, to disorders which in a large majority of instances are so severe that it is impossible for the surgeon to ward off danger even by suturing the visceral and parietal layers of the pleura. 7. A certain number of spontaneous affections of the lung may be successfully dealt with if the surgeon be careful to make a study of symptoms and indications, and a proper selection of his operative measures. 8. Simple and gangrenous abscesses, when they are of limited extent, show no tendency to cure, and threaten life, are amenable to surgical treatment. 9. In such cases the results are almost always favorable. 10. It is advisable to open, scrape, drain, and even cauterize tuberculous abscesses of the lung, when these cause severe pain or have resulted in fistula, or contracted extensive adhesions with the pleura. 11. It is often useful in these cases to associate with such treatment partial resection of the ribs. 12. No benefit is likely to result from excision of fragments of the lung surrounding the tuberculous cavities, as the tubercle bacilli have already spread beyond the apparent limit of the disease. 13. It is advisable to open hydatid cysts of the lung, the surgeon taking advantage of adhesions when such exist, and establishing still further adhesions when those existing are not of

sufficient extent, in order to be able to wash out the cavity with antiseptic solutions. 14. Solid tumors of the lung should be extirpated when superficial; the occasions, however, for this treatment must be rare, as such growths are almost always secondary.—*La Presse Médicale*.

Primary Cancer of the Lung.—Dr. Wolf has published a record of thirty-one cases of primary carcinoma of the lung which have been met with in the Dresden City Hospital since 1885. The percentage of occurrence was .428. Twenty-seven cases occurred in men, four in women, and the ages ranged between thirty-six years and seventy years, the majority being past fifty years. The right lung was five times the seat of the tumor, the left lung three times. Thirteen times the right bronchus was affected, eight times the left bronchus, and twice both bronchi were primarily involved. In five cases the bronchial carcinoma extended to the trachea. Thirteen cases were complicated with tuberculosis, and in several instances the tuberculosis is asserted to be the cause of the later developing carcinoma. In one case miliary tuberculosis was observed, in another miliary carcinosis; in another both miliary tuberculosis and miliary carcinosis. The course of the affection is very various, and there is no distinctive clinical indication of the disease. The diagnosis is easier in a case of lung carcinoma, especially when the tumor is situated near the pleura, than in a case of bronchial carcinoma. In the former instance a circumscribed dulness in conjunction with great wasting, and catarrhal sputum free of bacilli but occasionally bloody, may suggest the affection. Pain is occasionally present, but naturally dyspnoeic symptoms are more common to bronchial carcinoma than to lung carcinoma. Implication of the bronchial glands often manifests itself by dyspnoea or recurrent paralysis. Metastasis is more apt to occur with bronchial than with the proper lung carcinoma, as in the former instance the affection of the bronchial glands favors implication of the great vessels. The presence in the sputum of particles of the tumor is rare, as it was observed in only one of the thirty-one cases.—*Fortschritte der Medicin*.

The Treatment of Acute Gout.—Dr. Jaccoud, of Paris, divides this subject into three parts, according as one has to deal with the acute attack proper, the subacute attack, or the recurrent disease. In the first case he does nothing during the first five days except to promote diuresis by the most simple means, such as the administration of a litre or so of Evian or Vittel water daily, with perhaps the addition of a little acetate of potash; he does not even give milk, preferring that the power of the disease shall be expended on the organic tissues themselves. He applies anodyne embrocations to the joints and covers up the parts with a thick coat of wadding. At the end of this time, if the fever and pains have subsided, the attack is nearing its end and no further treatment is necessary; milk should now always be given. If no improvement has taken place Jaccoud gives a grain and a half of hydrobromide of quinine with three-fourths of a grain of digitalis powder in four pills, five, or six times a day; this usually produces the desired effect within two days. If, however, the pains are worse on the fifth day than at the onset salicylate of sodium in thirty to forty grain doses should be given, provided that the urine is free from albumin; after the second dose the urine is to be tested with ferric chloride, and if the salicylate reaction is feeble or wanting the drug must be stopped. In the subacute form of the disease, which is characterized mainly by its prolonged duration, if this treatment, though it diminishes the pains, does not cut short the attack on the ninth or tenth day, recourse must be had to colchicum.

This the author prefers to give in the form of pills; he recommends Becquerel's formula, each pill containing 0.3 grain of extract of digitalis, 2.25 grain of sulphate (or preferably hydrobromide) of quinine, and 0.75 grain of colchicum seeds. Not more than two pills should be given a day, to avoid the risk of excessive purgation. No special medication is to be employed between the attacks. The treatment of recurrent gout resembles that of the subacute form. In visceral gout unassociated with articular symptoms, a late complication only coming on after years of typical gout, if there is no joint affection within twenty-four hours, colchicum is to be given at once.—*La Semaine Médicale*.

Floating Bodies in Joints.—Dr. A. Houston has grouped the various conditions with their causes; and although but little which is new is brought out, the present knowledge is well stated in a brief article (*The Boston Medical and Surgical Journal*). He uses Volkmann's general classification in dividing these bodies into (1) those that are found in otherwise healthy joints and (2) those that are found in diseased joints. Those of the first class are of purely traumatic origin, and consist of either cartilage alone, bone, or bone and cartilage. These usually result from a severe trauma, and can be hardly regarded as a common variety. To confirm diagnosis of this type, we must have sufficient violence to have broken off a piece of the articular end of the bone; there must be found a loose body immediately after injury; these bodies must correspond in size and contour to gaps in the bone; and microscopic examination must show it to be made up of normal cartilage and bone, or cartilage alone. (a) Others of traumatic origin in healthy joints may be grouped as: Those loose bodies which are composed of pieces of cartilage or bone not broken off at the time of injury, such as have been studied by König, as osteochondritis desiccans. (b) Loose bodies which originated from hemorrhage into a sound joint as a result of trauma; they are rare, usually follow injury, and present symptoms for a time possibly extending over some years. (c) Loose bodies which are caused by drawing into a joint some foreign bodies in the capsule; as, for instance, bullets, which have been found in the centre of a cartilaginous body. Under the second class, or those occurring in diseased joints, he gives four varieties: (1) The most common, the so-called corpora oryzoidea, such as are found after tuberculous hydrops. As a rule, the symptoms in these conditions are not severe, partly because the bodies are small, and partly because the condition of the joint obscures symptoms occasioned by loose bodies. (2) Bodies that originate from cartilaginous metamorphosis, such as have been carefully studied by Gurlt. (3) Those resulting from changes occurring in the normal joint villi, which became subsequently detached. These have been studied by Rokitsky, who was inclined to believe that all cartilaginous bodies and joints were formed in this way. (4) Loose bodies that occur in arthritis deformans; these are not common. He gives the following conclusions: (1) That the etiology of some of these bodies is not yet fully understood; but that the condition described by König, under the name of osteochondritis desiccans, explains the most of those that are found in otherwise normal joints. This deserves further investigation. (2) That few, if any, are the direct result of violence. (3) That the most pronounced symptom is the sudden onset of severe pain in the joint with locking of the joint, usually in a nearly extended position, this being followed by acute inflammatory process in the joint involved. (4) That lengthening of the femur (in movable bodies in knee) may occur as a result of irritation produced by the pressure of these bodies. (5) That the only treatment

for this condition is the removal by direct incision, preferably under cocaine anæsthesia, as soon as the diagnosis is made.

Coronillin.—In 1884 MM. Schlagdenhauffen and Reeb published an account of their researches in the chemistry of coronilla scorpioides. They found a glucoside $C_{12}H_{22}O_{11}$, to which they gave the name coronillin. It is found also in other species of coronilla, e.g., *C. varia*, *glauca*, *junceae*, *pentaphylla*. In subsequent papers, we are informed by the *Medical Chronicle*, March, 1896, the same workers published an account of the chemical, physical, and physiological properties of coronillin. They found that administered hypodermically or by the mouth to frogs it caused paralysis and rapid death. Rabbits and guinea-pigs died in convulsions. Pigeons and dogs, after frequent vomitings, lay down on their sides and struggled till death put an end to their sufferings. Kobert made a series of experiments for MM. Schlagdenhauffen and Reeb by Williams' apparatus on the frog's heart. Finally, cardiographic tracings from dogs and rabbits were obtained, and the authors published a large number of these. Those experiments show that coronillin acts exactly like digitalin, and may be classed in the digitalis group. Professors Spillmann and Haushalter undertook the research on the therapeutic action of coronilla scorpioides, using the watery alcoholic extract of the seeds and the active principle, coronillin. Their conclusions are: (1) Coronillin may be considered a cardiac drug, capable of favorably modifying some of the symptoms resulting from defective energy of the myocardium. (2) The good effects produced follow quickly the administration of the drug, but cease in great measure as soon as the drug is stopped. (3) The effects consist in an increased amplitude of the pulse, increased flow of urine, diminution of œdema, improvement in dyspnoea. (4) Coronillin also fails where digitalis is ineffectual; that is, when the cardiac muscle is profoundly degenerated. The useful therapeutic effect could be obtained with ten centigrams of coronillin administered six times a day (three-tenths of a gram taken in one dose produced itching of the limbs). Dr. V. Poulet has added observations on the effects of an alcoholic tincture of coronilla varia. According to this author, coronilla succeeded where digitalis failed; it may be employed in high doses for a long time without cumulative effects. It stimulates the digestive functions and acts as a tonic, never causing vomiting or diarrhoea, as digitalis does. It slowed the pulse and the heart beats in tachycardia. It also cut short attacks of cardiac and bronchial asthma very rapidly. Its diuretic action was very marked. Still more recently Dr. Hochhalt, of Budapest, has published a number of cases favoring the therapeutic use of coronillin. He has noticed in cases of phthisis with continued fever, along with increase of arterial pressure and steadying of the heart's action, a certain lowering of temperature. After summing up the work of previous observers, Professor Prevost proceeds to give a detailed account of his own researches. For his experiments on frogs, Professor Prevost used two varieties, *rana esculenta* and *rana temporaria*. As with other heart poisons of the digitalis group, the latter shows itself more sensitive, and is poisoned with approximately half the dose. Frogs of the variety *R. esculenta* die with doses above 0.001 to 0.0015 gram per hundred grams body weight. For *R. temporaria* the dose is about half. The action on the heart is like that produced by digitalis. After a phase of "peristalsis" of the heart, which appears earlier or later according to the dose, the heart stops in systole of the ventricle and diastole of the auricles, the auricles beating some time after the arrest of the ventricle. By means of Williams' apparatus, Professor Prevost obtained re-

sults similar to those of Kobert. The general symptoms observed in the frog after poisoning by coronillin are like those produced by other heart poisons. The frog becomes weaker. The nerves and the muscles remain excitable for a certain time, but the excitability seems lost sooner than in a frog whose heart has been simply removed. When the dose has been insufficient to cause death of the heart, the frog often showed, even for several days, a general weakness with paralysis of the muscles. The nerves and the muscles are scarcely or not at all excitable, while the heart shows slow beats, arrhythmic and peristaltic. Guinea-pigs show great sensitiveness to coronillin as to other heart poisons. The lethal dose is a little above 0.0002 gram per hundred grams body weight. Coronillin seems to be rapidly eliminated, and it is possible that it is not cumulative like digitalis. Diuresis was constant after the serious symptoms had improved, and the cardiac arrhythmia had ceased. This is analogous to a phenomenon often observed with digitalis, when diuresis comes on only after the administration of the drug is suspended. White rats showed a great resistance to the effects of coronillin, as to all heart poisons. Even young rats have borne doses of 0.02 gram per hundred grams body weight. More or less diuresis occurs in all cases. The author was not able to ascertain the toxic dose, for he never reached it, nor has he observed in rats those curious nervous symptoms that he has noticed after the administration of large doses of digitalin. The difference in susceptibility of different animals is a very interesting question. It is observed with many poisons and is closely related to that of idiosyncrasy. The substances which vary in the relative dose per kilogram of animals are also those to which men show a different individual susceptibility. Digitalin and the poisons of this group produce a notable rise of arterial pressure, which Traube considers the principal cause of the diuretic effects. Professor Prevost corroborates the observations of MM. Schlagdenhauffen and Reeb that coronillin acts similarly in markedly raising the blood pressure. Summing up, the author gives a table of the toxic doses of coronillin administered hypodermically for different animals. These doses are approximately half those which he has found for Homolle's digitalin, and correspond closely to those for Nativelle's digitalin. Coronillin then, by hypodermic injection, proves to be a powerful heart poison. The clinical experiments of MM. Spillmann and Haushalter fix the effective dose of coronillin administered by the mouth at from 0.20 to 0.30 gram and up to 0.60 gram per diem in divided doses. These doses seem large compared to the experimental toxic doses, probably owing to the difference in the method of administration, the drug being much more powerfully toxic given hypodermically than by the mouth.

Enlarged Bursæ about the Knee.—Dr. Roncali describes seven cases of enlarged bursæ about the knee, six of which were operated upon with complete success. One of the patients, a man aged twenty-five, fell on his left knee in January, 1893. Eight days after this the knee became swollen, and remained so for five months, then the swelling entirely disappeared. In August of the same year he noticed a swelling in the popliteal space, which was rapidly increasing, causing a sense of weight and weakness in the limb but no pain or fever. The popliteal artery could be felt beating over the tumor; the swelling was seen to be divided into an upper section as large as an eight months' foetal head, and a lower one about the size of an orange. Pressure on the tumor caused no diminution in its size or alteration in the form of the joints. An incision was made over the tumor, and the bursa with three crypts firmly adherent to the posterior surface of the capsule

of the joint was removed. There was no communication with the joint. The patient was able to leave the hospital two months after, with perfect freedom of movement and completely cured.—*Archivo di Ortopedia.*

Some Practical Points in Connection with Rupture of the Female Perineum.—Dr. Spanton states in the *Provincial Medical Journal* that he has operated on women of all ages between sixteen and seventy-three, and has found that age makes very little difference in the result of the operation. He thinks that elderly women should share the benefits which this safe procedure affords. With reference to the legal aspect in a case of laceration of the perineum left to itself, a case is cited in which the physician neglected to repair the laceration immediately after its occurrence, and septicæmia followed. An action was entered against the surgeon for damages, which resulted in the payment of the sum claimed by the patient, under the advice of the medical man's solicitor. He says that the legal point is perfectly clear, that when in the ordinary course of treating a patient a mishap does occur, the surgeon will not be held liable provided he takes the necessary steps to put it right; but, on the other hand, the neglect to do this, whether from oversight or from a sense that it is unnecessary, renders him liable for any after-trouble, loss of time, and so on, to which the patient may be in consequence subjected. The mode of operation adopted by the author is as follows: The patient is prepared by clearing the bowels several days before the operation, and an enema is administered a few hours previously, not just before the operation. The patient is kept in bed a day or two before the operation. The time preferred is just following a menstrual period. The surface is shaved and cleansed with carbolic soap and chloroform. The amount of denudation necessary will depend upon the extent of the tear. Usually the line between the labia minora and labia majora is a good guide, and a rounded incision is made across the septum formed by the remains of the perineum, and extending on each side far enough forward to form a broad surface, of which the sides are to be brought into apposition. The flap is dissected up by a so-called splitting process, keeping as nearly as may be equidistant from vagina and rectum. This flap of vaginal mucous membrane and skin is drawn forward and brought together and held there until the deep sutures have been inserted. A full-curved needle is passed from one side of the raw surface to the other, commencing about one-third of an inch outside the skin margin and emerging on the opposite side at a corresponding point. The silkworm gut sutures are placed about three-eighths of an inch apart, are drawn up; not too tight, and secured. Catgut sutures are then placed in the anterior vaginal margin and cut off short. If the rectum is involved a flap similar to the anterior one is made, commencing at the anterior anal margin. This flap is turned back, and with a sharply curved, thin Hagedorn needle a fine catgut suture is carried first through one side and then through the opposite, from the raw surface into the rectum, leaving the ends hanging out. These are inserted about one-sixth inch apart, and are then tied from above downward, each knot being left in the rectum. An additional suture is placed at the point which is to represent the posterior edge of the new perineum, which helps to secure a rounded surface when all heals up.

Polyneuritic Psychosis.—Dr. R. Collello reports thirty-three cases of multiple neuritis, eight of which are described thoroughly. All the cases have in common the combination of mental disturbances with the symptoms of multiple neuritis; sometimes the latter symptoms predominate, sometimes the former;

only in a few were both equally strongly pronounced. The first neuritic symptom noticed is an ataxic and high-stepping gait, frequently followed by a paresis or paralysis of muscles, more especially of the lower extremities. Lesions of the facial nerve and of the nerves of the soft palate, larynx, and of other cerebral nerves may occur. The electrical reaction of muscles and nerves is more or less affected, in many cases amounting to an actual reaction of degeneration. The sensory disturbances belong to the late symptoms of the disease, such as pain in the atrophied muscles, tenderness to pressure along the course of the nerves, hyperæsthesias, hyperalgesias, etc. The thermic sensibility is as a rule unimpaired, though sometimes diminished or perverted. The reflexes are usually diminished, especially the tendon-reflexes. Vasomotor and trophic disturbances are frequent, as glossy, squamous skin, transversely striped and brittle nails, swelling of joints, bedsores, etc. General symptoms are not infrequently met with, such as dyspeptic symptoms, obstinate vomiting, diminished secretion of urine, lessened sexual desire, menstrual disturbances, tachycardia, etc. The functions of bladder and rectum are nearly always normal. Amnesia is the most characteristic mental symptom. This is general and profound, and may be entirely confined to the most recent events; at the same time the patient will answer questions with great precision and reason logically. During convalescence there is a gradual return of the memory. The amnesia develops in conformity with the laws regarding retrogression of memory; the most recent impressions disappear first, the older ones later; the affective abilities disappear more slowly than the intellectual processes, while the acquisitions which have become almost entirely organic are preserved. The amnesia is often accompanied by disturbances of consciousness, incoherence and narrowing of the field of thought, or symptoms of exaggerated irritability of the psychomotor sphere predominate. These are manifested by extreme excitement, frequently developing into attacks of mania. At the beginning of the disease disturbed sleep interrupted by frightful dreams, visual hallucinations (visions of serpents, mice, cats), and attacks of fear (fear of brigands, apparitions of blood-like color) occur. The prognosis is influenced by the rapidity of the course of the disease (best in chronic cases), by the general condition of the patient, by the possibility of removing the cause (alcoholism, arsenic or lead poisoning, etc.), and by the gravity of the complications (pneumonia, decubitus). The latter are often fatal.—*Journal of Nervous and Mental Disease*.

The Typhoid State.—The diseases in which the "typhoid state" most frequently occurs are for the most part as follows: (1) typhus fever (Rouillion) and the "typhus traumatique" of Ollivier; (2) yellow fever, "bilious typhoid" (Hilton Fagge); (3) enteric fever (the term "typhoid fever" should be discontinued); (4) certain "pernicious" malarial fevers; (5) the "malignant" type of scarlet fever; (6) variola (Hilton Fagge), especially in the third week; (7) in the first stage of the plague, "after the appearance of intense pyrexia and subsequent violent delirium"; (8) in cholera-typhoid and in cholera (Hilton Fagge); (9) in diphtheria, where the characters of an "infective" fever with febrile albuminuria and other "typhoid" symptoms are evident; (10) in "adynamic" remittent fever and in the so-called "typho-malarial fever" of the United States; (11) in "malignant" and "intestinal" anthrax—in this condition, however, the temperature is not always high; (12) in "infectious pneumonia" of an epidemic nature, and "croupous" or "fibrinous" in type (Whitelegge)—this occurs both in fatal and in non-fatal cases which are severe and protracted; (13)

in chronic starvation and general wasting (Whitelegge); (14) in phlebitis (Hodgson, Breschet, Blaudin) and in "la phlébite utérine" (phlegmasia dolens); and (15) in experimental injection of septic substances into the veins (Gaspard, Laurent, and Dupuis).—*FORBES in North Carolina Medical Journal*.

The Sputum in Malignant Tumors of the Lung.

—While the morbid anatomy of sarcoma and carcinoma of the lung is a subject on which literature is copiously supplied, yet there are but few cases recorded in which the diagnosis of such primary growths has been made during life. Dr. Betschart had an opportunity of observing a case in which the diagnosis of primary diffuse cancer of the lung was made several weeks previous to death, this conclusion being reached through an examination of the expectoration. After dilating on the varied characters of sputum in pulmonary diseases, Betschart shows how little reliance can be placed on the color, consistence, or form of the sputum in the diagnosis of pulmonary neoplasms. When, however, particles of a new growth in the lung find their way into one of the bronchi and are thus admitted into the sputum, as may occur when circumscribed nodules exist in the lung, then sections of these masses would make a diagnosis easy. Sometimes, however, one may get a diffuse carcinoma of the whole organ, and the writer asserts that a diagnosis may then be made from the presence of characteristic cells or groups of cells in the sputum, and such an instance is the basis of his paper. Two cases of sarcoma of the lung are also noted in which a correct diagnosis during life was arrived at by section of tumor particles found in the sputum, in each instance small-round-cell masses being discovered. Only one case had hitherto been recorded of a diagnosis of cancer of the lung by this method. Hampeler found in gelatinous globular masses of sputum certain large polygonal cells with granular protoplasm, the diameter of the cells being from .002 to .025 mm., and that of their nuclei from .012 to .0125. Dr. Betschart assures us that these alone are sufficient to justify a diagnosis of cancer of the lung and describes in detail his own case. A patient had been admitted to the Zürich clinic with a diagnosis of pulmonary phthisis with encapsulated tuberculous pleurisy. The signs pointed to a rapidly advancing consolidation of one lung, and the sputum on examination presented microscopically what he considered characteristic features, viz., little gelatinous masses, some yellowish and translucent, others more opaque and brownish. Minute examination showed very large epithelial cells similar to those described by Hampeler, and in consequence cancer of the lung was diagnosed. A report of the autopsy is given, and the lung as described would not appear to differ in any essential from a condition of fibrosis of the lung, while plates of the sections show nothing further than large epithelial cells surrounded by thickened septa, such as might be expected in a chronic catarrhal pneumonia with much desquamation of the epithelium. That a diagnosis of cancer of the lung is possible in this way is a subject on which much might be said. Conditions of fibroid phthisis with secondary gangrene of the lung would possibly lead to a similar expectoration, while sections of the lungs would show quite as characteristic appearances as those submitted in Betschart's plates. Wherever, too, there is considerable interstitial pneumonia it would seem quite possible that the alveoli with their altered epithelial cells would be much contracted, giving to the microscopic sections the appearance of an irregular growth with epithelial cells lying amid a fibrous stroma, so that the difficulty in satisfactorily understanding its true nature would often be great. All in all, it seems that there is scarcely sufficient ground for Betschart to inform his readers of the absolute certainty of his diagnosis.—*Montreal Medical Journal*.

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ARE NERVOUS DISEASES INCREASING?

WE have become so accustomed to the idea that the present age is particularly characterized by nervous diseases that we seldom question the truth of this impression. It is with pleasure that we read Philip Coombs Knapp's article in the May *Century*. He throws a little light upon the dark picture of our nervous degeneration and permits us to hope that our nervous systems are not in danger of the complete collapse that seems to threaten them.

The author says that the cause of the supposed increase in nervous disease is increased demand made by the conditions of modern life upon the brain. Everything is done in a hurry. We talk across a continent, telegraph across an ocean, take a trip to Chicago for an hour's talk. Business methods are such that a fortune may be made or lost in an hour. The conditions of a democracy are such as fill the people with unrest, each one striving to better his condition. We take even our pleasures sadly and make a task of our play. We must not only take an active part in all local affairs, but must sympathize with the dwellers in the uttermost parts of the earth. What wonder if the pressure is almost more than our nerves can bear.

The question arises as to whether these conditions are worse than those that have prevailed in the past. Human life and liberty are more secure than ever before. The civilized world suffers less and less from epidemics. Plague, small-pox, and cholera have almost entirely disappeared. Infectious diseases are becoming less deadly. The dangers of war and oppression are less. We no longer have the Inquisition, the stake, or the Bastille. Property is no longer taken from us without due process of law. A man can take a journey without fear of highwaymen. The farmer can plough his field without a dread of the red man's arrow. The material comforts of life have increased. We know nothing of the horrors of famine. We have cleaner houses, better walking, purer water, and fresher air. In a thousand ways life is made more easy and comfortable. All this means better mental health. Statistics are often deceptive. The better hygienic conditions prevent many weaklings from succumbing to infectious diseases, and these are probably more liable to nervous diseases as they advance in life. Vital statistics show a greater increase in deaths from

heart and kidney troubles than from nervous diseases. Paralysis and apoplexy, classed as brain diseases, are due to disease in the circulatory apparatus. Increase in insanity may be more apparent than real. Physicians recognize as insanity many mild forms of mental disease not formerly regarded as such. Popular ideas have changed. Insanity being acknowledged a disease and not a disgrace, many more persons are admitted to asylums now than formerly.

All nervous diseases are not due to the demands of modern life upon the brain. Broken heads, broken backs, and other traumatic nervous affections, diphtheritic paralysis, locomotor ataxia, and meningitis are due to other causes. Another large proportion of nervous diseases is due to bacteria. Some forms are thought to be of an infectious nature; others are thought to be produced by the action of poisons generated by the germs of other diseases. Other poisons, not of bacterial origin, may cause nervous diseases, as the so-called lead palsy. Arsenic, alcohol, absinthe, mercury, and other substances give rise to nervous diseases.

Many new forms of nervous diseases may be attributed to greater knowledge and refinement of diagnosis. Paresis is actually no more prevalent than it was fifty or one hundred years ago. The author does not think that, speaking generally, it can be proved that nervous diseases have increased. He speaks particularly of American nervousness. Dr. Beard calls nervous prostration the American disease and seems to accept as an axiom that Americans are more nervous than any other race. He admits that locomotor ataxia and apoplexy are more frequent in Europe than in America. The author gives quite conclusive statistics to prove that hysteria is more common in Europe than here. The old idea that Americans are physically inferior has been overthrown. The civil war ended that. No armies endured more than ours in the field; no people endured more than those who stayed at home waiting and helping. Dr. Brown-Séquard found that American mammals survived injuries that were invariably fatal to the European, and our surgeons found a surprising percentage of recovery from gunshot wounds. The American soldier is as well developed as the European. The American schoolboy is equal to the boy of Eton and Rugby. The longevity is as great or greater in this country than in Europe. In international sports America has held her own. Our cavalry and express messengers on the plains have made better time without injury to horses or men than the picked riders of Austria and Germany in the famous ride between Berlin and Vienna. These instances show that in size, strength, skill, and endurance we are equal to the European. The American is energetic, pushing, restless, impatient, more in a hurry, and perhaps lives under a greater strain than his brother beyond the sea. He may have a nervous manner, but this is not nervousness in the sense of nervous disease. He shows fewer signs of nervous degeneracy and is less frequently a victim of severe nervous disease. Is there not, then, good reason to ask whether, on the whole, social conditions are not to-day more favorable to mental and nervous health than they have ever been before?

INTRA-UTERINE FŒTAL ENDOCARDITIS.

IN addition to various malformations of the heart and defects of development, the new-born infant may present evidences of endocarditis of intra-uterine or prenatal origin. Under such circumstances almost invariably the right side of the heart is affected, in consequence of being the more active during fœtal life, just as the left side is usually involved when the endocarditis occurs during post-uterine existence. The most recent instance of this localization is reported by Brindeau,¹ who details the case of an infant dying a few hours after birth and presenting post-mortem evidences of tricuspid valvulitis with insufficiency. The child was born at term of a mother twenty-two years old, in excellent health, free from infectious diseases during pregnancy, and without a history of syphilis or rheumatism. The child was well developed, except for its head, which though well ossified was disproportionately small. Respiration was evidently interfered with and the face was deeply cyanotic. In the submaxillary region upon either side was a regular, soft tumefaction, as large as an egg upon one side and as a walnut upon the other, yielding on pressure, but resuming its original fulness on removal of the pressure. Each presented pulsation and appeared to communicate with the other. Auscultation disclosed a bruit synchronous with the cardiac systole. The child lived only a few hours after birth and the post-mortem examination disclosed a condition of tricuspid insufficiency. The heart was greatly enlarged, principally at the expense of the right side, and almost entirely filled the thoracic cavity. Puncture of the right auricle permitted the escape of a large quantity of blood, with the disappearance of the tumor upon either side of the face. The superior vena cava was greatly dilated and the jugular vein in even greater degree. The latter formed the facial swelling. All of the communicating veins were likewise dilated. The wall of the auricle was thinned, but that of the ventricle was thickened, exceeding even the thickness of the left ventricle. The tricuspid orifice was greatly dilated, permitting the introduction of the whole hand. The valve leaflets were thickened, shortened, and incompetent. The pulmonary orifice displayed no abnormality. The orifice of the superior vena cava was enlarged; that of the inferior was normal in size. The foramen of Botal was closed; the ductus arteriosus was obliterated. The left side of the heart presented no abnormality. Histologic examination of the tricuspid valve disclosed a round-cell infiltration in process of fibrous transformation, but without the presence of micro-organisms.

Zariquiey² has reported a case of tricuspid and pulmonary obstruction and insufficiency, with right-sided ventricular hypertrophy, in an infant dead at the age of eleven months, which presented at birth cyanosis and a soft, prolonged cardiac murmur following the first sound of the heart, and occupying the period of silence. The murmur was audible over the whole cardiac area, though heard with greatest intensity at the

left base, and was propagated toward the left clavicle.

Railton³ has reported the case of a boy who died at the age of four years, and presented, in addition to a deficiency of the interventricular septum and right-sided hypertrophy of the heart, old tricuspid valvulitis, which was believed to be of prenatal origin, together with recent endocarditis, which was assumed to be a continuation of the original process.

That a pregnant woman suffering from infectious disease may give birth, prematurely or at term, to a child suffering from the same disease has long been recognized; and recent experience demonstrates that the transmission takes place through the placenta. We have also learned that any infectious process is capable of causing endocarditis. It may thus happen that the pregnant woman is attacked with rheumatism, or typhoid fever, or influenza, or pneumonia, or other infection, while her unborn infant, though possibly escaping the primary disease, is the victim of an inflammation of the endocardium of the right side of the heart, the consequences of which persist throughout life.

THE CONDITION OF THE STOMACH IN PERNICIOUS ANÆMIA.

WHETHER or not anæmia may be primary—in the sense of originating in modifications of the normal processes of hæmogenesis and hæmolysis—is a question that we are not prepared to discuss here. Of its possibility there can be little denial, although demonstrable proof may be wanting; and it is a well-recognized clinical fact that in a considerable number of cases of profound and even fatal anæmia an adequate cause of the blood state may elude detection. The fact likewise must not be ignored that recovery—often but transitory, though sometimes, perhaps, permanent—may take place in cases presenting the typical clinical picture of pernicious anæmia. In a number of these cases it is not unlikely that destructive changes are induced in the blood as a result of processes that take place in the stomach and intestines as a result of motor and secretory insufficiency. By reason of such conditions not only is the nutritive supply curtailed and the blood thus deprived of the elements necessary for its regeneration, but also is opportunity afforded for the development of chemic products capable when absorbed into the blood of exerting directly deleterious effects, and thus leading to increased destruction. Whether, however, these two factors are sufficient alone to induce the lesions and bring about the train of symptoms constituting the clinical picture of pernicious anæmia, is yet to be determined. That they may act at least as contributing influences on any given case none will deny. Of such a relation an excellent illustration is afforded by two fatal cases of pernicious anæmia, reported by Hayem³ at a recent meeting of the Société Médicale des Hôpitaux. One occurred in a woman, sixty years old, in whom the most conspicuous lesion found was a considerable de-

¹ Journal de Médecine du Paris, 1896, No. 13, p. 150.

² Maladies de l'Enfance November, 1894, p. 620.

³ Lancet, No. 3,754, p. 327.

³ Hayem: La Presse Médicale, 1896, No. 26.

gree of atrophy of the mucous membrane of the stomach. In the second the most careful scrutiny failed to show any morbid change in the gastric mucosa. These observations seem to show that pernicious anæmia may be accompanied by gastric lesions, although there is no necessary relation between the two and the latter may be wanting. It is, however, possible that the gastric disorder may exert a hæmolytic influence, as demonstrated by the improvement that takes place in the state of the blood in cases of gastric derangement attended with anæmia, but which are to be distinguished from cases of pernicious anæmia by the histochemical characters of the blood.

News of the Week.

St. Francis Hospital, New York.—Dr. Frank E. Miller has been appointed resident physician to St. Francis Hospital, to fill the vacancy occasioned by the death of Dr. John H. Ripley.

The New Lunacy Law.—The obnoxious lunacy bill for the State of New York has been signed by the governor and becomes a law. It legislates out of office on December 31, 1896, the boards of managers of the various State hospitals, excepting those of the Manhattan and the Middletown hospitals, and authorizes the governor to appoint their successors on or before December 31st. Thus the control of the asylums of the State, with the four and one-half millions of appropriation, will be transferred to the dominant political machine. It now remains to be demonstrated whether or not the ambitious lunacy commission has not virtually committed suicide with its own medicine.

American Pædiatric Society.—The American Pædiatric Society will hold its eighth annual meeting at Montreal, Canada, May 25, 26, and 27, 1896.

The Archiv für Verdauungs-Krankheiten, which has just completed the first volume, proves what can be done in special work. An admirable article is contributed by Prof. O. Rosenbach, of Breslau, entitled "Perihepatitis Simplex with Remarks about Peristalsis, Plethora Abdominalis, and Hemorrhoidal Conditions." Another article worthy of special mention is entitled "Dilatation of the Oesophagus and the Power of Absorption of the Oesophageal Mucous Membrane." These and other articles serve to demonstrate the scientific standing of the *Archiv* and give a fair idea of its promising future along these lines of progressive work. The most prominent names of specialists in this branch have been added as collaborators, and Dr. Boas, of Berlin, deserves great credit for the successful venture in this new field of journalism. We congratulate the editor accordingly, and wish him all the success he is sure to deserve.

Another Office Thief.—Dr. Forbes R. McCreery writes: "I would like to draw the attention of the profession to the fact that the office thief is again in evidence. Saturday afternoon a man called at my office and asked to be allowed to wait until I came in. He was permitted to do so. On my return he was gone, and with him a valuable clock. The clock was recov-

ered by the ward detective a few hours later at the nearest pawnshop. He probably also appropriated a paper cutter and a pair of bandage scissors that have been missing from my desk. The man was moderately tall, somewhat muscular, of a sallow complexion, and had a thick, rather short, dark moustache, and a remarkably heavy head of hair, somewhat curly, dark colored, and not parted. He was fairly well-dressed in a suit of dark clothes, and appeared to be a clerk or man of some such occupation. I give this description of the man in the hope that I may thus save other physicians from similar loss, and that possibly the man may be apprehended. He will unquestionably visit others of the profession before long."

New York Post-Graduate Medical School.—At the last meeting of the board of directors, Dr. Eugene Fuller was elected professor of venereal and genito-urinary surgery, and Dr. John McG. Woodbury was elected professor of orthopædic surgery.

University of Buffalo Medical Department Alumni Association.—The twenty-first annual meeting was held Tuesday, May 5, 1896, making the fiftieth commencement of the medical department. The president's address was delivered by Willis M. Baker, M.D. The following papers were read: "Colpoperineorrhaphy," by Henry J. Garrigues, M.D., New York City; "The State of the Gastric Mucosa in Secretory Disorders of the Stomach," by Max Einhorn, M.D., New York City; "Reconstructive Surgery of the Tubes and Ovaries," by Robert T. Morris, M.D., New York City; "Some Notes on the Coronary Arteries," by George Dock, M.D., Ann Arbor, Mich. A banquet concluded the exercises.

American Gynecological Society.—The programme for the coming meeting of the American Gynecological Society will be as follows:

Tuesday, May 26th, 9:30 A.M.—"Address of Welcome," by Dr. William T. Lusk, New York. 1. "Vaginal and Senile Endometritis," by Dr. Paul F. Mundé, New York. 2. "Liability to Prosecution for Damages in Abdominal Surgery," by Dr. Cyrus A. Kirkley, Toledo, O. 3. "Gynecology and General Medicine," by Dr. Chauncey D. Palmer, Cincinnati. 4. "Woman and her Diseases versus Gynecology," by Dr. H. P. Newman, Chicago. *Afternoon Session at 3:* 5. "Aids in Obstetric Teaching," by Dr. J. Clifton Edgar, New York. 6. "Pregnancy following Removal of Both Tubes and Ovaries," by Dr. S. C. Gordon, Portland, Me. 7. "Double Ovariectomy followed by Pregnancy," by Dr. R. S. Sutton, Pittsburg. 8. "Treatment of Intraligamentous and Retroperitoneal Uterine Fibromyomata," by Dr. William H. Wathen, Louisville. 9. "Treatment of Retro-Displacements of the Uterus," by Dr. E. E. Montgomery, Philadelphia.

Wednesday, May 27th, 9:30 A.M.—10. "President's Address." 11. "Technique of Vaginal Hysterectomy," by Dr. Paul Ségond, Paris, France. 12. "Treatment of Extra-Uterine Pregnancy," by Dr. Howard Kelly, Baltimore. 13. "Treatment of Early Rupture of Extra-Uterine Pregnancy," by Dr. Fernand Henrotin, Chicago, Ill. 14. "Suspensio Uteri with Reference to its Influence upon Pregnancy and Labor," by

Dr. Charles P. Noble, Philadelphia, Pa. *Afternoon Session at 3:* 15. "The Relative Merits of Vaginal Hysterectomy by Ordinary Methods and Supra-Vaginal Excision by Galvano-Cautery," by Dr. John Byrne, Brooklyn. 16. "Diagnosis and Treatment of Ureteritis in Women," by Dr. Edward Reynolds, Boston. 17. "Implantation of Ureter into Bladder," by Dr. H. J. Boldt, New York. 18. "Surgical Injuries of the Ureter," by Dr. J. M. Baldy, Philadelphia. Business meeting at 5:30 P.M.

Thursday, May 28th, 9:30 A.M.—19. "New Method of Closing the Abdominal Wound," by Dr. E. C. Dudley, Chicago. 20. "Intestinal Bacteria as a Source of Infection Complicating Obstetric Operations," by Dr. Edward P. Davis, Philadelphia. 21. "Drainage of the Stump in Abdominal Hysterectomy," by Dr. H. T. Byford, Chicago. 22. "Myomectomy with Fatal Secondary Hemorrhage," by Dr. H. D. Fry, Washington, D. C. 23. "Foreign Bodies in the Peritoneal Cavity," by Dr. Archibald McLaren, St. Paul. 24. "Cæsarean Section: Total Hysterectomy versus Suture of the Uterus," by Dr. H. C. Coe, New York. 25. "The Zoological Position of the Menstrual Wave," by Dr. Arthur W. Johnstone, Cincinnati. 26. "In Memoriam Dr. Thomas Keith," by Dr. A. J. C. Skene, Brooklyn. 27. "In Memoriam Dr. W. W. Jaggard," by Dr. James H. Etheridge, Chicago. 28. "In Memoriam Dr. Robert Battey," by Dr. Thaddeus A. Reamy, Cincinnati.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the weeks ending May 2 and May 9, 1896. April 25th.—Passed Assistant Surgeon H. N. T. Harris, detached from the *San Francisco*, proceeds home and is granted three months' leave, with permission to leave the United States. April 27th.—Assistant Surgeon F. M. Shipp, ordered to examination for promotion May 4th at New York City. April 28th.—Medical Inspector G. F. Winslow ordered to New London Station May 9th. Surgeon Clement Biddle detached from the New London Station May 9th and ordered to the *Monongahela* May 14th. April 29th.—Assistant Surgeon J. M. Moore promoted to passed assistant surgeon. May 2d.—Passed Assistant Surgeon A. M. D. McCormick detached from the Naval Academy and ordered to the *Bancroft*. Medical Inspector Daniel McMurtrie ordered for examination for promotion May 8th. May 5th.—Surgeon W. A. McClurg detached from the *Concord* and ordered home with three months' leave. Passed Assistant Surgeon P. H. Bryant detached from the *Petrel* and ordered home with three months' leave. May 6th.—Medical Inspector J. M. Flint, Surgeon J. C. Byrnes, and Passed Assistant Surgeon C. F. Stokes appointed a board to examine applicants for admission to the Naval Academy.

The Fees of Medical Witnesses in Great Britain.

—In Scotland medical witnesses receive two guineas for each day they are cited to appear in the circuit court of the town in which they are residing, and three guineas if the court is held at a distance. There are also allowances for travelling and other expenses. In England and Wales the fee is one guinea per diem,

one round-trip railway fare, and an allowance of two shillings per night. If the court is held in the city in which the witness resides, there are no allowances beyond the guinea a day. The association of police surgeons of Great Britain and Ireland is agitating the question of demanding larger fees for witnesses. It recently requested the home secretary to receive a delegation to confer with him on the desirability of revising and increasing the present scale of fees, but he declined to discuss the question, seeming to think that \$5 a day was good enough pay for a doctor.

Obituary Notes.—DR. GRAYSON MALLET-PREVOST, formerly a surgeon in the United States army during the Mexican war and subsequently for many years a resident of Mexico, died on May 1st, at the Presbyterian Hospital in Philadelphia. He was graduated from the University of Pennsylvania in 1844, and entered the army as a surgeon, being stationed at West Point. When the Mexican war broke out shortly afterward, he went to the front and served on the staff of General Wool. During the latter part of the campaign he was chief surgeon of one of the main divisions of the army. After the war he settled in the city of Zacatecas, returning to Philadelphia in 1866, and again resuming the practice of his profession at Zacatecas in 1878. Dr. Prevost was deeply interested in the cause of Protestant missions, and was the means of establishing the first Protestant church in Mexico.—DR. SAMUEL O. SULTZBACH died of pneumonia at Marietta, Pa., on May 3d, at the age of fifty-four years. He was a graduate of Jefferson Medical College, and practised his profession for twenty years in Philadelphia, removing to Marietta, his native place, a year ago.—DR. LEONARD R. KOECKER, for many years an able and active dental surgeon, died at Philadelphia on May 6th, at the age of seventy-four years. He was a graduate of Jefferson Medical College and was well known as a lover of literature and art, as well as a refined mechanic. He was a skilful amateur bookbinder and an adept in the construction of delicate and intricate machinery.—DR. D. A. AUSTIN, of Dresden, O., died at his home in that town on April 28th. Dr. Austin was an old resident of Muskingum County, and was prominently identified with the abolition movement in southeastern Ohio before the war, having assisted in the escape of many slaves by the "underground railway."—DR. THOMAS HENRY TROTT, of Washington, died suddenly of apoplexy at his residence. Dr. Trott was born in Washington in 1844, and was graduated from Georgetown College shortly after the close of the war. He was an interne at Bellevue Hospital in this city.—DR. CONSTANTIN PAUL, of Paris, died on April 12th, from albuminuria. He was chiefly known for his writings on diseases of the heart, though he was also the author of many works on therapeutic subjects. He was a member of the Academy of Medicine of Paris. He also received the decoration of the Grand Cross of the Legion of Honor. He was sixty-three years old.—DR. JOSEPH SPAETH, of Vienna, died on March 29th, at the age of seventy-three years. He was well known as an obstetrician, but retired from active practice and teaching about ten years ago.

Society Reports.

MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

Ninety-Eighth Annual Session, Held in the Hall of the Faculty, April 28 to May 1, 1896.

DR. CHARLES G. HILL, PRESIDENT, IN THE CHAIR.
DRS. J. S. FULTON, R. T. WILSON, AND W. G. TOWNSEND, SECRETARIES.

First Day—Tuesday, April 28th.

THE ninety-eighth annual session of the Medical and Chirurgical Faculty of the State of Maryland was called to order at the hall of the faculty, 847 North Eutaw Street, April 28th, at twelve o'clock noon.

Thyroid Feeding of the Insane.—After the reading of the minutes of the preceding meeting and the report of examiners and announcements of candidates, DR. CHARLES G. HILL delivered the President's address on the subject of "Some Observations on the Effects of Thyroid Feeding in the Insane." After referring to the literature of the subject, he said he had used the treatment in forty cases, some of which were acute, some chronic, and some in old persons. He had the following results: Unimproved, 8; improved, 12; greatly improved, 14; cured, 5; died, 7. He then reviewed a few typical cases and spoke of the effects of the treatment in general. In some there were elevation of temperature, gastric disturbances, and albuminuria. He could not say how the remedy acted, but was pleased with his success.

Diagnosis of Insanity by the General Practitioner.—DR. E. N. BRUSH then read a paper on the "Diagnosis of Insanity by the General Practitioner." He spoke in general of the ignorance of the average physician in matters pertaining to insanity. He said that the laws of commitment varied in the different States; that in New York, Pennsylvania, and Maryland a written certificate was necessary to commit a person to an insane asylum and two physicians were obliged to sign the papers. Some of the diagnoses were quite absurd. He divided insanity into two classes: 1. Those due to inherent brain defects, among which we class idiocy with certain degenerative forms of insanity, of which paranoia was the great type; and 2. Conditions due to diseases of the brain or to disturbances of the physiological function by disease of other organs of the body. Under the second head are included melancholia, mania, dementia, and general paresis. It is difficult to get a careful and correct history of a case. Persons will deny any family taint and try to deceive the physician. The general practitioner is not skilled in asking the necessary questions and may be deceived. Even where there is no hereditary history of insanity, the phthisical taint on one side and the neurotic on the other may produce insane offspring. It is well to learn as much as possible of the patient first before seeing him and then to examine him afterward. An insane person is usually shrewd and crafty, and the examiner must use tact. Note the patient's attitude. Is he ill at ease? Is he quiet? Examine the skin, tongue, eyelids, hair, etc. There is rarely a clear complexion in the beginning of insanity. Persons insane often give the most lucid and sane answers, and paranoiacs who act in the most intelligent manner until their hobby comes up are frequent.

DR. HENRY M. HURD said that the general practitioner was not usually familiar with the technical terms of insanity. He cannot tell what he sees. It is sometimes easy to see that a person is insane, but

hard to say why this is so. The diagnosis should be made by the general practitioner. Insanity should be studied in the medical schools, but it is rarely touched on and no examination on that subject is held. The certificates that come from the general practitioner are usually correct and the mistakes are occasional only. Another difficulty arises from the fact that many definitions of insanity are legal and not medical, and the mistake is that the physician tries to show that the patient is legally and not medically insane. The legal diagnosis is a delusion and a snare. It is behind the medical. Physicians are often too accommodating, and when friends come and call on the physician and state what they think and ask for a certificate, the physician is sometimes willing to sign one without seeing the patient. The physician should investigate every case, and sign no paper unless he has seen and studied it.

Development of the Nervous System.—DR. LEWELLYS F. BARKER then made some remarks on "Some Aspects of the Study of the Human Nervous System with Particular Reference to its Development." He spoke of the neurons and types of cells. He said that these cells were separate and yet connected in a way that was too complex to explain. The development of the nerve cells depends on simple mechanical principles. They grow out and send their branches in the direction of least resistance. The neuron is the morphological and physiological unit. The study of the nerve anatomy of recent years would necessitate a recast of our knowledge of this subject. There are four varieties of skin sensation: sense of pressure, heat, cold, and pain. There are also definite sense areas in the brain. The new-born baby has a cerebrum with no medullated fibres. There is a great field for investigation in nerve study with the microscope since the newer methods of staining have been introduced.

DR. G. J. PRESTON spoke of the great advances made in neuro-histology in the past ten years. The neuro-histologist is far ahead of the physiologist. The clinician should make a careful study of all his cases and not only profit by the researches of the laboratory student, but help him.

DR. J. D. BLAKE asked if the collateral branches of the axon were real branches or were they simply fibrillæ passing down from the cell with the body of the axon for a certain distance and then branching off? He also asked if Dr. Barker had not said that the fibres in the pyramidal tract did not cross. How did he explain crossed paralysis?

DR. BARKER replied that the lateral pyramidal tract does cross over, but the direct tract does not.

DR. H. J. BERKLEY then made some remarks on the "Psychical Nerve Cell in Health and Disease." He explained the different shapes of the cells; some were pyramidal, some like whetstones, and others irregular. The branches of these cells have on them small lateral branches. In poisoning from alcohol, ricin, etc., the nerve cells and branches show thickening.

DR. A. K. BOND asked how wasted nerve cells could be affected by the thyroid treatment in twenty-four hours.

DR. BERKLEY replied that the thyroid extract caused a congestion around the nerve cell and a temporary improvement only. The nerve cell degenerates in a very short time, and as it is a complete substance in itself it does not recover. He is not very much pleased with the thyroid treatment.

Discussion on Diabetes Mellitus.—DR. WILLIAM H. WELCH, in speaking of the pathology of this disease, said that no lesion was universally present in diabetes; nevertheless it is hardly correct to say that there is no lesion characteristic. There is one which is pathognomonic, but it stands in no relation of cause and effect. It is constant in this disease and is found

in certain cells in the kidney. Armani described it in Cantani's book about twenty years ago. It is little recognized. It was supposed to be a dropsical affection of the cell, but now we know it is not. It is a glycogenic metamorphosis of the cells. The epithelial cells lose their clearness, but the nucleus is clear. This is found chiefly in the ascending arm of the tube, but elsewhere as well. If the specimen is so prepared that the glycogen is still retained there, it can be easily seen under the microscope. The specimen is put into boiling water, absolute alcohol, or water with iodine. These cells are filled with glycogen, and in all cases which he has examined, and they are not many, the glycogen was present. The diagnosis of this disease can always be made at the autopsy, but there is no reason to suppose that it is a cause; more probably it is a secondary effect. The causal lesions which we know are of two classes—of the central nervous system and of the pancreas. The extirpation work of physiologists called our attention to this first. Bernhard von Mering and others first described lesions in the medulla oblongata. These have been found in many cases. Bouchardat, Lancereaux, Fre- richs, and Senator all understood this disease and antedated the experimental work, and indeed it was known in the last century. It is only in the last seven years that more attention has been given to the pancreas in this connection. The total extirpation of the pancreas in dogs has caused diabetes. This is not due to a lesion of the surrounding part, but to the interruption of the function of the pancreas. The proportion of cases of diabetes associated with pancreatic lesions is at least fifty per cent. The lesions of the pancreas vary in their character. Hanse- mann says that one lesion which is invariably associated with diabetes is granulation atrophy of the pancreas. It has its analogy in granular nephritis. There is an increase of the connective tissue, a thickening of the walls of the vessels, and a diminution of the glandular substance. There is no other lesion which destroys the function of the pancreas that will cause it. Calculus of the duct and new growths may cause conditions almost similar. These facts may not be so reliable when we consider that the pancreas is examined at the post-mortem in every case of diabetes, but is rarely looked at in other diseases. He holds that all cases of diabetes are due to changes in the pancreas. There is no characteristic lesion of the liver; indeed, it is often not affected at all. Some lay great stress on the dilatation of the blood-vessels of the liver. This is not demonstrable and not important. In some cases the liver cells are changed and there is a glycogenic metamorphosis of the nucleus of the cells. He does not believe that the sympathetic nervous system has anything to do with the cause of the disease. There is some change in the blood. Glycogen has been seen inside the leucocytes. Diabetics are specially predisposed to complications, especially to infection from pyogenic organisms, boils, carbuncles, etc. Senator says that lobar pneumonia is a rare complication; Osler says it is very common. Klemperer says that it is not common, probably because the organism of pneumonia does not grow well in the presence of sugar; but Welch says on the contrary that the presence of sugar favors its growth. In these cases colon bacillus is found.

DR. JOHN S. FULTON then spoke of the etiology of this disease. When the food supply of carbohydrates is excessive the glycogen reservoir is overtaxed. If the ingestion of sugar goes beyond the physiological line, glycosuria appears for a short time. Heredity, age, sex, social condition, geographical position, race, contagion, temperament, and certain diseases are all predisposing and determining causes of diabetes.

Varieties of Clinical History of Diabetes.—DR.

WILLIAM OSLER then spoke of the "Varieties and Clinical History of Diabetes." Three questions are asked by the physician: First, Has the patient actually sugar in his urine? He referred to a case of alkaptonuria. A man was rejected for life insurance because he was supposed to have glycosuria. Further investigation of this case in 1887 showed the absence of sugar and the presence of a substance called alkapton. Dr. Osler had a case last year which was supposed to be diabetes. Fehling's and other tests showed the presence of sugar, but the fermentation test and the polariscope showed that no sugar was present. This man also had alkaptonuria, and, strange to say, was a brother of the first man referred to. Second, Is it true diabetes or is it a transient glycosuria caused by an excess of starchy food, nervous trouble, or is it a toxic form of glycosuria? Third, Given a patient with diabetes, is it a mild or a severe case? In a mild case, all we have to do is to cut off the carbohydrates for three days and put the patient on an ordinary meat diet, and the sugar will disappear in from one to three days. Most cases we see are in men between forty-five and fifty years old. The disease can be controlled by diet. He gave instances in which an excess of starchy food increased the amount of sugar very markedly, but on a strictly nitrogenous diet the sugar was kept within bounds and the man could follow his business. A case in which the carbohydrates are excluded for three days and sugar still remains is a grave case. The disease runs a rapid course in children. Adults can stand it much longer, and in exceptional cases they have been known to live for many years with the disease.

DR. H. FRIEDENWALD then spoke of the "Ocular Manifestations of Diabetes." Diabetic affections of the eye are due either to general debility, to disturbances of nutrition, or to the production of the toxic substance in the blood. Visual disturbances are general enfeeblement depending upon weakness of the external ocular muscle and still more of the muscles of accommodation. The affections probably due to nutritive disturbances are cataract, retinitis, and hemorrhages within the eyeball. Diabetic cataract is not so frequent as is generally supposed. Disease of the eye may also be caused by a poisonous product circulating in the blood.

DR. T. C. GILCHRIST then spoke of "Cutaneous Affections in Diabetes." In diabetes the skin is perhaps more affected than any other organ of the body. The most characteristic cutaneous lesions are found in the genital regions. There are also functional affections and trophic changes. The commonest diabetic manifestations on the general surface of the skin are boils and carbuncles. Boils occur early and carbuncles late in the disease. Gangrene is also a serious complication of diabetes.

Prophylaxis and Treatment of Diabetes.—DR. I. E. ATKINSON then spoke of the "Prophylaxis and Treatment of Diabetes." From the variety of its pathology we would seem to have no way of treating it etiologically. Measures for prevention can only be taken in a few cases. In hereditary cases, in obese and gormandizing persons, and in those who have recovered from one attack, we can take measures to prevent its recurrence. The medicinal treatment is entirely unsatisfactory. Arsenic occasionally benefits. The latest remedy recommended by West, of England, in the *British Medical Journal*, is twenty grains of uranium nitrate three times a day. One drug which should be spoken of is opium. It has very little influence over the disease, but it checks the glycosuria and polyuria. Codeine and morphine are the best forms in which to give opium. The habitual use of opium in this disease is not desirable. It should be given intermittently. The suggested treatment with pancreatic extract is of

no especial advantage. The most satisfactory treatment is by diet, but the deprivation of starchy food and of bread especially is a great hardship. Diabetic patients are as untruthful as opium eaters, and very little confidence can be placed in their word. Aleuronat bread and peanut-flour bread have been highly recommended. Mineral waters are also used. The main object of treatment is the maintenance of albumin. The amount of food necessary may be calculated mathematically according to the weight of the patient. He must have fat or alcohol to make up for the loss. Never put the care of a patient in his own hands. He should never go to the table, and should have his food arranged for him so as to insure variety of diet.

DR. A. K. BOND said that the subject of diabetes in children had not been sufficiently considered. It was rapidly fatal in early life, and treatment seemed to be of little avail.

DR. A. FRIEDENWALD said that the books taught us that diabetic cases usually ended in coma, but of the ten patients whom he had had in his practice in the last few years only two had died of coma.

Second Day—Wednesday, April 29th.

Recovery with Existing Depressed Fracture of Skull.—DR. R. PERCY SMITH then exhibited a patient who had a compound fracture of the skull with loss of brain tissue. The boy had been kicked by a horse in the forehead and been given up to die. Dr. Smith injected nitroglycerin and later gave digitalis. The boy's condition improved. He removed some bits of bone, treated the wound antiseptically, gave careful diet, and the boy entirely recovered with a loss of only one ounce of brain substance. The tablet of bone is still depressed.

DR. R. WINSLOW thought there might be danger yet and that the bone ought not to be left depressed, but should be operated on.

DR. J. H. BRANHAM thought the result wonderful, and under the circumstances Dr. Smith had done all that could be done.

DR. J. C. HARRIS said that the injury was near the supraorbital vessels of the nerves and an operation might be dangerous.

DR. SMITH said in conclusion that the family opposed an operation, and he did the best he could under the circumstances.

Operations for Facial Neuralgia.—DR. L. M. TIFFANY then spoke of "Operative Measures for the Relief of Facial Neuralgia." He said it was not possible to state the present status of this operation; one could not say what the result of the operation would be. Many operations are done with entire relief to the patient and little loss of power. There have been about eighty-five to ninety-five cases recorded. The mortality was larger than was usually supposed. He had had ten cases himself. One patient died on the twenty-fifth day from sepsis, who should not have died. Secondary operations are being done now; he had operated on one case twice. He had had cases in which the nerve and ganglion had both been removed and yet the pain remained. In one case the man had entire sensation in the skin of the forehead, and yet his nerve was in a bottle. He has had no recurrence of the pain in any case. After section of the nerve and removal of the ganglion the sensation will gradually come back and the sense of heat and of cold, but not motion and pain.

DR. J. M. T. FINNEY referred to several cases. One patient got well, one had a slight return of the pain, and one died the day of the operation.

DR. R. WINSLOW related a case of removal of the fifth nerve and its branches and a part of the nerve behind the ganglion, and now the patient has pain on the other

side of his face, and a double operation would cause paralysis of the muscles of mastication on both sides.

DR. J. C. HARRIS asked about the habits of the patients and where they lived before being operated on.

DR. TIFFANY did not remember where they lived. He thinks the motor root can be left. In the second case related he took hold of the motor root and caused the muscles of mastication to contract on that side, and he wishes now that he had left the nerve.

DR. I. R. TRIMBLE then related three cases of "Injuries to the Kidney with Surgical Treatment."

DR. RANDOLPH WINSLOW made some remarks "On Surgical Disease of the Kidney." After describing the anatomy of the kidney, he showed the distinction between movable and floating organ. It is more common in females than in males. The symptoms are subjective and objective.

DR. J. M. T. FINNEY spoke of the "X' Rays in Surgery." He showed several fine photographs. All normal tissues except bones transmit the light; only bony tumors may be seen. Pictures of the fetus show the position. He thought there were great possibilities for this new means of diagnosis. The skiascope also has a future.

The Renal Catheter and Diagnosis of Stone in the Kidney.—DR. HOWARD A. KELLY then made some remarks on the "Use of the Renal Catheter in the Diagnosis of Stone in the Kidney." He showed plates and explained how easy it was with his cystoscope and head mirror, with the woman in the knee-chest position, to introduce the catheter into the bladder and into either ureter at will. The presence of stone in the pelvis of the kidney could be thus detected. He used a hard-rubber bougie coated with dental wax, which he applied to the bougie by dipping it into the melted wax. He thus obtained a smooth, glistening surface, which showed the slightest scratch from the stone. He sometimes found it better to add a little olive oil to the wax. He also used a catheter, coating its tip with wax, except at the eye, through which he could draw at will fluid from any part of the kidney or ureter. He had made the diagnosis of stones in the kidney in many cases in this way, and he showed several specimens. In introducing the bougie or catheter covered with wax, care must be taken that it does not strike the cystoscope or any other object which might scratch its surface and deceive the surgeon. He brought this before the society and hoped that no surgeon would attempt to operate on stone in the kidney in woman without first attempting a diagnosis in this simple way.

Third Day—Thursday, April 30th.

DR. R. TUNSTALL TAYLOR read a paper entitled "Treatment of Lateral Curvature of the Spine." This was caused by faulty position. Cases came from long standing, carrying heavy schoolbooks, violin playing, sitting at school on improperly made chairs and benches, and other causes. Too many physicians do not treat these cases at all, but turn them over to the instrument maker and to those using Swedish movement. He then in a general way gave directions as to exercise, gymnastics, class drills, baths, and showed the apparatus with plaster jacket for the correction of the various deformities and the strengthening of the muscles.

DR. E. M. SCHAEFFER said that if punning were not a crime he would derive the word "scoliosis" from the word "school," as so many children contracted curvature of the spine at school. Scoliosis was not known to the Greeks, because they lived out doors and were not cramped with tight clothes. It first appeared about the sixteenth century and was brought about by the tight dressing of the French.

Operative Treatment of Gall Stones.—DR. W. S. HALSTED then made some remarks on the "Operative Treatment of Gall Stones." The surgery of gall stones from the duct and gall bladder is still in its infancy. As in other branches in surgery, the time will come when we will not operate at all for many conditions for which we do operations now. For example, a large part of surgery is done for the removal of cancer, and the time will possibly come soon when cancer will be treated by inoculation. But he thinks that gall stones will always be operated on. Langenbuch's idea was to extirpate the gall bladder, but this is not done very often. Another operation soon to be given up is Winiwarter's cholecystenterostomy. This was done for stones in the common duct, but now it is not done except for cancer of the duct and head of the pancreas. The head of the pancreas is so hard in these cases that it feels like cancer. Another form of operation which has been abandoned is the two-act operation. At the first operation all the ducts should be explored if possible; it is not always possible. It is not always easy to explore the cystic duct, but one can explore the common duct. It can be done by cutting through the mesocolon and drawing the omentum up and the duodenum out, when the common duct will be seen. Some prefer the vertical and some the transverse position. He prefers the vertical because it gives him more room in which to operate. It may be necessary to excise the ends of the lower ribs, but this is not desirable, as the cut ends cause great pain. An osteoplastic operation might be an improvement. All the operations should be done at one sitting. Special needles for sewing up the gall bladder should be used. They should be small, No. 12, to sew up the walls of the common duct. The walls are usually very thin, but when a stone has been there for years the walls are thicker. There is not much experience in common-duct surgery. He related one or two cases of the latter. The presence of gall stones does not always demand an operation. Not all cases need to be operated on, but it is well to operate before the stone gets into the common duct.

DR. S. T. EARLE then reported two cases of "Tuberculous Fistula in Ano." He described these two cases and his manner of operation, and his object was to show the importance of a microscopical examination in all cases of fistula in ano.

DR. HALSTED said that he had never seen a case of primary rectal tuberculosis. He had seen two cases of rectal tuberculosis during the past year. He had also seen cases of primary vaginal tuberculosis in which the disease occurred nowhere else in the body except a beginning peritoneal tuberculosis; this he found out by an abdominal exploration which had ruptured the uterus. He had once a very interesting case of laryngeal and pharyngeal tuberculosis which he had cured by cauterization of the mucous membrane. It is not always easy to recognize these lesions.

DR. EARLE said in 1884-85 he had made one hundred and sixty autopsies and had found no tuberculous ulceration of the rectum.

DR. H. H. BIEDLER then exhibited a case of "Trephining for a Local Paralysis with Cure." He had undertaken this operation with very little knowledge of the cause of the trouble and with little expectation of such good results.

DR. E. M. REID said that the case had been on the medical side of the hospital, and tenderness on percussion had been found on the left side of the head; syphilis had been suspected, and the case had been recommended to the surgical ward.

Gonorrhœal Endocarditis.—DR. WILLIAM S. THAYER then made some remarks on "Gonorrhœal Endocarditis." Since Neisser in 1885 discovered the gonococcus, many troubles which were formerly obscure had been now shown to be caused by this organism.

There may be a pure infection, or there may be a mixed infection, or the gonococci may enter and make a way for other organisms, or pyogenic organisms may find their way in and drive out the gonococci. Also these local processes may be non-bacterial. He had seen at the Hopkins Hospital two cases of gonorrhœal endocarditis, in both of which the patient died. In the first case the cultures were made from flowing blood taken from the arm. From the growth obtained the gonococcus was suspected, but was not certain. In the second case it was found, and examination of the blood and also of the clot on the valve of the heart verified the diagnosis.

DR. W. A. DUVALL asked how long a time elapsed between the initial lesion and the endocarditis, and also concerning the line of treatment followed.

DR. THAYER replied that very little was known in one case, but in another case recorded five days elapsed, which is a very short time. He has no record of his cases before they came in, but in one of them the severe chills which took place showed that further infection with the gonococcus had occurred. It is hard to say what to do with these cases. In one case the gonococcus was also found in the genital organs.

DR. J. D. BLAKE then reported "Sixteen Cases of Laryngeal Croup Treated by Intubation and with Antitoxin." The oldest patient was seven years, the youngest four months. Twelve recovered and four died. In one case the antitoxin was used on the second day and in another on the ninth. In two cases no organisms were found in the throat, but they can carry contagion to other cases. He then showed a simple but very effective instrument for removing the tube.

DR. J. C. HEMMETER asked if he had observed any difference between the German and American antitoxin.

DR. BLAKE replied that there were no discriminating results for either.

Gastro-Intestinal Manifestations of Hysteria.—DR. GEORGE J. PRESTON then read a paper entitled "The Gastro-Intestinal Manifestations of Hysteria." He first spoke of contraction of the œsophagus causing rejection of the food. Blood was often vomited; this was bright red in color and simulated other affections. Many cases of so-called vicarious menstruation were really hysterical in character. Hysterical anorexia was common. Hysterical patients seemed to be able to live on very little food and often go an incredibly long time with very little to eat. They will often attempt to deceive by starving in public and stuffing in private. They suffer greatly with distention of the bowels with gas.

DR. HEMMETER said this paper was written from the standpoint of a neurologist. All the symptoms related seem to come from the nervous system. Certain forms of these troubles are intestinal and are due to auto-intoxication.

DR. PRESTON replied that we cannot classify the pathology of neuroses, hence we have to run the gamut of all the specialties. In very many cases we can find no evidence of a pathological lesion.

In the evening the annual oration was delivered by DR. SOLOMON SOLIS-COHEN, of Philadelphia. His subject was "The Path of Progress in Modern Therapeutics." After this, the portraits of Dr. George W. Miltenberger and Dr. H. P. C. Wilson were presented to the society with appropriate addresses by DR. S. C. CHEW and DR. T. A. ASHBY.

Fourth Day—Friday, May 1st.

DR. JOHN C. HEMMETER then read two papers as follows: one on the "Possibility of Intubation of the Duodenum," and the other on the "Effects of Persistent Intestinal Putrefaction upon the Kidneys."

DR. JOSEPH T. SMITH then reported several cases showing the importance of a careful examination of the urine in suspected disease of the kidney and showing also that when we find abnormal ingredients we must know how to interpret them.

DR. HEMMETER referred to the importance of examining the patient on both sides before any operative treatment on the kidney, and referred to a case in which one kidney had been removed for some disease and it was found out afterward that that was the only kidney the man had.

DR. E. M. SCHAEFFER then read a paper entitled "The Physical Director of the Second and Nineteenth Centuries." It was an earnest plea to more logically convert medical practice into terms of sanitary art throughout all the specialties, and advocated a wider recourse to the natural therapeutics of the old Greek gymnasia or modern sanatorium.

Prevention of Thirst after Abdominal Operations.

—DR. JOHN G. CLARK then spoke of the "Prevention of Thirst Following Operations upon the Abdominal Cavity." Thirst is severe after operations, often as a result of the anæsthetic. Many methods have been suggested; some suggest to give freely of water several days before the operation, but so many operations must be done within twenty-four hours after the patient is seen that this suggestion cannot always be followed. In many cases vomiting is so severe that water cannot be retained. He had tried enemata of salt solution, 0.6 per cent., immediately after the operation. Comparing patients treated in this way with those given no water, the former were found to pass a larger amount of water in the first three days, the latter in the last three days, so that by the seventh day all had passed about the same amount. He finds the routine use of this injection of great efficacy in preventing thirst.

DR. T. H. ASHBY then reported a case of "Accidental Rupture of a Pregnant Uterus; Hysterectomy; Resection of Eight Inches of Intestine; Recovery."

Frequency of Contracted Pelvis in Baltimore.

—DR. J. W. WILLIAMS then read a paper on "The Frequency of the Occurrence of Contracted Pelves in Baltimore," in which he reported the results of the measurement of one hundred women who were seen at the Johns Hopkins dispensary. His conclusions from these studies were that the pelves of Baltimore women were much below the normal.

DR. A. K. BOND said he thought the title of the paper was misleading, as the author should have stated, not that the contracted pelves had occurred in Baltimore, but that they were a small number of selected cases seen at the hospital dispensary. He did not think that it was fair to draw results from a few picked cases seen at a special dispensary.

DR. WILMER BRINTON said that of six hundred cases which he had seen in the last few years many were below the measurements stated by Dr. Williams, and yet in only one case was an operation necessary.

DR. L. E. NEALE said that while he had a large experience in pelvimetry he found it was impossible to decide on an operation simply from the arbitrary rules of some authority. He had found many cases which fell below the given degrees of measurement, and in which labor took its normal course, and he had found others in which the measurements exceeded these stated and yet in which an operation was necessary.

DR. WILLIAMS said in conclusion that he had no intention of drawing deductions from one hundred cases seen at the Hopkins dispensary, but he simply wished to give the results of his experiments in pelvimetry.

DR. THOMAS S. CULLEN then read a paper on "Adeno-Myoma of the Uterus."

DR. W. W. RUSSELL then read a paper on "Post

Operative Recurrence and Metastasis in Carcinoma of the Uterus."

Other papers were read by title.

Officers for 1896-97.—*President*, Dr. William Osler; *First Vice-President*, Dr. Wilmer Brinton; *Second Vice-President*, Dr. Randolph Winslow.

AMERICAN MEDICAL ASSOCIATION.

Forty-Seventh Annual Meeting, Held at Atlanta, Ga., May 5, 6, 7, and 8, 1896—Continued.

R. BEVERLY COLE, M.D., PRESIDENT, IN THE CHAIR.

General Session. Fourth Day—Friday, May 8th.

THE closing session of the association was called to order at the usual hour by the president.

The Treasurer's Report.—DR. H. P. NEWMAN, of Chicago, presented his report as treasurer of the association. This showed an encouraging increase in membership, and consequently in receipts. The balance in the treasury is now greater than ever before. A change has been made in the fiscal year whereby it now coincides with the calendar year.

The Rush Monument.—DR. ROHÉ read a telegram which he had received from the chairman of the Rush monument committee, Dr. Albert L. Gihon, announcing that the Navy Department has assigned a site for the monument in the park facing the Museum of Hygiene in Washington.

Address on State Medicine.—DR. GEORGE H. ROHÉ, of Baltimore, then read his address, taking for his subject "The Purification of Public Water Supplies." The most vitally important sanitary problem now confronting American municipalities is unquestionably the supply of pure water for drinking and other purposes. The fact that the occurrence of typhoid fever depends almost entirely upon an infected water supply is sufficient to demonstrate the importance of having the water supply free from pollution. Cholera is another disease in which outbreaks and extension of the pest are dependent upon an infected water supply. But apart from the production of these specific diseases, pure water, or water free from all sorts of uncleanness, is demanded by the "sanitary conscience" of the public.

It is, of course, better, if possible, to obtain a pure water supply than to attempt to purify a source of supply which has become polluted. But in most cases the procurement of such an unpolluted supply is practically barred by financial considerations. We are therefore reduced to one of two alternatives—either to limit as far as possible or to prevent absolutely (which is practically impossible) the access of impurities to the sources of supply, or else to purify the water after it has become polluted. It will be found to be practically impossible, in most instances, to abandon a source of water supply that may be polluted and go a great distance in search of a pure supply. The expense of such an undertaking is too great. Fortunately, however, we have a means at hand for purifying a polluted water supply. This is filtration. Formerly filtration meant simply straining out from water all gross impurities and changing a dirty or muddy water into a clear and limpid fluid. We now know that water may be perfectly clear and limpid, and yet be extremely impure by reason of its content of organic matter or dangerous micro-organisms. A great impetus to filtration was given by the experiments conducted under the auspices of the Massachusetts State Board of Health at Lawrence in that State, and carried out so thoroughly by Mr. Hiram F.

Mills and Mr. Allen Hazen. These experiments, carried on with painstaking care for a number of years, prove conclusively that water, no matter how polluted, can be rendered pure by simply filtering the same through sand filters, provided certain cautions are observed regarding the construction of the filters, the rate of filtration, and other conditions varying with the character of the water to be purified. For many years, filtration through sand has been used by European municipalities to secure purification of water, and the construction and practical management of filters have been investigated with great care. Comparative studies of the efficiency of sand filters and of various processes of so-called "mechanical filtration" have been made recently in Providence, R. I., and at Lawrence, Mass. While the results obtained by different investigators have not been in entire agreement, the prevailing opinion of sanitarians and engineers is that sand filtration, where it can be adopted, gives the best results in purification, at the lowest cost of construction and maintenance. Koch has given a clear explanation of the process of sand filtration. The real filtration, he says, does not take place in the sand, but, by deposit from the still unpurified water, a layer of mud is formed on the top of the sand, and this is the real filter which retains the suspended constituents from the water. The important points are that a proper layer of slime should be formed, that it should not be disturbed during the process of filtration, and that when by further continuous deposit it becomes too thick, and therefore too impermeable to water, it should be removed. Different natural waters are capable of producing the filtering mud layer in very different degrees, according to the amount of mineral and vegetable matter held in suspension. In sand filtration, therefore, we are not dealing with so simple a matter as is often supposed. The sand layer should never be allowed to get below a certain thickness, about thirty centimetres, and a speed of about one hundred millimetres in the hour must be allowed for the movement of the water through the sand layer to obtain the most perfect purification. Koch further states that a daily or tri-weekly bacteriological examination of the filtered water must be made in order to test the performance of the filter. If a filter works satisfactorily in every respect, experience shows that there will be found less than one hundred germs capable of development in one cubic centimetre of water, and this is irrespective of the number of bacteria contained in the water before filtration. The slightest changes in the rapidity of filtration, or the disturbance of the surface of the filter bed, become manifest on bacteriological examination.

The cholera epidemic in Hamburg in 1892 furnished an object lesson of great value. Hamburg and Altona both draw their water supply from the river Elbe. In Hamburg, in 1892, the water was furnished directly to consumers without filtration; in Altona, on the other hand, the water had been for a number of years filtered. The Hamburg supply was drawn from the river at a point where there was comparatively little pollution, but the Altona supply was drawn from the Elbe immediately after the stream had received the sewage of the entire population of Hamburg, numbering nearly eight hundred thousand. As a matter of fact, cholera bacteria were discovered in the Elbe water below the main outlet of the Hamburg sewers. There was every reason to expect, therefore, that the cholera would have been more virulent in Altona than in Hamburg, but the contrary was the case.

For a number of years the city of Lawrence in Massachusetts had suffered from typhoid fever to an unusual degree. For the six years from 1887 to 1892 the deaths from typhoid fever in that city averaged fifty

annually, a proportion of one hundred and nineteen per hundred thousand of population. In 1893 the drinking-water, drawn from the Merrimac River, was subjected to filtration, and at once the typhoid death rate began to fall. In 1895, two years after the filtered water had been in general use in the city, the number of deaths had fallen to sixteen, of which nine occurred among operatives working in certain mills, where unfiltered river water was used for washing-purposes, and was also used for drinking by the operatives, because it was more accessible than the city water. In two cases the disease was believed to have been imported, and in five the origin was not accounted for.

Two processes must be kept in view in the construction of filters—one, the straining out of the bacteria always present in water; and the other, the oxidization of organic matter and its conversion into inorganic compounds. These imply that the materials of which the filter is constructed shall be sufficiently fine to hold back all suspended matters, and that a sufficient supply of oxygen shall always be present in order to allow the oxidizing processes to go on. In most natural waters there is a sufficiently large quantity of free oxygen to allow the oxidizing processes to go on continually, but in cases in which the water is highly polluted it is necessary to permit access of extra quantities of oxygen, in order that all the organic matter may be oxidized. This may be accomplished either by aeration of the water before filtration, or by carrying on the filtration intermittently, allowing the air to penetrate the interspaces in the filter before the water is again turned on the filter. This is what is done in intermittent filtration.

In the experiments at Lawrence it was found that an average of 98.54 per cent. of the bacteria found in river water were removed by filtration under favorable conditions.

Within the last two years an extended series of experiments upon filtration with so-called "mechanical filters" was made in Providence, R. I., with the view of adopting a system of filtration combining efficiency with economy. The apparatus most thoroughly tested is known as the "Morison filter," and its construction is described as follows:

"The filter bed of crushed quartz was two feet ten inches in depth, supported upon a base of iron with circular perforations of about four inches in size, which were covered with screens. The crushed quartz used was the 'effective size' of 0.59 millimetres. The filter was washed by a reverse current, which caused the quartz to boil. The agitation and friction of the particles were increased by means of a rake with long teeth, which revolved about a central column in the filter; the rake penetrating the bed by a screw motion from top to bottom."

One-half grain of basic sulphate of aluminium was used to the gallon of water filtered, in order to produce a film upon the surface of the filter. This constitutes the real filtering layer, corresponding to the mud layer in the natural or sand filter. The results obtained in these experiments showed that with careful management from ninety-two to ninety-nine per cent. of the bacteria contained in the water could be removed by mechanical filters. Further investigation demonstrated, however, that the installation and management of these filters would be more expensive than sand filtration, with no increase in efficiency.

On the whole, it is probable that sand filtration, having been thoroughly tested both by experiment and by practical experience, must be regarded as the most efficient method of purifying a polluted water supply, and that when carefully and intelligently managed it can be depended upon for purification has been shown in the experience of Altona and Lawrence.

On motion, the thanks of the association were extended to Dr. Rohé for his interesting address.

DR. L. DUNCAN BULKLEY, of New York, on behalf of the executive committee, introduced the following resolutions:

"Resolved, That the committee of arrangements for next year be directed to prepare signs for each State and Territory, also for the District of Columbia, and the army, navy, and the marine hospital service, and so locate them in the hall of meeting that the delegates shall meet beneath them for the selection of members of the nominating committee.

"Resolved, That the elections for such members of the nominating committee shall only be legal when held in these localities.

"Resolved, That elections shall be held not sooner than ten nor later than thirty minutes after adjournment of the first general session of the association."

These were unanimously adopted.

The Home of the Association.—DR. GARCELON, of Maine, said that the establishment of a building-fund had been authorized, and the question now to be decided was where this building should be erected. He therefore introduced a resolution that this should be determined by a vote of the members, the ballots to be sent by mail during June and July, and the result of the count to be announced in the journal upon the completion of the ballot.

Report of the Committee on Public Health.—DR. JEROME COCHRANE, of Alabama, presented the report of this committee. The original bill to establish a department of public health was so defective that it was withdrawn. Since this movement was begun the powers of the Marine Hospital Service have been so extended that the organization is now, in fact, though not in name, a national department of public health. This being so, there were but three plans from which the present committee had to choose. The first was to secure legislation depriving the Marine Hospital Service of its public-health functions and establishing a new department after the original plan; the second was to accept the Marine Hospital service as it now existed and attempt nothing further; the third was to try to improve the Marine Hospital service, as far at least as its public-health functions are concerned, and to render it still more effective with more ample powers and a still greater field of activity. The third plan seemed to be the most desirable one, but in carrying it out it was necessary not to interfere with or to curtail the powers of the State boards of health; the Marine Hospital service should act always in harmony with these State boards and never independently of them or in antagonism to them. Some of these boards are still very weak, and opposition to them by a national organization would destroy what measure of usefulness they now possess. Additional legislation is needed to make the Marine Hospital service more efficient, and this legislation should contain at least two provisions—first, that the national department should act in the several States by and in co-operation with the State boards of health; and second, that an advisory council consisting of one representative of each State board of health should meet annually in Washington.

The committee asked for authorization from the association to draw up a new bill on the lines sketched in this report, after consultation with the American Public Health Association and with the conference of State boards of health.

The report was accepted and the committee empowered to act in accordance with the suggestions therein contained.

The Metric System.—A resolution was introduced from the section on materia medica, pharmacy, and therapeutics calling upon Congress to make the metric

system of weights and measures the only legal system in the United States. This was adopted.

A Belated Protest.—The committee on the president's address made a partial report, and introduced a resolution to the effect that the committee of the Twelfth International Congress at Moscow be notified that unless the use of English be permitted at the congress this association would appoint no delegates. This was carried with great enthusiasm, although a member informed the meeting that the use of English had recently been made permissible; hence the resolution was without reason.

Election of Officers.—The nominating committee proposed and the members present unanimously elected the following officers for the coming year:

President, Dr. Nicholas Senn, of Illinois; *First Vice-President,* Surgeon-General George M. Sternberg, U. S. Army; *Second Vice-President,* Dr. Edmond Souchon, of Louisiana; *Third Vice-President,* Dr. J. D. Thomas, of Pennsylvania; *Fourth Vice-President,* Dr. Willis F. Westmoreland, of Georgia; *Chairman of the Committee of Arrangements,* Dr. H. A. Hare, of Philadelphia.

The President-Elect was then introduced to the members by the retiring president. He said that every American-born youth cherishes the desire to become president of the United States, and while only one man attains this honor once every four years, all are made better by their struggle for it. In like manner every physician in the Union should cherish the hope of one day securing this prize, the greatest in the gift of the greatest medical organization in the world, and although all would not succeed, all would be made better by their endeavor to make themselves worthy of such an exalted station. Next year the association will celebrate in Philadelphia, its birthplace, the fiftieth year of its existence, and Dr. Senn predicted that the attendance at that meeting would be the largest ever noted in the annals of the organization.

There was a defect in these annual meetings which ought to be remedied, and the general sessions too often resembled more closely a political convention than a scientific assemblage. The speaker hoped this would be remedied. Much time has been wasted in attacking the most sacred medical document in existence, namely, the code of ethics. Without this code the association would degenerate into medical anarchy. This cornerstone of the organization must not be tampered with. Political work should be done elsewhere than on the floor in general sessions. He then thanked his hearers for the honor they had bestowed upon him, and promised to do all that in him lay to merit their confidence.

Proposed Amendments.—DR. BURT ELLIS, of California, gave notice of two proposed amendments, which the president requested the secretary to make a special note of. The first one provided for the annual election of the secretary, instead of leaving this officer, as at present, a permanent and practically irremovable one. The second provided for the admission to the association of members of State or local medical societies whose rules or code of ethics might agree in principle with the code of ethics of the association. These were the two amendments which were introduced at the Baltimore meeting and which the secretary had been accused of suppressing.

Stomatology.—The section on dental and oral surgery gave notice of a proposed change of name to the "Stomatological Section."

After the passage of the usual vote of thanks to the ladies and physicians of Atlanta, and to the railways and other corporations and persons from whom the association or its members had accepted courtesies, the forty-seventh annual meeting was declared adjourned.

SECTION ON PRACTICE OF MEDICINE.

WILLIAM E. QUINE, M.D., OF CHICAGO, CHAIRMAN.

First Day—Tuesday, May 5th.

Address of the Chairman.—DR. QUINE observed the rules of the association and gave a brief review of the progress of medicine for the past year.

Animal Extracts.—Bone marrow, first suggested as a therapeutic agent by Brown-Séquard and d'Arsonval, he said had been brought prominently forward in the treatment of anæmia by Frazer, of Edinburgh. Bone marrow, red or yellow, in the form of glycerite or otherwise, had now been tried in leukæmia and other forms of pernicious anæmia, and also in chlorosis, hemorrhagic and other cases of anæmia not belonging to the pernicious types. In some instances there had been marked improvement, but in a case of pernicious anæmia of his own and one of Dr. Danforth the benefit had been only temporary; recurrence of severe symptoms took place, the malarial organism appeared in the blood toward the end, and death ensued. The mode of action of bone marrow was not known. It could not be like that of thyroid extract in myxœdema, or of adrenal extract in Addison's disease.

Regarding adrenal extract in Addison's disease, conclusive proof had not been adduced that it possessed curative powers. In about half the reported cases improvement had been noted, but it was not certain that this would remain permanent, nor, indeed, that it had really been due to the extract, for it was well known that in the course of Addison's disease there were periods of temporary improvement. Dr. Quine had used the glycerite of the adrenal gland in one case, giving two or three drachms a day; but about the third day the patient, a woman, complained of nausea and faintness. The dose was reduced to half a drachm, but she still felt that it was doing her harm and would kill her. He thereupon discontinued it, and she died of the progress of her disease in about four days.

Abortive Treatment of Typhoid Fever.—Lastly, the chairman stated the claims for the abortive or antiseptic treatment of typhoid fever advanced independently by Dr. Woodbridge, of Ohio, and Dr. Thistle, of England. If one admitted the correctness of the statistics, it was evident that there was some virtue in the treatment adopted.

Dr. Woodbridge held that practically every case of typhoid fever could thus be conducted to a favorable termination. Dr. Quine's own experience with intestinal antiseptics, although more limited, had given good results.

The discussion upon Dr. Quine's address was over an hour's duration, and related chiefly to the Woodbridge treatment of typhoid fever. DR. PRIESTLY, of Iowa, DR. BYRNE, of Philadelphia, and a few of the other speakers gave a limited experience with that portion of the treatment consisting in administering antiseptics, in which they had obtained good results. DR. KRAUS, of Iowa, had, on the contrary, had a very unfavorable experience, losing two cases out of seven—a mortality rate altogether out of proportion to what had followed a much larger experience with other methods. DR. H. A. HARE thought that when benefit had been obtained it was rather to be attributed to increasing the activity of the liver, which would be done by podophyllin, etc. The majority of the speakers considered the treatment illogical, and if the freedom of diet were permitted which Dr. Woodbridge said he gave his patients, it must result in hemorrhage, perforation, or other damage. The questions of diagnosis and difference in severity of different epidemics had an important bearing upon the statistics and the conclusions to be drawn from them.

DR. WILLIAM OSLER referred to the difference between the action of thyroid in myxœdema, suprarenal gland in Addison's disease, and that of bone marrow in anæmia or of intestinal antiseptics in typhoid fever. In the former the remedies were truly specific, supplying a want in the system and arresting the disease.

SECTION ON SURGERY AND ANATOMY.

First Day—Tuesday, May 5th.

Address of the Chairman.—DR. C. A. WHEATON, of St. Paul, Minn., made the annual address, in which he reviewed at some length the history of this section and mentioned the names of many of the older men who have been prominent in its work. He deplored the fact that many of these men too often absent themselves from these meetings, thus depriving the section of the benefit of their superior genius and accomplishments. In referring to this condition of affairs he said: "It deprives us in our deliberations of the aid of the other members of our profession whose efforts for the conservation and preservation of life has nothing to do with the knife except in the passive sense, but whose counsel we need and whose assistance often is absolutely essential in guiding our precious charges to a safe harbor." In referring to one or two of these leaders in surgery, he mentioned Sir William Jenner, who gave us vaccination; Morton, Wells, and Duncan, who gave us anæsthesia; and others. He laid stress upon the fact that instead of asexualizing our suffering sisters we are now groping along conservative lines, endeavoring to preserve the organs and functions with which God and nature endowed her. In referring to the medico-legal relations of injuries to the cerebro-spinal axis and its bony encasement, the author hoped that the matter would receive during this session the attention its importance deserved. Speaking of the teachings of Erichsen, the author said: "We followed these teachings for many years, blindly, I think, and it is a question in my mind whether the modern substitute, neurasthenia, is not a monster equally desperate and threatening, and which may prove to be another siren that may lead us to commit greater professional inaccuracies and entail greater humiliation. The question of the hour is, in this connection, What can we as representatives of this body do to remedy this admitted evil? I for one believe that equal justice to both plaintiff and defendant will not obtain until such time as the so-called expert is placed by a statute beyond the influence of monetary considerations."

In conclusion the speaker said: "I do not wish to be understood as disparaging one's individual evolution in a special line, for God knows we are both weak enough in any of them, but with a view of maintaining the integrity of this association, and particularly the surgical section, for it is an important integral part of the whole, and its life and future usefulness depend upon the hearty co-operation of the pioneers who have hewn the way and made it possible for the younger and less experienced to follow and participate in the formulation of a professional fabric which will be a credit to our leaders, add to the laurels of the American profession, and amalgamate and strengthen this organization. I venture to say that there is not a successful specialist in any branch to-day who is not in a large measure dependent upon his 'general medicine' for his following and success, and if my premises are correct he is obligated to attend these gatherings, participate in their labors, and reap the benefits justly earned. If he is a man of stout heart, a good campaigner, and has a large income, he may be able to attend all the other association meetings; but to this one he should pledge his special fealty because of its national character, because of its cosmopolitan per-

sonality, and finally because the character of work done by this section reflects the quality of the whole."

Subphrenic Abscess and Its Relation to Pyothorax.—DR. CARL BECK, of New York, stated that in five cases of subphrenic abscess which he had observed, only twice was he able to make a correct diagnosis before operation. The fact that subphrenic abscess is very often confounded with pyothorax is well known, and such errors impress one gravely with the necessity of widening his limited diagnostic knowledge upon the subject. Subphrenic abscess may even be said to take the rank at the present time of appendicitis of yore, when it was thought that under extremely rare circumstances perforation of the vermiform appendix, caused by "the obligate grape seed," might occur. It used then to be said that a cure in such unfortunate cases was, of course, out of the question. As soon as the profession at large will take the same interest in subphrenic abscess that they do in appendicitis, the number of cases, which in the whole present literature amounts to less than two hundred, will rapidly swell to an enormous number, and accordingly will the prognosis, except in those of malignant origin, be most favorable.

After referring at some length to the fact that the history of the case was a most important guide in differentiation, and mentioning at some length the various physical signs to be detected, Dr. Beck said that it is sometimes impossible to distinguish an encysted pyothorax from a subphrenic abscess. The pathognomonic signs of such effusions urged by Leyden were absence of cough and expectoration, slight displacement of the heart, and rapid change of note if the patient is rapidly turned. According to his observation, pleuritic effusion, particularly pyothorax, sometimes occurs without these symptoms. The motions of the exploratory needle introduced into the abscess were also regarded as pathognomonic. But bearing in mind that in subphrenic abscess the function of the diaphragm is greatly impaired, and that, furthermore, the point of the exploratory needle may be fixed by the diaphragm as well as by the abscess membrane, neither the presence nor the absence of the motion can be regarded as a determining pathognomonic factor.

The author referred to Litten's diaphragm phenomenon and to Jendrassik's observation of a well-marked concave undulating curve parallel to the costal margins in the mammary as well as the axillary line during deep inspiration, the value of the former of which two methods, however, he did not consider established. In the author's opinion, aside from the history there are but few absolutely reliable pathognomonic data for the diagnosis of subphrenic abscess, and the main question will practically always remain as to the presence of an abscess.

Dr. Beck discussed at some length the method of treating subphrenic abscess, and after stating that the same aseptic precaution should be observed as in any other operation, said that if the first trial be negative the needle should be introduced several times into different portions, as the pus cavity may either be of small extent, may contain a cheesy accumulation, or may be divided into several minor cavities by adhesions. In the first event the cavity may be missed altogether by the exploratory needle; and in the second the needle, being introduced into the solid cheesy mass, can draw no pus. After each negative result a wire should be pushed through the needle (which must not be of too small a calibre). Thus, some pus which had remained adherent to the inner surface of the needle will become attached to the wire. Occasionally it will be useful to fill the syringe with sterile water after the operation and force the water through the needle into a Petri dish. In case cheesy masses are present small particles are sometimes drawn into the calibre of the needle, which cannot be seen by the

naked eye, but which by being mixed with the sterile water can be recognized under the microscope. In case the microscope does not give sufficient information, resort should be had to cultures of the fluid. The treatment of pyothorax is practically the same as that of subphrenic abscess, that is, resection of a piece of a rib, as it is only in this way that a sufficiently wide opening is secured for thorough evacuation.

Thoracoplasty (Schede's) and Visceral Pleurectomy.—DR. ALEXANDER HUGH FERGUSON, of Chicago, read this paper. Thoracoplasty, as first done by Schede, is an heroic measure for the otherwise hopeless cases of chronic empyema, and consists in the removal of the chest wall. The author described the operation at some length, and stated that, in spite of this operation and all other procedures for the relief of this affection, some cases are not cured. He stated that the assertion made by Schede, that amyloid degeneration and tuberculosis do not contraindicate this operation, is true within certain limits. Dr. Ferguson described Schede's thoracoplasty as performed by him (the author) in July, 1895, in which case a good result was obtained, the wound healing by first intention and the patient gaining flesh so rapidly that he was able to be about in a remarkably short time. At the end of five months' careful treatment after the operation, a long central sinus not having closed, the operation of visceral pleurectomy was performed, which resulted in the complete restoration of his health. The operation of visceral pleurectomy was first performed in America by Dr. George R. Fowler, in October, 1893, since which time several others have been performed, a brief outline of which the author gave.

A number of excellent photographs and drawings accompanied this paper, showing the methods of operation as performed by Dr. Ferguson.

DR. BAYARD HOLMES, of Chicago, in discussing Dr. Ferguson's paper, said that he had performed three operations of this kind, and two of the patients are now alive and well. In the third case there was no improvement after the operation, and the patient subsequently died of tuberculosis. In one of these three cases drainage between the ribs had been instituted for over three months, and the young man had been sent home to die. After excision of the rib he made a careful examination and decided that it would be impossible to bring the chest wall in contact with the stump of the lung. He therefore removed the chest wall by rapidly cutting in both directions, dissecting out the ribs, cutting off the parietal pleura, which was one-half inch thick, and also the pulmonary pleura, which was of the same thickness. He then brought the surfaces together and drained with gauze around the opening, with the result that the patient made an excellent recovery. Two months afterward there was no further occasion for dressing except for the external wounds. The only adult on whom the speaker had operated was a man thirty-five years of age, who had been suffering with empyema which had been neglected for more than a year. In this case a similar operation was performed after two attempts had been made to close the cavity by the Estlander operation. After the third operation the patient made a good recovery, but it was necessary later to do two or three operations for the removal of infected bone where the ribs had become infected from a discharge of pus. A third case of empyema had been treated by the simple Estlander operation, and the patient seemed to recover and went home. In this case a pleural cavity was filled with pus, which existed for a long time until the patient finally came back. The cavity was again opened, when the lung was found to be collapsed and the pleura was much thickened. After so radical an operation as this the patient died with suppurative disease, which showed that it had tuberculosis as the

foundation. Acute miliary tuberculosis was present in the abdominal cavity at the post-mortem. It was a peritoneal tuberculosis.

DR. JAMES H. DUNN, of Minneapolis, said that during the past few years he had been much interested in observing several cases of this operation, and it was his belief that the necessity for doing the operation is usually due to the failure in diagnosis and to the want of proper drainage. However, he did think that when operations are necessary in the treatment of empyema and the Estlander method has been employed, the results have usually been fatal. When it has been successful, he thought that proper drainage would have produced equally good results. If a thoracoplastic operation is necessary, he believed that this one is the most desirable, but if one thinks that the ribs prevent the chest wall from falling in, he is in error, as the ribs are not able to do anything of the kind. The cavity would be obliterated without the slightest difficulty, so far as the ribs are concerned. What does prevent the collapse of the cavity is the presence of old granulation tissue. In the speaker's opinion many thoracoplastic operations have been done that were not necessary, as proper drainage would have cured the cases any way. Of course, in some cases operation is necessary, and he believed the one that Dr. Ferguson had presented was the proper one in order to get primary healing, that is, the resection of the chest wall and the removal of the granulation tissue. In speaking on this matter he referred not only to his own cases, in which he had removed ribs two or three times, but to those of his colleagues who have pursued the same course. He did not mean to say that none of the patients have recovered, for one of his own did, but not until he had practically done this operation.

DR. FERGUSON, in closing the discussion, said that Estlander's operation is a grave one, as also is pleuroctomy; but Schede's operation is a graver one. He did not think, in looking over the statistics of the cases, that more than one or two of the operations have been performed without clear indications. As to the proper order in which these various operations should be done, he did not think that thoracoplasty should be performed until Estlander's operation has failed, as many patients undergoing this latter operation get well. Neither did he think that pleuroctomy should be thought of until Schede's operation has been done.

Extra-Uterine Pregnancy.—DR. HOWARD KELLY, of Baltimore, spoke at some length of his new method of treating this affection, and mentioned the excellent results he had obtained. He spoke of several causes for error, not only in the diagnosis but in the treatment. Among other experiences he mentioned the fact that he had opened dermoid cysts, pelvic abscesses, and small ovarian cysts, all of which he had mistaken for extra-uterine pregnancies. All of these he evacuated through the vagina. If there is a large pelvic hæmatocele and it is opened from below and then the sac is evacuated, it will very rarely be necessary to open the abdomen.

DR. NICHOLAS SENN, of Chicago, said that for once Dr. Kelly and himself agreed thoroughly.

DR. KELLY, in closing the discussion, advised all to look out for the rectum, and also to be very careful to keep clear of the uterine artery and the ureters.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

J. TABER JOHNSON, M.D., OF WASHINGTON, D. C.,
CHAIRMAN.

First Day—Tuesday, May 5th.

Address of the Chairman.—DR. J. TABER JOHNSON, of Washington, in his address briefly reviewed the progress of the past year in obstetrics and gynecology.

He called attention to the fact that the treatment of puerperal infection has become much simplified, and now amounts practically to absolute cleanliness; that as few examinations as possible should be made, and that douches should not be used when there is no rise of temperature. For the purposes of exploration in suspected retention of morbid material the index finger is the best instrument; the curette is condemned by many authors. Hysterectomy is valuable in selected cases, but is useless where the infection had spread beyond the uterus.

Symphysiotomy, he said, has been revived as a substitute for Cæsarean section and craniotomy, but in his experience so much injury to the tissues has often occurred and unpleasant sequelæ have followed, that it is a question whether Cæsarean section, with the present methods of operation, is not preferable. In regard to placenta prævia nothing new has been brought forward except the proposition to do Cæsarean section. But the diagnosis is not generally made until hemorrhage occurs, and then it is the duty of the physician to save the mother. Where the hemorrhage is slight and the os undilated, the tampon can be used. After dilatation of the os, the child's leg can be brought down to act as a tampon and the progress of labor watched. He condemned the rapid extraction of the child. One case of puerperal diphtheria has been reported by Nisso and successfully treated by antitoxin.

The discussion of the treatment of uterine displacements has been quite general, and the advocates of Alexander's operation, ventral and vaginal fixation, have presented their claims, but the question of superiority is still unsettled. The same is true in regard to the vaginal and abdominal operations for the removal of tumors, etc. Great improvement in the methods for the removal of fibroid tumors has taken place and the mortality has been reduced from eighty per cent. to ten per cent. There has also been great improvement in the technique of operating, and the direct transfusion into the tissues of considerable quantities of the normal saline solution has doubtless saved many lives.

He hoped the coming year would see great improvements in the administration of anæsthetics, and that the application of the Roentgen rays would clear up many doubtful points of diagnosis.

A Note on Cervical Stenosis as a Factor in Pelvic and Uterine Disease.—DR. HENRY P. NEWMAN, of Chicago, said that twenty years ago stenosis of the cervical canal was thought to be very common, and the operations and instruments devised for its relief had made the reputations of the gynecologists of that day. Now it is even denied that such a condition exists. That is going too far, since it is not a rare condition; but it is doubtful if it ever is congenital. In the opinion of the author the condition is generally due to a persistence of the normal natal type, due to improper hygienic condition and management at the time of puberty.

He wished, therefore, to put in a plea, not for the treatment of the condition when it exists, but for the prevention of its occurrence and the consequent sterility and disorders of menstruation which lead to endometritis, metritis, salpingitis, and the nervous phenomena associated with these diseases. While there is tendency in some directions to give girls the same opportunity to develop that boys have, yet the conditions found in our public schools and in the factories and stores where growing girls are employed all tend to retard the development of the generative organs and produce this condition of stenosis. It is the duty of the profession to recognize this, and labor for the prevention of this trouble by insisting on a better hygiene.

How to Remove Pus Tubes without Rupture.—

DR. J. S. STONE, of Washington, D. C., stated that while all pus is not infective, it is desirable not to soil the peritoneum, if possible. His experience in operating upon cases with pus sacs has led him to adopt the following technique:

Clamps are placed upon one of the tubes, closely hugging the uterus and embracing one inch of the broad ligament. The ovarian artery is tied or clamped as near the pelvic wall as possible and a ligature is placed on each severed end, or it may be placed before section, and the incision made between the points. No bleeding can take place, and the surgeon can leisurely enucleate the tube and ovary with its contents. It affords a great amount of space, and the tube comes prominently into view when separated from the uterus. When an infected stump is left an exsection of the cornua is demanded. The ovaro-uterine artery is ligated, the forceps removed, and another deeper ligature taken if necessary. The Trendelenburg position is most desirable. Flushing or drainage of the cavity is unnecessary. The advantages are more space; the larger blood supply is cut off; small silk or catgut can be used, as there are no ligatures *en masse*; there can be no infection of ligatures or stitches; no danger of hemorrhage, and it facilitates the enucleation by affording another point of anterior cleavage.

Dr. Stone presented a specimen which he had removed entirely by this method. It consisted of a pus sac measuring eight inches in circumference and fourteen inches from one extremity to the other.

Extra-Uterine Pregnancy Viewed from a Clinical Standpoint.—DR. W. G. MACDONALD, of Albany, N. Y., said that while the surgery of extra-uterine pregnancy dates back only thirteen years, to the time when Lawson Tait performed the first operation, yet it has reached a point of development that leaves little to be desired. Yet women still die from ectopic gestation. Too much time and space have been spent in discussing the pathology of this affection and the various methods of treatment, and too little in formulating exact rules by which this justly dreaded accident may be discovered early and the lives of many women be saved.

Recent work in appendicitis has given us very reliable guides in the early diagnosis of this affection, and the same ought to be true of extra-uterine pregnancy. As a rule, operations are performed after rupture has taken place, but then any delay is dangerous. The diagnosis before rupture is most important, but is very difficult. It is a fallacy to believe that some previous disease of the generative organs is necessary for the production of ectopic gestation. It may happen in perfectly normal women. Metrorrhagia also in the majority of cases is not common before rupture. But any woman who has shown any of the early signs of pregnancy, such as cessation of menstruation, nausea, etc., and then develops any abnormal irregularity should at once become an object of suspicion. A careful examination should be made and the advice of an expert be obtained. Usually this examination will reveal the presence of a small tumor at one side of the uterus. This, with the history, will often be sufficient to confirm the diagnosis and warrant an exploratory incision. After rupture the pain and signs of collapse from hemorrhage are sufficient. A bicornal uterus or the presence of fibroids may render the diagnosis more difficult. When the diagnosis is made, the operation should be performed at once, as delays are fraught with grave danger.

Symptoms, Diagnosis, and Time for Operation in Ruptured Tubal Pregnancy.—DR. JOSEPH PRICE, of Philadelphia, stated that the causes of extra-uterine pregnancy may be anatomical or moral. It may have its origin in some anatomical change in the tube or perversion of the function of the cilia; or pos-

sibly may result from attempts to prevent conception. The determination of the exact cause is uncertain. The attacks usually come on suddenly. A vigorous, healthy woman may be seized while going about her usual occupations, or even in bed after a quiet night's rest, and suddenly become pale and collapsed. Sharp pain generally follows, which may be quite general and accompanied by hemorrhage. These symptoms may increase in severity or subside, to be again repeated. If there is a large effusion it can easily be recognized by the finger, but there may be only a sense of tension and resistance. Two or three days after the rupture has occurred there is no difficulty in making out the tumor. Frequently there is a history of sterility, some uterine disease, or an abortion occurring a month or two previous. There is also peculiar nervous disturbance and an absence of the usual signs of pregnancy.

Vesical and rectal disturbance, such as distention and tympany, are common. Twenty-five per cent. die within twenty hours after rupture from hemorrhage. The most fatal cases are those in which the rupture occurs close to the uterus. The only treatment is an operation, and this should be performed as quickly as possible. The chief danger is from hemorrhage, but the prompt infusion of the normal saline solution will save many lives. In those rare cases which go on until the child reaches full term, there is generally very little trouble in extracting the child alive, but the great danger is to the mother in the removal of the placenta, and the operation should never be delayed to this time if it has been possible to make the diagnosis before. The child is to be sacrificed for the mother.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL QUESTIONS IN PARLIAMENT—TUBERCULOSIS—PAUPER SCHOOLS—REPORTS OF MEDICAL OFFICERS OF COUNTY COUNCIL AND SCHOOL BOARD—THE GLOUCESTER EPIDEMIC—MEDICAL SOCIETY—EXHIBITS—MEDITERRANEAN FEVER.

LONDON, April 24, 1896.

AN unusual number of medical subjects have come before Parliament this week, introduced for the most part in the form of questions. The report of the tuberculosis commission is not to lead, as many hoped, to immediate action. The government regards it as authentic in respect to the scientific problems, and now proposes to refer the question to another commission to report as to the administrative measures required. It might have been supposed to be the duty of the government to settle these. How many lives may be sacrificed by delay none can say. Questions on medical witnesses, inebriates, rabies and hydrophobia, venereal diseases in the army, pleuro-pneumonia, vaccination, and other subjects of professional interest have been asked and secured official replies of the usual character.

The report of the committee on the metropolitan pauper schools has obtained great attention from the general press and will probably result in a number of changes. The committee recommends that no more large schools be built, that the existing schools be not enlarged, and that the number for which they are certified be considerably reduced. The evils of crowding together a large number of these children are fully admitted, and it is recommended that a central authority, unconnected with the poor-law system, should look

after these children. The boarding-out system is pronounced successful. Some of the recommendations respecting the education of these children have been already embodied in the government education bill.

The report of the medical officer of health of the County Council for 1894 is just out, and extends to nearly two hundred folio pages, containing numerous tables, charts, and diagrams. Mr. Murphy has bestowed great labor on his report and it will be of much value to sanitarians, as it comprises carefully gathered statistics of nearly four and one-half millions of people.

Another official report, that of the school-board medical officer, Dr. W. R. Smith, has also appeared. It deals with the prevalence of diphtheria in London and its alleged connection with elementary schools.

The mention of the school board reminds one that its suggestion for a conference between the attendance committee and representatives of the profession was accepted at a further meeting on Thursday, and it may be hoped that the action of the board as to medical certificates will be altered.

The terrible epidemic of small-pox at Gloucester continues, and heart-rending accounts of the suffering entailed are published. There were two hundred and one fresh cases reported in last week's return and forty-five deaths. Altogether thirteen hundred and two cases have occurred in this city of thirty-nine thousand five hundred inhabitants, where the vaccination laws have been so persistently set at naught and the value of its protective influence ridiculed. It is a sad lesson. I hear that the trade of the place is reduced to the supply of the barest necessities, that ruin stares many in the face, that the greatest terror prevails, and that "the town looks like a city of the dead." Vaccination and re-vaccination are now going on in spite of the fanatics.

The last of the clinical evenings arranged by the Medical Society of London for the present session took place on Monday. There was a case of lymphatic obstruction of unknown origin in a girl of twenty-three. The left foot began to swell four years ago. The swelling has gradually extended until the leg and thigh are both enormously swollen. The seat of the blockage has not been ascertained, though it has been sought under anæsthetics. It was said the length of the limb was somewhat increased.

Another patient was a lad from whose face a hairy mole had been excised. The result is a scar passing into keloid. It was proposed to remove this and fill the gap with grafts on Thiersch's plan. In objection to this a member suggested the danger of producing ectropion of the corresponding eye. Perhaps the patient would better have kept his "large hairy mole."

A man, aged thirty-one, with dulness extending from the liver below the umbilicus, was shown. There had been vomiting and some jaundice. The smooth, rounded tumor, evidently containing fluid, was probably a hydatid cyst.

A girl with a tumor of the abdominal wall, dating from an injury last year, was shown. It seemed to be sarcomatous.

An infant was exhibited with a swelling in the neck, only seen when the child cried, when it became prominent and dusky. The swelling seemed to be a venous angioma, as it was dull on percussion.

Mediterranean endemic fever has only of late years attracted much attention and is not referred to in text-books, except the most recent, although Marston described it in 1861, and it has been met with in certain localities, such as Malta, from an early period, sometimes as an epidemic.

A note on the disease was communicated to the Royal Medical and Chirurgical Society at its last meeting by Surgeon-Captain M. Louis Hughes, who found that clinically this fever had a peculiarly irreg-

ular temperature curve, consisting of intermittent waves of pyrexia of a distinctly remittent type. These waves of pyrexial intensity were separated by periods of apyrexia or abatement of severity, giving a peculiar relapsing character to the fever. In some instances the daily remissions became so marked that the temperature might become intermittent (but non-paroxysmal) in character. Its duration was long and indefinite, the average pyrexia duration being from sixty to seventy days, and the average stay in hospital over ninety days, while patients had been known to suffer from the pyrexial condition for over six months. This pyrexia was accompanied by progressive anæmia, a tendency to constipation, swelling and effusion in various joints, profuse perspirations, and a peculiar irritability of the nervous system, characterized by sciatica and other neurotic symptoms. Pathologically the spleen was enlarged and softened; many of the organs were congested, but the intestines were free from ulceration. The microscopical appearances were those of toxic irritation of the tissues. A definite species of micro-organism (discovered by Bruce in 1886) was constantly present in those tissues in which from clinical symptoms and post-mortem appearances it might be expected to be present. Pure cultures of the "*micrococcus militensis*" produced by inoculation into the tissues of monkeys a similar form of pyrexia, and in all other points fulfilled the postulates laid down by Koch. The disease prevailed during the hot, dry months between May and October, with a maximum prevalence in July, August, and September. It was not contagious, nor did there appear to be any close connection between its prevalence and the milk, water, or food supplies. Its dissemination appeared to be brought about on shore by an aerial infection arising from drains or soil infected by the excrement of previous sufferers from the disease. By this means it entered the human system by way of the throat or air passages. Its prevalence followed a ratio inverse to the amount and continuance of the rainfall. The mortality did not exceed two per cent. of cases, but the duration of sickness was very long. There is no specific. Careful nursing and dietary, confinement to bed during the acute stages, removal from all sources of reinfection, and a moderate regulation of temperature by the external application of cold were the measures of most importance.

Dr. Thin said that when in Malta last autumn he carefully examined the blood of six patients in different stages to see if the parasite of malaria was present. He could discover neither parasites nor pigment in the blood or in the spleen of those whom he examined. Typhoid symptoms were characterized by their absence and the intestinal lesions were not of typhoid nature. One characteristic of the disease seemed to be that the patients were quite unaware of the gravity of their condition. Professor Pisani, of Malta, had told him that whereas formerly the fever was confined to those parts of Malta where English soldiers or sailors were commonly present, it was now common in the country districts. In the neighboring island of Gozo the fever was formerly absent and patients were sent to convalesce there, but now the fever had taken root there as well. The fever was the most serious disease connected with Malta. At Hong-Kong a fever of the same type had recently reappeared. In Sicily the disease was formerly not known, but there was an epidemic in 1872. For some years afterward a few sporadic cases occurred; then in 1884 an epidemic broke out at Catania, and also in country districts where the air and sanitary conditions were beyond suspicion. Cases also occurred on the sides of Etna. It was a fever with an absence of symptoms that were specific or pathognomonic, and in most instances there was excessive sweating. At the apex of the lung a condition

was often present which suggested phthisis, but was not phthisis. He held that the government should take steps to have the fever fully investigated.

Dr. Norman Moore said that Dr. George Cleghorn, in a book on the "Diseases of Minorca," described an affection which was clearly Mediterranean fever, and which was existent in Minorca between 1740 and 1751, at the time when the island was occupied by our troops. Dr. Cleghorn was, of course, prejudiced with the old classification of fevers, and he regarded this as a variety of tertian; but his descriptions were very clear and he recorded one hundred post-mortem examinations. He mentioned that definite destructive ulceration of the mucous membrane of the large intestine sometimes occurred; that certain varieties of skin rash appeared in the course of the affection; and that it was often complicated with pleurisy, and doubtless under this term he included croupous pneumonia also.

Dr. Patrick Manson said he had little experience of this fever. He had seen several cases in London and one or two in China. In Amoy he once witnessed an epidemic of a fever in which there were two pyrexial waves separated by an apyrexial interval. From what was known of this disease it certainly was neither malaria nor typhoid. Every credit is due to Surgeon-Captains Bruce and Hughes for the work they have done on the subject.

THE TREATMENT OF HEART DISEASES BY BATHS AND GYMNASTICS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having lately read several articles in English and American medical journals about the so-called Nauheim treatment of heart diseases, I found that the merits of the late Professor Beneke in this matter were not sufficiently acknowledged, and those of another well-known physician of Nauheim, namely, Dr. Groedel, have not even been mentioned. Likewise nothing was said about the gymnastic treatment of heart diseases having been first applied in Sweden. Will you therefore kindly allow me to make the following remarks.

Beneke reported as early as 1859 and 1861 about the effect of Nauheim baths on heart diseases. Special papers on this subject appeared in the years 1870, 1872, and 1875. In these we find that Beneke treated not only valvular lesions of rheumatic origin, but all kinds of heart diseases, and I beg to call particular attention to the fact that he not only found a soothing effect produced by the baths upon the heart's action, but also a striking improvement of the compensation in cases in which no other treatment had been of any effect.

The next paper on this subject was written by Dr. Groedel in the year 1878, and appeared in the *Berliner klinische Wochenschrift*. This was the first announcement "that the baths increase the energy of the heart's action," which was thus expressed in the first work of Dr. A. Schott two years later: "Baths are a first-class tonic for the diseased heart."

A number of papers followed, written both by A. Schott and Groedel, then later on by Th. Schott. Among those by Groedel I will only mention: "The Effect of Baths on Respiration and Circulation," *Berlin. klin. Woch.*, 1880; "The Treatment of Heart Diseases," *ibid.*, 1883; "Nervous Heart Diseases," *ibid.*, 1890; "Bad Nauheim and the Treatment of Chronic Heart Diseases," *St. Petersburg med. Woch.*, 1893; on the same subject, *Lancet*, 1895; "Baths in Cases of Arteriosclerosis," *Deut. med. Zeitschr.*, 1895.

As regards gymnastics for heart diseases, Schott's first paper appeared in 1885, but publications by

Swedish physicians in regard to the application and advantages of gymnastics on disordered circulation are of much older date. Dr. Saetherberg, of Stockholm, who made use of gymnastics for cardiac lesions as early as the year 1847, described his experiences in *Hygeia* in 1862, and he was followed in the same paper by Wretling, of Gottenburg, in 1867, and Lander in the *Nord. med. Archiv*, 1872 (*cf.* "Beiträge zur mechanischen Behandlung," von Dr. H. Nebel, Bergmann, Wiesbaden, 1888).

It is undoubtedly the merit of the late A. Schott to have first applied gymnastics in Nauheim; however, the modifications made by him in the Swedish system are so insignificant that it cannot be called a method invented by himself. Groedel, who also referred a year later to good results attained with gymnastics, prefers gymnastics with Lander's machines in certain cases to manual exercises (*vide* Groedel's "Medical Guide to Nauheim," Bindernagel, Friedberg, 6th ed., 1893; English ed., 1895). I personally have also seen the best results produced by Lander's mechanical gymnastics.

Summing up all this, we find that Beneke having invented the bath treatment for heart diseases, and Swedish physicians the gymnastics, there is no real reason for calling the two treatments combined Schott's method. The latter has endeavored to explain the effects of baths and gymnastics, and in doing so he has assisted in making both methods of treatment better known; but others, especially Groedel, have also contributed to this end. In Germany, where the course of these events could be better followed from the very beginning, nobody ever thinks of speaking or writing about a "Schott method"; we seldom hear even of a "Nauheim method," but simply of Nauheim as a health resort for patients with heart disease.

HERMANN NEBEL, M.D.

FRANKFORT-ON-THE-MAIN, April 2, 1896.

GRADUATED TIME-EXPOSURE SKIAGRAPHS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In many instances the significance of the appearances revealed by the skiagraph could be much more easily and accurately determined if several plates of different times of exposure could be made of the same object.

These may be readily obtained in the following manner, which I recently suggested to Mr. C. F. Lacombe, of Denver, Col., who by the way, has obtained some of the finest skiagraphs yet made in this country:

Using sheets of sensitized paper (bromide-of-silver) instead of glass plates, fasten them, one sheet overlapping another and each held by spring clips, to a plate-holder, leaving on each a tag exposed so that it can be withdrawn separately. Then after varying intervals of time, according to the object under examination, the sheets are to be removed one by one, thus giving a different period of exposure for each one, yet preserving the general uniformity of the pictures and saving much time and also wear of the Crookes tubes.

G. H. STOVER, M.D.

EATON, COL.

ASEPSIS IN LONDON.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The notes of several of your correspondents concerning asepsis as practised in London lead me to relate my experience.

The first operation I saw there was at the London

Hospital, when Mr. Frederick Treves performed laparotomy for ovarian cyst. Some of the instruments were boiled, while others were not. An officious male nurse took particular delight in handling the instruments, even though his hands were unclean, and once he picked up a retractor that had fallen on the floor, rinsed it at the faucet, and returned it to the tray.

During the operation the cystic fluid began pouring out on to the floor, and Sir Frederick calmly stooped down and turned up his trousers, then rinsed his hands in a sponge basin and proceeded with the operation.

At Samaritan Free Hospital I saw a prominent surgeon perform ovariectomy with absolutely no attention to asepsis, simply plain water from the faucet being used. At Middlesex Hospital I saw the other extreme, asepsis being carried to the extent of filtering the air as it passed into the operating-amphitheatre.

In Edinburgh the same laxness was in evidence.

H. J. HERRICK, JR.

CLEVELAND, OHIO.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 9, 1896:

	Cases.	Deaths.
Tuberculosis.....	224	134
Typhoid fever.....	6	2
Scarlet fever.....	94	10
Cerebro-spinal meningitis.....	6	5
Measles.....	360	11
Diphtheria.....	258	40
Small-pox.....	1	1

Insects Used in Therapeutics.—At the present day the number of kinds of insects used in medicine is very small, the cochineal, cantharides, and *Blatta orientalis* comprising about the whole list. But in former days, and down even to the end of the eighteenth century, a large number of species was used. In this, as in every other department of the *armamentarium medicum*, in popular medicine at least, the nastier the substance the more potent the remedy. Thus, woodlice were used to cure indigestion, or, to put it in the lingo of that day, were potent to "dissolve the mucilaginous tartar of the body," "open obstructions of the viscera," etc. When it came to treat epilepsy, the *grand mal*, something more powerful was necessary; so we are not surprised to find the old physicians recommending bedbugs as an almost infallible remedy. Aristophanes, Aristotle, Pliny, and Dioscorides, all maintain the efficacy of these disgusting creatures in quartan fever. Pliny says that seven bedbugs swallowed at the beginning of an attack will certainly work a cure.—*The National Druggist*.

Taking the Air without Going out.—Elderly people and others who may be temporarily house-bound and prevented from enjoying a regular daily stroll outdoors can devise a fair substitute as follows: Bundle up as if for the usual constitutional, select a large sunny room, preferably at the top of the house, open wide the windows, shut off the heat and move around briskly, going to the window and inhaling the fresh air deeply through the nostrils. We have often called attention to the fact that house air, with its many impurities, overheated condition, and general lifelessness, is one of the principal predisposing causes to colds and catarrhal affections. Where a patient or invalid is confined to bed, if the shoulders

are kept well covered and the head lightly protected, the windows may be opened and the room flushed with fresh air without any special risk, provided the current does not strike them too directly. The danger from want of proper ventilation is decidedly greater. Deep inhalations of air at the open window, taken gently through the nose, impart an enlivening and tonic influence to the whole nervous system, which can soon be demonstrated by a personal experiment.—*The Health Magazine*, April, 1896.

Medical Women in Austria.—The Emperor of Austria has issued a decree admitting women to the medical and philosophical faculties of the Hungarian universities. A clause in this new decree, however, refers to the fact that no female student will be admitted to any university without the special permission of the minister of justice.

Chinese Methods of Predicting the Sex before Birth.—A round, prominent abdomen projecting forward so as to interfere with locomotion indicates a girl, while a uterus extending very high upward means a boy. A fresh color of the skin, with only slight pigmentation, especially of the areola and slight change in the features, points toward a girl, the opposite condition to a boy; violent movements of the foetal extremities also indicate a girl. When after the seventh month the right hand of the foetus can be felt moving in the left side of the mother's abdomen—there may be some doubt about the mother's ability to distinguish the right hand of the foetus from the left—it is male. The most interesting methods cited are two which point to a very high development of the mathematical faculty among the Chinese. The first depends upon the second figure of the mother's age and the probable month of conception. If both figures are odd or both even, the child will be a boy. If one is odd and the other even, a girl is expected. The most complicated method of all was published in 1593, by the wise man, Fschweng-Fa'wei: To the number 49, evidently a number regarded as sacred, add the number of the month of conception, and from the sum subtract the age of the mother; then subtract 1 (for the heavens), 2 (for the earth), 3 (for mankind), 4 (for time), 5 (for the elements), 6 (for the musical scale), 7 (for the plants). If the remainder is an odd number, the child will be a boy; if even, a girl. If the remainder is larger than the number eight, that number is also subtracted (for the directions of the wind), and the decision made according to the final remainder. Even European residents of China believe in this method.—J. J. MATIGNON, *Archives de Gynecologie et Gynecologie*, June, 1895.

The Production of Monstrosities.—Dr. Ryder is inclined to regard the double-tailed goldfish as "the actual realization of an eight-limbed vertebrate," a thing most contradictory of our present basis of animal classification. These fish have been produced in Japan, he concludes, for at least two centuries, and they there command high prices among the wealthy classes, the finest or most abnormal variations being in great demand. By taking the eggs of the normal species of goldfish and shaking them or disturbing them in some way, the Japanese get double monsters, some with double heads and a single tail and some with double tails. Naturally the complete double monsters would be unlikely to live, while those with only the duplication of the tail, having the problem of life in no way complicated for them, would be quite likely to survive. These monstrosities, being selected and bred, would in all probability hand onward the tendency to reproduce the double tail, which in time would become fixed and characteristic, if judicious selection were maintained by interested breeders, as has been the case with many breeds of dogs, horses, fowls, and pig-

eons. Barfurth, experimenting upon tadpoles, has found the duplication of the tail in them has much to do with the manner in which it is removed. For example, if the tip of the tail were snipped off exactly at right angles to the axis of the body, the tail was regenerated of the normal form and straight backward. If removed at an acute angle, regeneration took place so that the new tip was directed either upward or downward, according as the inclined, regenerated, cut surface looked upward or downward. These facts cannot be dismissed as useless in connection with the problem of inheritance in general; for while as we rise in the scale of organization the tendency to regenerate lost parts becomes more restricted, the tendency to produce monstrosities due to disturbances of development remains in full force, as is illustrated by the disposition to reproduce extra toes in the cat, the same tendency hereditary in the Dorking fowl, or even the disposition to reproduce extra thumbs or toes in the human family.—*Popular Science News*.

House Nerves.—In describing the depressing form of ailment which is designated "house nerves," *The Hospital* observes that in Russia "tea and Tolstoi" are guilty agents, while in America the negro question, iced drinks, candy, and business hurry help the complaint. Outdoor exercise and innocent amusement are prescribed as the panacea, but it is not easy to apply a remedy to persons who have already contracted a morbid attachment to the evil causes of their nervous condition.

Premature Occupation of New Houses; a Test for Relative Humidity of Habitable Apartments.—Regarding newly built houses, Sanitarians, for the most part, teach us that a period of four months in summer and six in winter ought to be allowed between the end of the building operations and the entrance of the inhabitants into a house. In this way will be avoided the accidents that arise from the premature occupation of an apartment. It is scarcely necessary to add that as soon as the house has begun to be occupied, to avoid dampness it should be heated and ventilated; treated, in a word, by all the usual means to maintain a healthy condition of the apartment. If the dampness persists in spite of all these precautions, the proprietor is responsible for the defects in his building. Physicians are sometimes requested to estimate the relative dampness of an apartment or room. This is not always easy by simple inspection, as a room may be damp although saltpetre does not grow on its walls or mould in its corners. The following is an exact means of appreciation and one that is within every one's scope: In the room in question a kilogram of fresh lime should be placed after hermetically closing doors and windows. In twenty-four hours it should be weighed, and if the kilogram has absorbed more than ten grains of water (that is, more than one per cent.), the room should be considered damp and classed as unhealthy. The question of dampness of dwellings is a frequent cause of dispute between landlord and tenant, naturally solved in the affirmative by the latter and in the negative by the former. The question can be settled in the future by the test of the hydration of lime of which I have just spoken, and which will give irrefutable proof or refutation of the validity of such complaint. The dampness of dwellings is a cause of illness. The death rate is greater in quarters where the apartments are damp than where they are dry. Ventilation is defective where the walls are impregnated with water; the porosity of the walls is done away with and can only be re-established after the evaporation of the water has been completed, and the heat required to effect this evaporation is furnished by the person living in the room. This is the cause of the vivid impression of cold which we experience

in damp places, and it is a well-known fact that exposure to the action of cold renders the organism more accessible to the attack of morbid germs. The rotting of walls, which appears particularly in places where the water used in building contained nitrates and chlorides, is caused by changes from dryness to dampness and *vice versa*. It gives rise to fragmentation of the mortar and even of the building-stones themselves. Finally, frost can split a wall that is soaked in moisture. The dampness of dwellings is due to internal or external causes. There can be no doubt that a new building ought to be treated for a certain length of time by ventilation and heat with a view to evaporating the really enormous amount of water incorporated with the building materials. According to Pettenkofer, a three-story house requiring one hundred and sixty-seven thousand bricks would need some eight hundred and thirty-five thousand litres of water to build. When this evaporation has been effected great care should be taken in insuring proper drainage for rain and other water.—*The Journal of the American Medical Association*.

Accident Neuroses.—In spite of the extent of its literature, says an editorial writer in the *Boston Medical and Surgical Journal*, of March 19th, the question of the immediate and ultimate effect of traumatic or psychic shock on the nervous system remains one of the most important with which practical medicine has to deal. At this point perhaps more than at any other medicine comes into contact with problems which do not lie directly within its own sphere. The moral effect upon the community, and especially upon the working class, of the more or less indiscriminate bestowal of damages for real or fancied injury, involves a question of extreme sociological importance, and one which we, as physicians, too often overlook in our greater interest in the purely medical aspect of the matter. This ethical side of the question is doubtless more prominent in the European countries than in our own, where the various organizations of workmen have reached a greater degree of perfection than in the United States. In conversation with a sociologist of distinction some years ago, the writer recalls a statement made by him, that he regarded the attitude of mind inculcated by the general bestowal of damages in Germany and England, whose social conditions he was then studying, as one of the most ominous with which sociology in the future would have to deal. If this be true, it is certainly the duty of physicians at large, into whose hands the cases first come, to have as clear an idea as possible of the subtlety of the problem with which they are called upon to deal, and to realize fully the wide bearings of their expert decisions. Prof. Adolf Strümpell has again gone over much of the disputed ground with characteristic precision and clearness of detail. There can at present be no doubt whatever that many of the symptoms following accident are psychical, however they may be physically manifested. This is generally accepted and needs no proof. A matter also well recognized is that the chance of money redress is now much greater than formerly; hence an inevitable tendency, inherent in human nature, to exaggerate and through more or less voluntary auto-suggestion to construct an organized complex of symptoms, which otherwise might have sunk into the background of consciousness and disappeared. As a result, then, of a persistent sort of introspection, many disturbances are brought into existence, which have generally gone by the name of "traumatic neuroses" since the introduction of that specific term by Oppenheim. On the whole this designation has been unfortunate. It served a valuable purpose in defining a condition which was in need of special study, but inevitable confusion has

arisen from the fact that the term has been continually used without a proper conception of its exact meaning—a fault, however, not to be attributed to its originator. "Trauma" has come, in the popular mind, to be identified with "accident"; a "traumatic neurosis" means popularly an "accident neurosis." Experience will no doubt show that the term "traumatic neurosis" should be used with more and more caution, and never as indicating a special disease. No doubt both practically and scientifically we shall do as well to speak of "accident hypochondria," "accident neurasthenia," "accident hysteria," since it is evident that not every trauma is an accident. Frequently the diagnosis between an organic lesion and one due to a purely mental effect is easy to make by methods which are familiar to every experienced physician. The general appearance of an accident patient and his attitude toward himself are exceedingly characteristic. Almost without exception his tendency is to exaggerate, and, as a natural consequence of his self-observation, pain and weakness are felt with an increasing intensity. This is the result of the introspective frame of mind into which the accident with its attendant circumstances and the further prospect of litigation have plunged him. The point of importance is entirely apart from the question of simulation—that the symptoms, in large measure, are attributable to a subtle mental condition and are therefore mentally produced. A clear realization of this fact is essential to a proper judgment as to the so-called "objective symptoms" of accident cases. Most common of these are the anæsthesias, or, better, analgesias. Naturally, beyond the patient's statements, the physician has no means of judging of their presence. There can be little doubt that such conditions, whose actual existence is not to be doubted, have their being through suggestion and may be so increased; hence the advisability of not making too detailed an examination of sensibility. Much stress has been laid upon these anæsthesias; they have been exhaustively studied, and in the future should be relegated to a position of less importance. Especially is this true in determining ability for future manual work, since only rarely do sensory disturbances affect one's power in this direction. For practical purposes the determination of the visual field is of still less importance, especially when no complaint of defective vision is made. It is also a matter of common knowledge that respiration and heart action are strongly influenced by the psychical state, although of course not actually determined by it. The same may be said of the deep reflexes. On analysis, therefore, it appears that the so-called objective symptoms are in reality subjective, and that their diagnostic worth lies in the fact that their presence points more or less distinctly to the absence of organic disease.

The stumbling-block in the whole matter of the accident neuroses lies in the interpretation and significance of the term "simulation." Recrimination and argument without end have centred about this word, certainly to a quite unnecessary degree. Recognizing the fact that we have to do with a clinical picture largely of psychical origin, it at once becomes evident that a changing set of symptoms by no means points to conscious simulation. Theoretically the distinction between hysterical or hypochondriacal conditions and simulated ones is easy to draw and is of the most extreme importance to define with accuracy. In the first case we have to do distinctly with pathological fixed ideas which are deeply rooted in the patient's mental life and entirely beyond his control; in the second case, in simulation, we have to do with ideas which the patient evolves at will and which he may lay aside at will. The distinction is, of course, fundamental. The hysterical person himself believes in the existence

of his paralysis, and has, for example, actually lost the means of normally innervating his arm. That he may raise the arm under the influence of certain stimuli in no way implies, as is too often supposed, that he is thereby a simulator. The true simulant naturally wilfully inhibits the normal innervation of the arm. In other words, in one case the will is involuntarily in abeyance; in the other voluntarily. It hardly need be said that the practical application of these self-evident principles is not always easy; on the contrary, the most skilled diagnostician must often fail of a perfectly correct determination. The problem is a psychological one and must depend for its solution upon a great variety of factors, which will vary with the varying character and mental endowment of the subject. The reproach so often heard that expert physicians of equal education frequently testify in diametrically opposite ways is only in part justified. The personal attitude and point of view of the physician toward his patient may with all conscientiousness be widened to the extent of apparent contradiction. A definite rule of diagnosis is impossible to apply, as must unfortunately so often be the case, in dealing with matters in the psychical sphere. Especially difficult of diagnosis are head injuries of varying degrees of severity. The point of vital interest is, whether from a so-called "commotio cerebri" without gross lesion of the brain, finer material changes may persist and give rise later to cerebral symptoms—as, for example, headache, vertigo, mental disturbances—which otherwise would be interpreted as of purely psychical origin. Such a possibility is, at least, always present, however unlikely in many cases, and we should certainly be on our guard in the estimation of such true "traumatic neuroses." The whole subject of treatment is one of peculiar interest. Its essence, as Strümpell points out, is so far as possible to prevent the establishment of the hypochondriacal ideas which later are much more difficult if not incapable of removal. Treatment from the very first should be a psychical one, and should be persisted in as long as or longer than the false ideas prevail. The anticipation of a trial with the hope of reward for supposed or real injuries received, must inevitably be a serious hindrance to the therapeutic measures undertaken. During the time of suspense it is more than likely that an attitude of mind may be established which no effort, however painstaking, can later alter. Hence the perfectly well-established fact that the bestowal of damages does not usually cure the disease, as the radical simulationists would have us believe. Strümpell's conclusions in the articles to which allusion has already been made are so moderate and fair that we give them in substance here: (1) The name "traumatic neurosis" in its common acceptation should no longer be used as the expression for a definite and special disease. (2) It is probable that a true "traumatic neurosis" exists in the sense of a chronic organic change resulting from a severe commotio cerebri or commotio spinalis. Such cases are, however, rare. (3) The so-called objective symptoms of accident neuroses do not properly deserve the name. All such symptoms are dependent upon the psychical state of the patient. (4) The distinction between simulation, purposive exaggeration, and a true neurosis is easy theoretically. Practically the difficulties in diagnosis are often great. The changing character of certain symptoms does not necessarily imply simulation. (5) It is of the utmost practical importance, whenever possible, to prevent the onset of the neurosis. Palliation has a much more brilliant outcome than treatment when the condition is established. (6) In all cases it is the duty of the physician to bring it about that the patient shall again gradually accustom himself to work.

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Original Articles.

HOPEFUL OUTLOOK CONCERNING THE TREATMENT OF TRUE (GRAVE) OR PANCREATIC DIABETES.

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AFTER a prolonged and painstaking investigation of diabetes mellitus, viewed from various standpoints—clinical, chemical, physiological—one is apt to arise from the study with three impressions so strong as to overshadow all others:

(1) That diabetes is not a univocal malady. The term or designation serves to express divers morbid forms, *i.e.*, the cerebral, the dietetic, the hepatic, the hereditary; and the pancreatic; and many of these types are so dissimilar in etiology, symptomatology, and prognosis as to scarcely possess anything in common except the presence of sugar in the urine.

(2) That "lean" (grave) or true diabetes mellitus is due, in a large percentage of cases, to degenerative or destructive lesions of the pancreas (sclerosis, atrophy, cysts, etc.), which prevent this gland from elaborating the glycolytic ferment, the presence of which in the blood determines the destruction of sugar.

(3) That in "grave" or true diabetes mellitus, where destructive lesions of the pancreas render it impossible for that gland to further elaborate the glycolytic ferment whose presence in the blood determines the destruction of sugar, the recent experiments of Lépine, Torup, Battistini, and others, in which they employed in the treatment of diabetes artificial ferments made from malt by Lépine, made from the pancreas by Torup and Battistini, are so promising that one is justified in hoping that agents have been found which will ameliorate the condition if not actually cure diabetes, in the same way that the enzyme or ferment elaborated by the thyroid gland now cures myxœdema.

With the first proposition, that the term or designation diabetes expresses divers morbid forms or types of the malady, there can be no serious differences of opinion; so this phase of the subject is instantly dismissed.

The second proposition, that degenerative or destructive lesions of the pancreas *ab initio* stand in a causal relation to "lean" (grave) or true diabetes mellitus in a large percentage of all cases, will not perhaps be readily accepted in the absence of incontrovertible evidence; and the burden of proof, of course, devolves on those who uphold this contention. Let us, then, in the briefest possible way, state the principal facts on which the existence of pancreatic diabetes is affirmed. This was shown first by Professor Lancereaux, in 1877, who presented to the Paris academy morbid specimens of the pancreas. Two years subsequently Lapiere confirmed this view. "The disease," as he describes it, "begins suddenly, and manifests itself by intense thirst and hunger, then by abundant polyuria with sugar oscillating between three hundred and six hun-

dred grams per day, and rapid emaciation, with loss of all the forces, and finally complications (bronchopneumonia, diabetic coma, phthisis) that carry off the patient."¹ In twenty cases fourteen showed atrophy of the pancreas well pronounced.

These observations were still further verified by the remarkable results of von Mehring and Minkowsky's experiments, who extirpated the pancreas in dogs. They found that sugar appeared in the urine a short time after the extirpation of the pancreas and persisted until death of the animal, and, "in addition to the glycosuria, there was great thirst, hunger, and rapid emaciation."

Dominicis, the Italian physiologist, who formerly held a contrary opinion, has also embraced this view, and in his late series of experiments attained identical results. Redmond, Marinisco, and Chaput also hold the same opinion and conclude "that total destruction of the pancreas produces permanent diabetes." "Hedon excised the pancreas in twenty-two dogs, and in each case diabetic urine was passed the day after and persisted until death, with all the characteristic symptoms of saccharine diabetes."² Thioloix, as a result of his numerous experiments, arrived at the same conclusion. Professor Lépine, who was co-referee in the recent Lyons congress, has recorded forty cases of complete removal of the pancreas in dogs. "After complete removal he has always noted the appearance of sugar in the urine within forty-eight hours, and the diabetes is permanent. He believes that the blood has the power of constantly destroying glucose by the action of a ferment made in the pancreas (glycolytic ferment). This ferment is diminished in diseases of the pancreas and wanting when that gland is destroyed." Thioloix has modified his former theory, and has adopted Lépine's conclusion "that the pancreas produces the principal glycolytic ferment which destroys glucose in the blood," and thus prevents its reaching the urine. De Renzi and Reale, as a result of their many experiments, assert that diabetes is caused in seventy-five per cent. of all animals in which they have entirely extirpated the pancreas. "Minkowsky, in reviewing his work, says that diabetes never fails to appear after complete removal of the pancreas if the animals live long enough after the extirpation. This statement is founded on fifty-five experiments made on dogs. Three times only did sugar fail to appear in the urine, but the dogs succumbed during the first twenty-four hours."³

Lépine, in his communication to the recent congress, October 29, 1894, defines his glycolytic theory: "The 'ferment' is taken up by the leucocytes and carried by them to the tissues, where it aids glycolysis."

Minkowsky, by an ingenious experiment, proved that if a portion of the pancreas (of an animal from which it had been extirpated) was transplanted beneath the peritoneum, the diabetic condition was averted, only to appear when the transplanted organ was removed by a further operation.

The pancreas may be destroyed by connective-tissue or fatty overgrowth, by tumors, or by calculi, and dia-

¹ Abstract in MEDICAL RECORD, April 20, 1895.

² Loc. cit., p. 494.

³ Loc. cit., p. 494.

betes thereby result. The most frequent lesion is simple atrophy, and, according to Housemann, may be found in corpulent diabetics as well as in the emaciated. Cysts of the pancreas also sometimes produce diabetes. Bull, of New York, recently operated on a diabetic subject, and on post-mortem examination found a cyst of the pancreas. Churton, of London, had an identical experience, and if time permitted numerous similar cases could be cited.

This and other adducible evidence shows, this conclusion being unavoidable, that a relationship really exists in the great majority of cases between the pancreas and grave diabetes mellitus. An admirable *résumé* of the subject appeared recently in the *Boston Medical and Surgical Journal*, to which the reader is referred if he cares to pursue the inquiry still further. In addition to the authors quoted whose views favor this contention, the work of Comby, Tiessier, Charrin, Renault, Glenard, and others are recorded *in extenso*. The rational conclusion deducible from this study is that "grave" diabetes mellitus is due in the great majority of cases to degenerative or destructive lesions of the pancreas, which impair or destroy the gland's function of pouring into the blood through the lymphatics the glycolytic ferment, the presence of which in the blood determines the destruction of sugar.

But it may be asked, Does the acceptance of this theory bring us one step nearer a remedy for this hitherto incurable malady than we were before? Its attempted answer involves a consideration of the third proposition stated in the beginning of this paper. Professor Lépine, of Lyons,¹ entertaining the belief that the arrest of the destruction of sugar is owing to an absence or deficiency of the diastasic ferment, records the result of treatment of four cases of grave diabetes with a glycolytic ferment prepared from malt. In all four cases there was a distinct improvement and details of these cases are given. "As regards the sugar excretion, in the first case, before treatment the mean quantity for twenty-four hours was 140 grams; under the influence of the ferment it was 70 grams. In the second case the sugar was reduced from 41 to 11 grams; in the third case from 116 to 80 grams; in the fourth case from 257 to 124 grams, but later to only 116 grams. It had no injurious effects, but the improvement is only temporary."

Reviewing these results, this author observes "that theoretically the treatment of diabetes appears to be discovered." It remains to be determined what the practical means are which would supply the deficiency of the ferment, as the subcutaneous injection of a ferment is an exceptionable means and might cause accidents."

His method of preparing his malt extract, the dosage, etc., are not stated. These experiments of Lépine's are interesting and hopeful, but his warmest admirer could scarcely pronounce them conclusive.

Torup, professor of physiology in the University of Christiania, whose name has been for many years identified with the study of diabetes, has recently recorded his experience. After extirpating the pancreas in dogs and rendering them diabetic, he then used by subcutaneous injection a glycolytic ferment made from the healthy pancreas. His method of preparing this ferment, the dosage, and technique of the operation are not given. Sugar wholly disappeared from the blood of diabetic animals under the use of this ferment, and this destruction of sugar was permanent so long as the injections were continued. When exhibited by the mouth it was unsuccessful, as it was in some way destroyed by the chemistry of the stomach.²

Battistini³ records the results observed in two human diabetics in whom he used the pancreatic emulsion. "A marked improvement was noted." His emulsion consisted of equal parts of a pancreas and glycerin. This was then diluted with sterilized distilled water, and from five to twenty cubic centimetres used as a dose administered by subcutaneous injection.

Other evidence of the same import is at hand. In his notable address as chairman of the section of physiology delivered before the British Medical Association in 1895, Prof. A. E. Schäfer, of London, referring to the pancreatic secretion and its effects on diabetic animals, remarked: "The injection of pancreatic juice into the veins prevented the diabetes, but the operation was a dangerous one. Raw pancreas administered by the mouth had no effect." It has been stated by Valli that in dogs which have been rendered diabetic by removal of the pancreas, injection of pancreatic emulsion into the blood causes a disappearance of the diabetic symptoms. . . . With regard, however, to these statements, it may be remarked that the danger of injecting emulsions of raw pancreas into the blood would be great, on account of the tendency which extracts of gland cells have to produce intravascular clotting."⁴ It would be interesting to know whether or not the pancreatic extract, "dangerous when injected into the veins," would be likewise dangerous if administered by ordinary subcutaneous injection. Probably not, since it is well known that hundreds of injections of various gland cells—for example, the thyroid extract by Murray, the testicular extract by Brown-Séquard—have been administered, yet no reports have ever been published of intravascular clotting or other disagreeable or dangerous effects following their use.

If space permitted additional evidence could be adduced to prove that sugar is destroyed, in the blood of animals rendered artificially diabetic, by the injection of a pancreatic extract. Previous to these experiments the important and hitherto unsolved problem in the treatment of pancreatic diabetes was the discovery of an agent that would destroy sugar in the blood; for it is the presence of sugar in the circulation to which must be ascribed the chief mischief to the diabetic, and, *ceteris paribus*, the larger its amount the graver his condition, and *vice versa*. "In the course of all my experience in diabetes I have never known anything serious to arise as a part of the disease so long as the urine was kept free from sugar." But as sugar is being constantly formed in the liver, not only from carbohydrates but also from albuminates and fats; and, in pancreatic diabetes, as sugar production is constantly going on, but without coincident and equivalent sugar destruction, herein probably lies the explanation of past failures in the treatment of diabetes. Our efforts have been directed against further sugar production (diabetic dietary, drugs, etc.) rather than toward sugar destruction. It is a consideration of these facts in progressive general physiology which

Christiania last summer, had a conversation with Professor Torup relative to his researches in diabetes. The latter remarked that as a result of prolonged study and numerous investigations he believed it to be fully established that sugar is destroyed in the blood of diabetic animals by pancreatic extracts, and that, in his opinion, this phase of the problem is therefore solved. He dwelt insistently upon the necessity for the subcutaneous use of the pancreatic extract, and remarked that a very small dose only was sufficient to destroy sugar in the blood of diabetic dogs. He also stated to Dr. Boeckmann that he was about to establish a hospital in Christiania for the treatment of pancreatic diabetes in the human subject.

¹ Centralbl. f. inner. Med., 1894, p. 183.

² British Medical Journal, August 10, 1895.

³ Schäfer: loc. cit., p. 342.

⁴ Professor Pavy, before the Tenth International Medical Congress, Berlin.

¹ Sem. Méd., April 24, 1895.

² Paris letter in MEDICAL RECORD, vol. xxxvii., p. 735.

³ Ibid., p. 736.

⁴ A prominent surgeon of this city, Dr. E. Boeckmann, while in

provokes our admiration of the labors of Thiroloix, Minkowsky, Lépine, Torup, Valli, Battistini, and others, who, apparently realizing the difficulties to be overcome and perceiving the causes of past failures, have set to work to overcome them. Their work signalizes a new departure in the therapeutics of this disease, but the principle they employ is not new; its exact analogue is seen in the successful employment of a thyroid extract against myxœdema. The destruction of sugar in the blood of a diabetic animal has been attained by other means than by the subcutaneous injection of a pancreatic extract. Pancreatic grafting into the abdominal cavity and into the skeletal muscles has been successfully performed. Reference has already been made to the experiment of Minkowsky, in which he proved "that if a portion of the pancreas (in an animal from which it had been extirpated) was transplanted beneath the peritoneum, the diabetic condition was averted, only to appear when the transplanted organ was removed by a further operation." Professor Schäfer, in his address already referred to, says: "A fragment of the gland either from the same or another animal may, in fact, be grafted elsewhere into the peritoneal cavity or under the skin. Provided the grafting be successful and the portion of the gland employed of sufficient size, removal of the pancreas is now no longer followed by the usual symptoms. The animal may, in fact, remain in perfect health. But if at any subsequent time the grafted portion of the pancreas is removed, diabetes supervenes, and the animal dies within a short time, as after primary removal.¹ It is interesting in this connection to note that Thiroloix, in considering the results of pancreatic grafting, an ingenious device practised by Minkowsky, Hédon, and himself (whereby the pancreas in dogs is brought out of the abdominal cavity and grafted into the muscles of the external walls), has modified his former theory and has now adopted Lépine's conclusion 'that the pancreas produces the principal glycolytic ferment which destroys glucose in the blood and thus prevents its reaching the urine.'² Schäfer, referring to the experiments made by Dr. G. R. Murray on the monkey, in which after the removal of its thyroid gland all the symptoms of myxœdema appeared, and which that observer claimed to have cured by injections of the thyroid juice, says: "He (Murray) does not, however, state how long the animal was kept under observation after treatment and whether the cure was permanent. It is, indeed, scarcely probable that the subcutaneous injection or the taking by the mouth of the thyroid juice would be followed by more than a temporary removal of the symptoms. The effects of grafts, however, are to all intents and purposes permanent, and it has been found, as in the case of the pancreas, that removal of the graft which has maintained the health of the animal after extirpation of its own thyroid is speedily followed—as with primary removal of the organ—by the usual symptoms of thyroidectomy."³

Thiroloix proved that "the grafting of the portion of the pancreas, the secreting part of which had been destroyed by injection of paraffin along the ducts, is also efficacious in preventing the advent of diabetes after removal of the pancreas."

The idea that pancreatic grafting can be successfully performed and that the grafts will grow, is not only shown by this mass of direct testimony, but is also strongly supported by analogy; its analogue being thyroid grafting for myxœdema.⁴

Too many successes have attended thyroid grafting, performed by numerous independent and widely separate observers, to longer seriously question its practical value. The mass of concurrent testimony as to its success is ample and conclusive; and, what is more to the point, this success has been achieved not only in the lower animals but also in man. The technique of the operation as performed on the human subject is thus described by Gibson, of Brisbane: "The grafting was done by removing both lobes of an etherized lamb's thyroid, incising them longitudinally and introducing them (1) within the sheath of the pectoral muscle and (2) on another occasion into the child's abdomen. The improvement in the child's condition was remarkable.¹ Thyroid grafting (in man) has been practised with good results in cachexia strumipriva, in sporadic cretinism, and in myxœdema by Kocher, Horseley, Bircher, and Gibson, of Brisbane."²

The analogies of pancreatic diabetes and myxœdema are so numerous and impressive as to render it probable that the ultimate technique of pancreatic grafting in man will be similar to that observed in thyroid grafting as described above.

Grafts of the pancreas and of the thyroid gland may or may not grow. If the former result ensues, the symptoms of diabetes and myxœdema respectively are ameliorated for a time, or "the animal may, in fact, remain in perfect health" (Schäfer).

But Schiff long ago pointed out, an observation since confirmed by Reverdin, Kocher, Bircher, and others, that after being *in situ* for a greater or less length of time, the grafts in many instances are very liable to undergo atrophy, to become indurated and converted into mere fibrous bands, and then to cease functioning, when the disease reappears. These changes in the grafts have been attributed to their altered environment, depression of vitality, diminished vascular supply, and to ill-understood changes of nervous innervation. In a certain proportion of cases the grafts do not grow at all. If thyroid grafting is now practically abandoned, this is not because the grafting was unsuccessful, but rather because subsequent experiments showed that the extract was just as efficient against myxœdema when given by the stomach—a far more convenient way of administration.

Just here it ought to be pointed out that although the similarities of myxœdema and pancreatic diabetes are, as we have shown, remarkably close and striking, in one particular a fundamental difference between them is noted. The thyroid ferment, whatever be its intimate nature, is clearly not destroyed by the stom-

duced by disturbances or lesions of the sympathetic system (vasomotor nerves).

(2) Both are due, in the majority of cases, to atrophy of a gland, the thyroid in myxœdema, the pancreas in true diabetes (Hausmann).

(3) Suppression of a peculiar enzyme or ferment made in the thyroid gland gives rise to the morbid complex of symptoms called myxœdema; suppression of the glycolytic ferment made in the pancreas gives rise to true diabetes.

(4) Total extirpation of the goitrous thyroid gland causes myxœdema in a respectable proportion of cases (Kocher); total extirpation of the pancreas causes diabetes in a large proportion of cases (seventy-five per cent., De Renzi and Reale; one hundred per cent., Minkowsky).

(5) If a small fragment of the pancreas be left in the abdominal cavity, after operation on that gland, diabetes is averted; if a small fragment of the thyroid gland be left after surgical operation on that gland, myxœdema is (usually) averted.

(6) In both diseases success has attended thyroid and pancreatic grafting (*vide* Thiroloix, Minkowsky, Valli, and Hédon's recent experiments).

(7) In both maladies treatment addresses itself to supplying artificially a ferment which these glands, owing to disease or destruction, are no longer capable of elaborating. Success has attended the treatment in myxœdema, and is now claimed for diabetes.

¹ British Medical Journal, January 14, 1893.

² Burney Yeo, "Manual of Treatment," vol. i., p. 450.

¹ Loc. cit., p. 342.

² Abstract in MEDICAL RECORD, vol. xlvii., p. 494.

³ Ibid., p. 343.

⁴ The pathological analogies of pancreatic diabetes and myxœdema are numerous and striking, the parallelism extending even into the domain of treatment.

(1) Both maladies are probably systemic dystrophies superin-

ach chemistry or by the portal circulation, since cures of myxœdema are wrought when it is exhibited by the mouth. On the other hand, the pancreatic extract used against diabetes, given by the stomach, has been uniformly unsuccessful; and this is no doubt attributable to the fact that, being a nitrogenous body, it is itself destroyed by the pepsin and trypsin ferments of the stomach. A consideration of these facts in physiological chemistry will probably explain past failures to cure pancreatic diabetes when the pancreatic extract or raw pancreas was exhibited by the mouth. Normally, according to Professor Lépine, the glycolytic ferment elaborated by the pancreas is not poured into the duodenum along with its other secretions, but is taken up by the lymphatics and carried thence directly through the thoracic duct to the blood. It thus escapes alimentary digestion on the one hand and the portal circulation on the other. It would be well to keep this fact steadily in view when using artificial pancreatic emulsions for diabetes in man.

It will be seen that obstacles one by one are being gradually surmounted, difficulties are being overcome, and light is being thrown on the dark places; yet, despite all this, doubts are still suggested and difficulties presented at every turn. But medical science, like the Sibyl, only reveals her secrets to time leaf by leaf. Points needing further elucidation are: Whether or not diabetes in man will respond to pancreatic injections and to pancreatic grafting in the same way as does diabetes in animals; effects on the human organism of subcutaneous injections of the extract (on the heart, the respiration, the nervous system, etc.); the manner of preparing a sterilized pancreatic extract for clinical use; the proper dosage and frequency of injections; its freedom from danger or the reverse; the technique of its administration, and perhaps other matters. These, however, are matters of detail and the difficulties can no doubt be smoothed over by the exercise of a little patience and further experimentation in our hospitals and laboratories. The essential point, the fundamental proposition that sugar in the blood of diabetic animals is destroyed by artificial glycolytic ferments, appears to have been established by Valli, Battistini, Torup, Minkowsky, Thierloix, and others. All else in comparison is of but secondary importance.¹

To sum up, I have endeavored to show:

(1) That a causal relationship is proven to exist, in a large proportion of cases, between "lean" or true diabetes mellitus and degenerative or destructive lesions of the pancreas.

(2) That sugar is destroyed in the blood of diabetic animals (a) by the subcutaneous injections of a pancreatic extract, and (b) by grafting the pancreas into the skeletal muscles and into the abdominal cavity.

(3) That there are striking pathological analogies between true diabetes and myxœdema, and that in the latter disease success has also attended both injections and thyroid grafting—a success achieved not only in animals but also in man.

(4) That the treatment of diabetes by means of a glycolytic ferment made from malt (Professor Lépine's method), while it decreases the quantity of glucose in the blood, does not wholly destroy it, and, *pro tanto*,

¹ An extract of the pancreas for subcutaneous use in diabetes might be made in the same way that the extract of the thyroid gland is made for use in myxœdema, which, according to Murray, is prepared as follows: "The thyroid glands are removed from several sheep just after they have been killed. Each lobe is minced and then bruised in a mortar. For each lobe employed one cubic centimetre of glycerin and one cubic centimetre of a 0.05 per cent. solution of carbolic acid in boiled distilled water is added. The mixture is allowed to stand for twelve hours, and then squeezed through a cloth in a press, so as to obtain as much liquid as possible from the mixture. All the apparatus used in the preparation is previously cleansed by boiling water and a 1 to 20 carbolic-acid solution." Brit. Med. Jour., August, 1892.

is less successful than the treatment with extracts made from the pancreas.

(5) That in the treatment of true diabetes with pancreatic emulsions a prerequisite to success is its introduction into the circulation so as to avoid the stomach chemistry on the one hand and the portal circulation on the other.

After due consideration of the foregoing, three possibly successful methods of treatment appear available:

(a) By rectal injection of a properly prepared pancreatic extract. According to most authorities the rectum is not a digesting but merely an absorbing organ. Thus introduced, the extract would escape digestion, and, being taken up by the lymphatics, would likewise escape the portal circulation.

(b) By the subcutaneous injection of a sterilized pancreatic extract of the requisite strength—using the same antiseptic precautions as are now observed in injecting the diphtheria antitoxin and Koch's tuberculin.

(c) By pancreatic grafting, which, in the lower animals at least, has been brilliantly successful.

As the physiologists have now pointed the way, it is to be hoped that practical results will follow close on the heels of their experimental investigations.

When we remember that true pancreatic diabetes is as fatal to-day as it was in 1674, when Willis demonstrated the presence of sugar in the urine, any new and rational treatment holding out the slightest promise of success deserves and should receive a careful, thorough, and painstaking clinical trial in our hospitals. Physicians who are constantly using subcutaneously the diphtheria antitoxin, tuberculin, and thyroid extract, should not hesitate to employ in the same way a pancreatic extract; and surgeons who are daily doing the most formidable operations and invading successfully almost every cavity in the body should not shrink from grafting the third of a pancreas into the sheath of the pectoral muscle or into the abdominal cavity.

This article is written in the hope that with the immense clinical material available in the large Eastern hospitals, the method of pancreatic injections and grafting will be put to a practical test, and the truth brought out as to its value or the reverse. It has been shown that pancreatic injections and grafting destroy sugar in the blood of diabetic animals; whether or not they will be equally successful in man remains to be determined. I hope to shortly supplement this paper with a report of cases of diabetes treated in this way. The whole subject in its present shape is now left to the discriminating judgment of the medical profession. Professor Schäfer closes his article to which reference has been made with these words: "That the subject has a vast future there can be little hesitation in predicting, for, in spite of the advances which have been made in elucidating it during the last few years, very many points still remain obscure. Nevertheless, the way which the physiologist has attempted to show may now safely be followed by the practitioner, and the result of these physiological observations and experiments, as well as clinical and pathological observations in the same direction, which are steadily accumulating, cannot fail to throw light upon and to assist in the diagnosis and treatment of many ill-understood symptoms of disease."

Varicose Veins.—Dr. Hirst recommends patients suffering from this malady to carry a firm ball, and in case of rupture and hemorrhage to apply the ball at the point of rupture and bind down tightly with a handkerchief. This will preserve life and strength until the arrival of a physician.

GONORRHOEAL INFLAMMATION.¹

By HERBERT J. HOPKINS, M.D., C.M.E.-E.,

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GONORRHOEA proper, as treated by the mass of physicians to-day, does not redound much to their credit. In the greatness of our desire to benefit the patient the mistake is often made of trying to do more than is at present possible. In this paper gonorrhoeal conjunctivitis is first discussed in order to show the limitations of treatment, it being of course understood that gonorrhoeal inflammation, whether of the urethra, vagina, or conjunctiva, is essentially the same disease, running the same course in about the same time and reacting in the same manner to like reagents.

Gonorrhoeal conjunctivitis is the most intractable and destructive disease to which the eye is subject, and for this reason, as well as for its great frequency, it has received minute attention, and this in a locality open to free inspection and where errors in treatment are quickly followed by most disastrous consequences—conditions which naturally insure the highest possible perfection in its treatment. It is caused by the deposition upon the conjunctival membrane, in whatever way, of gonorrhoeal discharge, and is of course itself communicable, *e.g.*, the discharge from one eye being capable of setting up the same disease in the other; or of causing a specific urethritis.

It runs a definite self-limited course lasting from four to six weeks, and it is impossible when it is fully developed to cut it short, though its severity can be mitigated and its phenomena controlled to such an extent as to preserve the affected tissue intact. If treatment be resorted to, however, immediately after exposure, the infecting virus can be readily destroyed and the disease prevented. This is best accomplished by nitrate of silver in a solution of from five to ten grains to one ounce of water applied freely to the part affected. It is open to the objection of causing considerable burning pain and any excess should be neutralized by a weak solution of sodium chloride.

Gonorrhoeal conjunctivitis begins like, and in its earliest stages is almost indistinguishable in appearance from, simple acute conjunctivitis, but it soon assumes its own characteristic features.

During the initial stage, lasting about a week, before the discharge has changed to the thick creamy character of the second stage, reliance is placed upon frequent cleansing with weak non-irritating solutions, *e.g.*, of boracic acid alone or combined with perchloride of mercury, 1 to 10,000, or with peroxide of hydrogen. It is well, too, to begin the use of iced cloths (pieces of lint two inches square changed every two minutes from a block of ice to the lids) even in this early stage, and when once begun they are to be continuously employed night and day, a duty which taxes the energy of two nurses.

In selected cases, leeches applied to the temple or to the side of the nose are also of great benefit. It is not till the second stage, that of free discharge, is established that the stronger applications, *e.g.*, of nitrate of silver, are allowable, nor are they then if there be much hard, brawny swelling.

It cannot be too clearly understood, from its bearing upon the urethral inflammation, that the disease is a self-limited one, the duration of which we cannot shorten, though it can readily be prolonged. The proper treatment is essentially a cleansing, sedative one during the acute stages: Astringent solutions, *e.g.*, of tannin, zinc, alum, etc., are not of noticeable benefit before the final stage, at which time they are invaluable, restoring the relaxed and thickened membrane to its normal condition.

¹ Read before the Austin Flint Medical Club, April 14, 1896.

Though it is not directly involved in the inflammatory process the greatest danger in this disease is through the cornea, and its condition is a vital index by which to gauge the measure of our success. Its nutritive supply being interfered with by the inflammation of the surrounding tissues, its substance yields readily to the corrosive action of the discharges, the first evidence of trouble noticed being usually at the sclero-corneal junction in the form of a faint nebulous zone of infiltration, which speedily breaks down, forming a trench whose depth and length rapidly increase till perforation occurs, and even the whole cornea becomes detached and drops off. This ulcerative process may begin very early in the disease or not till near the end. As special measures to save the vitality of the cornea, hot fomentations are sometimes indicated instead of the iced cloths, and even scarification of the conjunctiva to deplete the strangulated tissues.

In children the well-known tendency of inflammation of mucous membranes to expand itself chiefly in the direction of cell proliferation and consequent free discharge is exemplified in this instance. In early life gonorrhoeal conjunctivitis (ophthalmia neonatorum) is characterized by the very abundant creamy discharge and but comparatively little of the brawny swelling so noticeable in the adult, and as a consequence stronger and more frequent applications of nitrate of silver are recommended; but iced cloths to reduce swelling are not so urgently indicated.

It is important to note, from its bearing upon similar cases of urethritis, that under the classical term gonorrhoeal conjunctivitis are grouped the simple purulent cases arising from infection from healthy abscesses, leucorrhoeal discharges, and various chemical irritants in which the gonococcus has no part. These are comparatively mild in character, of shorter duration, and yield readily to antiseptics.

Treatment of Gonorrhoea.—It being granted that gonorrhoea is a self-limited disease, lasting from four to six weeks, and that it is impossible to shorten its course, our endeavor rationally would be to guide the disease to a safe termination, the particular point being to avoid complications and sequelæ, which I do not hesitate to affirm are frequently due to overzealous pursuance of the popular method of treatment by injections. In the acute forms of gonorrhoea the treatment ought to be a sedative, antiphlogistic, antiseptic one. Rest, physical and especially functional, should as much as possible be secured, and as contributing to this end bromides in large and repeated doses should be given. Anything which would tend to excite the sexual organs should be carefully excluded. It is in the urine, nature's self-provided irrigator, that our greatest reliance should be placed. Our aim should be to make it abundant, bland, and antiseptic. To accomplish this end, water is to be freely given; the diet, a skimmed-milk one by preference, should at least be free from spices, pastries, and liquors. An alkaline diuretic should be prescribed, and if tolerated cubebs and copaiba. Salol is less irritating and may be substituted. When eliminated through the urine it appears in the form of carbollic and salicylic acids.

Injections as ordinarily used are provocative of more harm than good in the earlier stages, though they are of unquestioned value after the force of the disease has spent itself. The following recommends itself to me:

℞ Cocaine hydrochlor. gr. x.
Antipyrin. gr. vi.
Zinci sulph. gr. vi.
Aque rose. ad ʒ iij.

S. For injection use one-half teaspoonful. Repeat three to six times daily after urinating.

Subsequently a more strictly astringent injection is indicated—zinc, silver, alum, tannin. Abortive cases

occur in this, as in other diseases; but as stated before, little good can be expected from measures adopted for this purpose after the disease is established. The infecting virus shortly after exposure can readily be destroyed, however, and the disease thus prevented. During the first three weeks the physician is indeed worthy of his hire who insures to his patient comfort and freedom from some one of the following complications: Balanitis, phimosis, paraphimosis, follicular abscess, lymphangitis, bubo, Cowperitis, prostatitis, cystitis, epididymitis.

The violence of the inflammation and ill-directed efforts of cure may result in the necrosis of the epithelial layers in places, and even of the underlying connective tissue; a suppurating surface necessarily remains, giving rise to a chronic purulent discharge, to which the name chronic gonorrhœa is applied. When healing is complete the discharge ceases, and an organic stricture is likely to result. A condition of chronic inflammation of the mucous membrane lining the urethra (membranous portion especially) with scanty turbid secretion—gleet—is a common sequela of the acute variety; the subjects are usually in poor general health and require tonics, change of air, as well as continued use of astringent injections.

A CRITICISM ON THE "GUINEA-PIG TEST" FOR TUBERCULOSIS.

BY CHARLES WILSON INGRAHAM, M.D.,

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BACTERIOLOGISTS claim that it is much like "searching for a needle in a haystack" to endeavor to demonstrate tubercle bacilli by ordinary processes in substances such as water, milk, dust, and the like, in which it is impossible to concentrate the infection. Instead, therefore, of preparing slides after the manner for examining sputum, the common plan is to inject the suspected substance subcutaneously into the body of a guinea-pig, and if the animal develops tuberculosis, it is regarded as conclusive evidence that the material contained tuberculous infection. If, on the contrary, the pig does not develop the disease either locally or generally, it is assumed that the suspected substance was free of infectious matter.

The question arises, and very reasonably too, as to whether the results following the injection of suspected substances into the bodies of guinea-pigs are of sufficient accuracy and reliability to warrant a positive decision as to the presence or absence of suspected infection according to the presence or absence of tuberculous manifestations following the experiment.

It would seem that the accurate establishment of the presence or absence of tuberculous infection in fluids suspected of containing it is of such great importance that more precise means should be devised than the guinea-pig test as it is ordinarily conducted.

It is claimed that the guinea-pig is very susceptible to tuberculous infection, even in minute quantity, and for this reason is used in these experiments in preference to other animals, as there will almost certainly be a reaction following the introduction into the system of minute particles of infection. While this natural sensitiveness to tuberculous infection is advantageous in this respect, it is not entirely without disadvantages which possibly counteract the natural benefits.

It is generally admitted that anything which tends to reduce the general vitality of man or animals renders them more susceptible to the infection of tuberculosis. Now, is it not more than possible that injecting into the system various suspected fluids containing more or less septic matter, and inducing suppuration at the point of injection or causing general poisoning,

acute or chronic, will so reduce the general vitality of the guinea-pig as to render the animal abnormally susceptible to tuberculous infection from any source whatsoever? The presence in the system of pus germs, either from artificial or accidental sources, favors the development of tuberculosis; they render the subject much more susceptible to tubercle bacilli and favor the spread of the disease from a local point to a condition of general tuberculosis. This is shown, to a certain extent, by the frequency with which tuberculosis follows acute diseases which have been attended with the development and absorption of more or less septic matter, such as is present in typhoid fever and pneumonia. There is also a marked tendency to tuberculosis in individuals suffering from chronic suppurative processes, such as bone disease, ulcers, recurrent abscesses, carbuncles, and the like.

So, therefore, following the injection into the system of guinea-pigs of fluids which contain or cause the development of pus organisms in the system, it is probable that the animal becomes so susceptible to tuberculous infection as to contract the disease from natural sources. Another factor which would contribute to simultaneous tuberculosis, from sources independent of the injection into the system of suspected fluids, is that the great majority of these experiments are conducted in the larger cities, where the air contains the greatest proportion of tuberculous infection. The tendency to tuberculosis from natural sources is four times greater in the city of New York than in the highlands of the State. So, therefore, the results attending experiments in the city and in the country districts cannot approximate under the same standard. In the larger cities it is quite impossible that man or animal can escape repeated exposures to the infection of tuberculosis with the frequency which results in the enormous death rate from that disease, as for instance, in New York City, Brooklyn, Philadelphia. Considering that as the injection into the system of the guinea-pig of septic fluids induces a soil favorable to the lodgment and dissemination of tubercle bacilli from respiratory or intestinal sources, added to the natural susceptibility of the guinea-pig, is it scientific to assume on the simple fact that tubercles are found in the bodies of experimental animals either localized at the site of injection or generally disseminated following such treatment, that the fluid injected contained tubercle bacilli?

With these factors in view, it would seem advisable that all tests for tuberculosis be conducted by placing the experimental animal in a medium which offers the greatest freedom from all sources of accidental infection, particularly through the atmosphere, water, and food. To attain this the experiments must be conducted in the country, as remote as possible from any isolated cases of tuberculosis. By placing the animal in such a medium much will have been done to render the results attending any experiment approach more nearly a reliable standard.

Having arranged for the care of the experimental animals in the country air, we must next consider some other factors. The animal must be placed in surroundings, and must be given general and hygienic care, which shall be conducive to the maintenance of its vitality and disease-resisting powers. The results following the injection into the animal of suspected fluids, during the "reaction" of which the subject was treated as circumstances would permit, with no regard whatever to many features contributing to the ultimate result, is by no means a reliable or scientific experiment. The extent of accidental infection to which experimental animals are commonly exposed, whether used as a "control" subject or for purely test purposes, would be entirely out of proportion to the infection introduced, if indeed any was introduced, in the

suspected fluid. The "control" animals from which many scientific deductions are made are, when treated promiscuously, entirely unreliable. If this statement is too sweeping, we must at least admit that ordinary experiments are carelessly conducted, and only remotely in harmony with the accuracy which is obtained in other fields of chemical and bacteriological research.

Does the experimenter always attend to the cleansing and disinfecting of the coops in which his animals are kept? Does he sometimes place a supply of experimental animals in the same quarters which have contained former subjects, without intervening cleansing and disinfection? Unless this is attended to, the coops may become infected to the extent of inducing tuberculosis from this source alone in the animal undergoing experiment. The food of the guinea-pigs undergoing experiment must also be considered, both as regards its freedom from tuberculous infection and its properties for maintaining general nutrition. The experimenter is never positive that his test animals come to him absolutely free from tuberculous disease.

There are many accidents which tend to prevent the pigs from reaching the experimenter in a healthy condition. Because of the extraordinary susceptibility of these animals to tuberculosis and the numerous sources from which they are liable to contract the disease, it would seem that serious error might occur by infection before reaching the experimenter. It is quite probable that the majority of pigs come to the experimenter already infected with tuberculous disease. The breeder or breeder's family might be affected with the disease and transmit it to the animals under their care. Former generations of animals might have been tuberculous and have transmitted to their offspring an abnormal susceptibility, besides disseminating contagion about the breeding-quarters. Outside of the question of accidental infection, either before or after the animal reaches the experimenter's hands, it would seem that no system whatever is observed to obtain a definite standard of animals. In view of the importance oftentimes placed upon the results following the guinea-pig test, it would seem that experimenters should unite with the object of securing an approximate standard of general vitality in all animals utilized for experimental purposes. The obtaining of supplies from promiscuous sources is to be condemned as careless and unscientific. Either the State governments should take steps to secure standard material for tests, or private enterprise should combine to secure the same. In human beings we have practical every-day examples of the various elements which would contribute to render the present system of guinea-pig experimentation unreliable, and which demonstrate the necessity of securing a certain standard of constitutional vitality in these animals. The same variation of susceptibility to tuberculosis which obtains in the human race must obtain from promiscuous breeding of guinea-pigs. The injection into one person of tuberculous infection such as is injected into the guinea-pig would not give rise to the disease, either locally at the point of injection, in remote parts of the body, or as a general infection, with any degree of uniformity. In some local disease would be produced, in others general tuberculosis, all dependent upon the influence of age, heredity, environment, food, exercise, etc. In a general way all the factors which enter into the determination of human susceptibility to tuberculosis would obtain in tuberculosis of the lower animals. The writer does not claim that all the various accidents which he has here mentioned are liable to present in each case, though there can be no doubt that more than one enter into all cases of experimental tuberculosis, and therefore he believes the results following the common plan of injecting fluids

into the bodies of guinea-pigs without regard to these various factors cannot be depended upon as decisive evidence as to the presence or absence of tuberculous infection.

To summarize, these are the factors which singly or collectively may prevent accurate results:

- 1st. Simultaneous infection from ordinary sources.
- 2d. The influence of general environment.
- 3d. Infection from contaminated quarters, either before or after reaching the experimenter's care.
- 4th. The influence of food, bacteriologically and chemically.
- 5th. The influence of heredity.
- 6th. Direct infection from the breeder, the breeder's family, or the experimenter.

FAILURE OF CASTRATION TO CAUSE ATROPHY OF THE PROSTATE.

By CHARLES B. KELSEY, M.D.,

PROFESSOR OF SURGERY AT THE NEW YORK POST-GRADUATE HOSPITAL.

THE patient, aged sixty-nine, came into the Post-Graduate Hospital suffering greatly with cystitis due to enlarged prostate. He had been unable to pass water for two or three months and had been catheterized by his wife every three or five hours. In addition to a very large prostate he had right inguinal hernia and hydrocele on the left. The urine was albuminous. Bassini's operation was done on the right side and both testicles were removed.

After three weeks of careful catheterization and washing out of the bladder, there being very slight improvement, if any, in his symptoms, a perineal section was made and permanent drainage established.

Two weeks and a half later (five weeks and a half after castration) the patient died of chronic nephritis. As far as could be seen his death was not in any way hastened by the operative interference.

Following is the report of the pathologist to the hospital, Dr. Brooks:

"NEW YORK, January 31, 1896.

"MY DEAR DR. KELSEY:—The following is a brief report upon the prostate removed from castrated patient:

"**Report.**—Mr. —, aged sixty-nine. Prostate removed six hours after death. Weight: 45 grams. Dimensions: antero-posterior diameter, $1\frac{3}{4}$ inches; transverse diameter (base), $2\frac{1}{2}$ inches; depth, 1 inch.

"**Gross Appearance.**—Color, dark red. Consistence firm, dense, moderately friable. The cut surface mottled and of a dark reddish-gray color; shows numerous delicate, silvery, grayish-white and grayish-red bands, united to form trabeculae of greater or less density and thickness, encircling prominent, irregularly outlined, nodulated foci which are pale yellowish-white in color and of succulent consistence. These foci vary in size from that of a milletseed to that of a small pea.

"**Microscopical Examination.**—In teased preparations from the fresh organ, the elements composing the stroma, unstriated muscle, fibrous and elastic tissues appeared to be well preserved and in normal proportion. Individual cells symmetrical; nuclei prominent, well-defined, and distinctly visible; protoplasm clear or faintly granular. Rarely a cell filled with minute droplets of fat was seen; also a few free fat droplets floating in the mounting-fluid (physiological salt solution) surrounding the fragments of tissue. Fibrous elements somewhat in excess of unstriated muscle structure. Most of the epithelial cells from glandular ducts presented no strikingly abnormal alterations. The greater portion of them possessed dis-

tinct nuclei and quite clear, nearly homogeneous, protoplasm containing but few granula. A very small number were partly disintegrated, slightly pigmented, and filled with minute fat granules and occasional large oil drops. These disorganized cells were prominent by virtue of their rarity.

"In unstained sections from frozen tissue, the stroma was seen to be composed of well-preserved, tortuously distributed, unstriated muscle fibres and more or less densely arranged fibrous connective tissue, the latter in excess. The stroma was decidedly greater in amount than glandular structure; though this was not much more pronounced than is frequently the case in the normal prostate, especially in the lateral lobes. On careful search, a few isolated cells containing distinct drops of fat, in minutest division, could now and then be found lying embedded between apparently normal muscle elements. Notwithstanding the presence of fat, the nuclei and general contour of these cells were perfectly retained. Sometimes free fat globules were seen lying between the connective-tissue fibres; but it is believed these could readily have been, and probably were, originated during cutting and mounting of the sections. The epithelia (often in double layers) lining the ducts appeared to be in normal relation to each other; contour uniform and nuclei distinct; protoplasm clear or but slightly granular. Fat was very rarely observed in the glandular structure, and then only in the form of minutest droplets and confined chiefly to lumina. Occasionally the lumen of a duct, presenting intact lining epithelia resting upon basement membrane, was seen partially or wholly occluded by an amorphous or finely granular substance enclosing several partially disintegrated cells and a few fat droplets. The great majority of the lumina of the ducts were comparatively free, or showed but slight traces of granular detritus or deposits of other nature. On the whole, the changes observed in the fresh tissues were not sufficiently pronounced to warrant the assumption that atrophic process had, to any great extent, been established.

"Study of frozen sections, hardened in formalin and alcohol and subsequently stained with Boehmer's hæmatoxylin and borax carmine, revealed even less evidence of atrophic changes. Excluding fat, the description given above under examination of fresh tissue applies here. The best-stained portions of the sections were invariably the epithelial cells lining the tubules—the parts where alterations would most naturally be expected. The only change remarked was a slight increase in the amount of fibrous connective tissue as compared with the muscular structure. This alteration seemed to be confined to certain areas. In other areas the glandular structure was in excess, the various lobuli being almost in apposition. In some parts the separating partitions were composed almost wholly of muscular tissue. A small number of corpora amylacea were seen.

"H. T. BROOKS."

It will be seen from this very careful examination that neither in gross appearance nor in microscopic structure was there the slightest sign of any atrophic or degenerative change in the prostate gland.

13 EAST TWENTY-NINTH STREET.

Local Anæsthetics.—When a fluid is injected under the skin the nerve filaments are rendered insensible by driving away the blood and temporarily preventing its return, producing an anæmia. The writer, acting upon this principle, has succeeded by means of a perfectly neutral substance—sterilized olive oil—in producing an anæsthetic area.—DR. LOUP, *Bulletin Médical*, 1896.

Progress of Medical Science.

Inflammatory Enlargements of the Head of the Pancreas.—Dr. Riedel, who has published some valuable work on cholelithiasis on previous occasions, directs attention to an interesting condition which he has met with in three instances in patients who were subjects of gall stones. Referring to this subject, *The Medical Chronicle*, March, 1896, says that in operations on the biliary passages the surgeon very frequently examines the state of the pancreas without previously breaking down any adhesions which may have formed between the biliary passages and the neighboring organs. In doing this the examining finger is very liable to mistake for biliary concretions in the duodenal end of the common bile duct a very hard condition of the lobules in the head of the pancreas. This abnormal hardness of the pancreatic lobules without any enlargement of the gland is, in Riedel's experience, relatively frequent in cases in which biliary calculi occur in the common bile duct. This duct generally unites with the pancreatic duct before they reach their common orifice in the duodenum, and, according to Wyss (*Virchow's Archiv*, xxxvi., 1860), the former duct frequently passes through the head of the pancreas itself. This was so in seven out of twenty-two cases examined. It is thus conceivable that any inflammation affecting the common bile duct can easily, at times, involve the pancreatic duct or the head of the gland itself by direct extension, causing probably an interstitial pancreatitis which is of a harmless nature in itself, and clears up when its exciting cause—namely, a calculus in the common bile duct—is removed. Occasionally, when a calculus is impacted at the duodenal end of the common duct, a more severe inflammatory process is set up in the head of the pancreas, which leads to the formation of a large tumor as hard as iron and situated in a critical position—namely, the junction of the common bile and pancreatic ducts. Originally set up by direct extension of the inflammation, this pancreatic enlargement in time takes on, to a certain degree, a character peculiar to itself. It may last for months or years before removal of its cause allows of its reabsorption, and unless the exciting cause be removed the pathological condition of the pancreas may of itself cause death. Its development is slow and the condition runs a protracted course. Micro-organisms probably have no part in its causation. As the inflammation involves the common orifice of the common bile and pancreatic ducts and obstructs the flow of the secretions from two very important glands, the new condition can be of more clinical importance than its exciting cause is. This marked pancreatic enlargement is rare, for Riedel met with it only three times in one hundred and twenty-two cases of gall-stone surgery. Its predisposing causes are not known, as calculi frequently occur in the common duct and even in the ostium duodenale without setting up any pancreatic inflammation, while a stone in the gall bladder seems to be sufficient to excite its development. In two of the three cases the patients had been the subjects of gall stones for several years, and in the third for at least one year and probably longer. The last patient died after operation, and a microscopical examination showed the tumor to consist of an interstitial pancreatitis without any evidences of malignancy. Riedel's notice was first attracted to the condition in a patient on whom he operated for gall stones. A single large stone was found in the gall bladder, while the cystic and common ducts were widely dilated, but contained no stones, and the head of the pancreas was felt to be enlarged to the size of a small apple by a tumor as

hard as iron and of a typically carcinomatous nature. The case was considered hopeless, but the patient improved rapidly after operation, and, from a cachectic condition, grew to be quite healthy looking and well nourished. Two and a quarter years after operation this patient is still quite well. The tumor in this case could not be felt either before or after the operation. In the second case the enlarged head of the pancreas was larger (the size of a fist), as hard as iron again, and calculi were extracted from the common bile duct and gall bladder. With the former case in mind, cancer of the pancreas was not diagnosed here. The patient improved after operation; the tumor, which before the operation could be easily felt, gradually vanished until it could no longer be palpated, and in a year and a half the patient had put on thirty pounds in weight and was still quite well. In both the above cases the enlargement of the head of the pancreas was almost certainly of an inflammatory nature. Confirmation of this supposition by pathological examination was fortunately impossible, but in the third and last case, the patient, who was very far gone when operated upon, died. At the operation no calculi could be felt in the biliary passages, which were, however, made out to be dilated, while a hard resistance in the situation of the head of the pancreas was considered to be an irregular enlargement of this organ, though it could hardly be called a tumor. Shortly after the operation the woman died. Post-mortem, the biliary passages were found to be widely dilated and their walls thin, while the gall bladder and the larger ducts contained many calculi of the size of pins' heads. The pancreatic duct was constricted near its orifice and dilated toward the body and tail of the gland. The pancreatic lobules felt firmer than normal, probably from fibrous development. Microscopic examination of the gland revealed interstitial pancreatitis. Malignant new growth could be definitely excluded. The last patient probably died from the effects of the pancreatitis, which had evidently been present for some time. Earlier operation would have given her a very good chance of recovery. The knowledge that a new malignant pancreatitis occasionally occurs in the course of cholelithiasis is important as affecting the prognosis of cases in which this gland is felt to be enlarged either before or during operations on the biliary passages. There are no points by which the nature of this pancreatitis can be definitely recognized during life except a favorable progress of the case after operation and removal of its exciting cause. The conditions for which it may be mistaken, or *vice versa*, are carcinoma of the head of the pancreas and of the duodenum. In the latter condition, new growths in the papilla around the common duodenal orifice of the bile and pancreatic ducts, occasionally occur, and the palpating finger may mistake such for enlargements of the head of the pancreas.

New Views on Jaundice.—At a recent meeting of the Verein für innere Medizin, as reported in the *Münchener medicinische Wochenschrift*, February 25, 1896, Dr. Renvers, of Berlin, spoke on this subject. He claimed that the most recent investigations had shown that the doctrine of hæmatogenous jaundice could not be upheld. According to him, all varieties of icterus were hepatogenous. Catarrhal jaundice was not to be regarded as a merely mechanical damming-up of the bile behind an obstructive plug of mucus or as due to an inflammatory swelling of the bile ducts. It was decidedly toxic or infectious in character. There was, of course, a variety of jaundice caused by obstruction; but ordinary catarrhal jaundice was always due to toxic principles originating in the intestinal tract. Bacteria had repeatedly been found in the biliary pas-

sages in cases of this so-called catarrhal jaundice. Obstructive jaundice was due to gall stones or tumors, although hepatic abscess and cirrhosis of the liver could also cause it. In regard to jaundice caused by gall stones, Dr. Renvers maintained that it was generally inflammatory rather than obstructive. It was well known that in chronic jaundice complete closure of the bile ducts was rare. The biliary passages were usually sufficiently distended to permit the escape of some bile. It was for this reason that a correct diagnosis was often extremely difficult. Even previous attacks of hepatic colic were not always conclusive evidence of the presence of gall stones. The occurrence of rigors and fever were likewise misleading. The condition of the gall bladder was of far greater importance. In cases of stone the gall bladder was not always enlarged and very often it would be found positively smaller than normal. On the other hand, in most cases of malignant tumor the gall bladder would be found considerably enlarged. Acute inflammation of the gall bladder gave rise to grave symptoms closely resembling pyæmia. In these cases, too, the jaundice was due to infection, and the liver became secondarily involved.

Incontinence of Urine.—Dr. M. J. Stumpf (*Gazette des Hôpitaux*) employs the following method with favorable results. During sleep raise the pelvis of the child so as to form an angle of from one hundred and thirty to one hundred and forty degrees with the vertebral column. This position offers an obstruction to the passage of the urine into the urethra and the sphincter is not excited. Dr. Stumpf has cured twelve children and one adult in this way. After three weeks of treatment there need be no fear of recurrence and the child may be allowed to sleep in the normal position.

The Indications for Operation in Puerperal Sepsis.—According to views published by Dr. Lewis S. McMurtry in the *American Journal of Obstetrics*, pre-existing pus tubes, uterine fibroid, or ovarian dermoid converted by the trauma of labor into activity as an infecting source, should be treated by prompt resort to abdominal section. Septic endometritis, with or without putrefactive changes in retained clots and debris, should be removed by cleansing, antiseptics, and drainage. Thorough intra-uterine drainage and irrigation in appropriate cases arrest the septic process. Curettage in these cases, when the septic focus is limited to the uterine cavity, is too extensively used. The granular area of Bumm may be broken through, closed sinuses and veins at the placental site reopened—repeated chills and rising pulse and temperature marking the invasion of new areas of infection—and nature's barriers to increasing infection torn away by the indiscriminate use of the curette. Plugging up the uterine cavity is positively contraindicated; drainage should be facilitated and not obstructed in these cases. Purulent salpingitis, ovarian abscesses, and suppurative peritonitis, by progressive steps, may extend very rapidly, and the associated peritonitis may be circumscribed or diffuse; consequently careful and deliberate judgment must be exercised before resorting to coeliotomy. The time of the operation and the extent to which the operative procedure is to be carried, also require sound judgment. Diffuse septic parenchymatous metritis and purulent metritis should be promptly treated by hysterectomy. Puerperal sepsis, wherein the local symptoms are those of diffuse peritonitis without localization of lesions, but wherein the uterus is presumably the focus of infection, is a grave condition and often justifies exploration and drainage, but hysterectomy will almost invariably prove disastrous.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE LACK OF PROFESSIONAL BUSINESS.

IN these times of depression of professional business it is some comfort to be able, in a measure at least, to explain causes, even if it may appear to be impossible to effect cures. It is safe to assert that there is an ominous decline of patronage in every department of professional work. Very few if any of the hitherto successful practitioners are overworked. The falling off of receipts averages from a third to a half of those earned in previous years. Hard times explain this in a great measure, but not altogether.

The average number of sick is no less than formerly, but there is a growing disposition to avoid the so-called calamity of adding a doctor's bill to the other general and pressing expenses of household necessities. The man who formerly paid the physician a modest sum gets advice free in the dispensary, or pays a small bed fee in some of the many so-called hospital charities and has his medical and surgical advice thrown in free of extra charge. Many of the larger hospitals are run on the cheap boarding-house plan and openly compete with the family physician by reducing medical service to the lowest level of volunteer gratuity. This, however, is an old story, which hardly gives excuse for rehearsal save in connection with the fact that the practice upon which it is founded is steadily increasing to alarming proportions.

Medical charity is now a well-organized business with plenty of capital behind it, and is necessarily run on business principles. The hospital managers with patronizing smile tell the poor doctor that he is no business man; the doctor admits it, and with hat in hand begs for an opportunity to give his services free. He cooks the meal and grovels for the crumbs. There is no so-called trade protection in this much-lauded charity business that applies in any way to the medical man who is struggling to make an honest living. A dispensary with half a million behind it must necessarily imbue itself with a commercial spirit. There is very little sentiment in such a game. The bluff is higher education, the hollow echo a broader humanity.

By this and other means the public is educated to belittle professional services. The best newspapers lend their columns to the quacks and dare not fight with fraudulent advertisers. Clergymen sign certificates of false cures. Statesmen and would-be great men allow their likenesses in papers to prove that le-

gitimate medicine is nothing and that their lives were saved by the newest advertised nostrum.

It is melancholy to think that the physician himself is often to blame for the self-prescribing tendency of the public. The desire to please and satisfy the sick tempts prescribers to volunteer private clinical lectures to the family on the nature of the maladies in hand, the reasons for using certain drugs, their extended application to ordinary ailments, and their safety in proper hands. Even if the patient is not at first inclined to do so, he is often advised to repeat prescriptions at his own discretion, and too frequently drifts into a habit that is harder to cure and easier to endure than any other to which he may be exposed. Promiscuous prescribing on the part of laymen is an outbreak of hereditary taint from grandmothers, and needs only the slightest provocation to bring it into full recognition as the manifestation of an alarmingly prevalent evil. Worse than all, however, are the penny-a-line prescriptions contributed by medical men and paid for by the column, always to mislead and often to harm the ignoramus who takes them at their face value. Many apothecaries, when they have not curealls of their own, peddle the doctors' prescriptions and dodge the law by refusing to do more than sell a medicine. The patients themselves do the same thing with their friends, and one prescription may serve an entire community. The intelligent layman would scorn the imputation of ignorance of the fashionable drugs. He has his own remedy for grippe, headache, and rheumatism; his own cough mixture, his own mineral water, and his own tonic. His good doctor started him in the business and he naturally claims his rights as a free and independent citizen.

It would also appear that the laws governing the practice of medicine have been made to suppress rather than to encourage legitimate medicine. What else can be said in extenuation of the fact that the notorious advertising quacks are as safe from prosecution as are those who by dint of conscientious study have thoroughly qualified themselves to practise their profession in accordance with the highest and most exacting standards?

SUGAR AS A MUSCULAR FOOD.

SOME time ago Dr. Vaughan Harley published the results of some experiments which seemed to show that sugar had an almost specific value as a food for the muscles. These results were published in the *Journal of Physiology* for 1894, and the conclusions given were widely circulated. Dr. Harley, in a recent number of the *British Medical Journal*, returns to the subject. He states that physiologists have shown that sugar is the principal, if not the only, source of muscular activity. Other physiologists have shown that sugar is present in large amount in the blood during the activity of muscles, and that the blood returning from these muscles is free from sugar. Dr. Harley then states that, as the result of his long-continued experiments, he found that a person living upon sugar for twenty-four hours could do nearly as much work as upon an ordinary full diet. He also shows that

when nine ounces of sugar were taken in addition to an ordinary diet the gain in muscular power, or the power to do muscular work, ranged from ten to thirty-six per cent. He found that when sugar was added to a small diet there was an increase of from nine to twenty-one per cent. of muscular power. He considers that these experiments prove the value of sugar as a muscular food.

In the same issue of the *Journal*, Professor Mosso, of Genoa, has an article on "Sugar as a Food for Muscular Tissue," in which he asserts, as the result of his experiments, that sugar and other carbohydrates increase the capacity of muscle for work.

In support of the physiological and laboratory experiments, a considerable amount of clinical testimony is cited in favor of the sugar-food theory. Mr. C. A. Barber found that by adding several ounces of sugar daily to the diet of boys in school, they are made capable of doing more muscular work. This discovery will be of immense interest to the average schoolboy. The value of sugar as a food is illustrated in the effect of eating sugar by the West Indian and Southern negroes during the sugarcane season. Dr. Harley also quotes from the experience of Mr. Douglas Sladen, who says that "one of the most difficult forms of nourishment to go without, in the frosts of Canada as in the burning deserts of Australia, seems to be sugar." Another authority states that the lumbermen of Canada, than whom no finer or more muscular men exist, eat a great deal of sugar in the form of molasses. Mr. Glynn, making experiments upon the use of sugar as a food, found that while he was working in the open air he could take large amounts of it and it helped him to do the physical work. While doing sedentary work, however, he subsisted best upon proteids, sugar causing some digestive disturbance.

An entirely opposite view of the value of sugar as a muscular food is taken by Prof. D. T. Stokvis, of Amsterdam. Through the help of his pupil, Dr. Langemeyer, a long series of experiments with the ergograph was made. They found that sugar had no influence in increasing or perceptibly decreasing the muscular power, and they assert that Dr. Harley and Professor Mosso's results were vitiated by the element of personal equation. Professor Stokvis places on record a large number of tables in support of his views. He adds that "physiology teaches us that muscle is not only a most admirable living engine, in which chemical energy is transformed into mechanical work, but it is at the same time a great storehouse of chemical substances able to develop chemical energy." In his opinion it takes a long time to build up the muscular tissue, and the immediate ingestion of food does not particularly effect this. In healthy persons he thinks that fatigue and exhaustion are never caused by want of food, but solely and exclusively by want of rest, and although, he adds, it cannot be denied that the chemical energy produced by the combustion of sugar is one of the chief sources of muscular work, yet it is only one of them.

Professor Mosso and Dr. Harley both deny the validity of Professor Stokvis' reasoning, and so the mat-

ter at present stands, so far as sugar is concerned, undecided.

The people of the United States, we are told, consume fifty-two pounds of sugar *per capita* per year, or about one pound per week, and it is, therefore, a matter of considerable interest to know whether sugar is to a certain extent a specially good muscular food or whether it is only a useful element in the general dietary.

TREATMENT OF BRIGHT'S DISEASE IN FRANCE.

DR. LYONNAIS recently gave in *La Médecine Moderne* a *résumé* of treatment for parenchymatous nephritis, as it is usually carried out in France. At the outset, if the patient complains of severe pains in the kidney region, local revulsion is practised by means of mustard poultices, or, if the subject is strong, by the application of from five to ten wet cups. Blisters and applications of iodine are justly condemned as favoring congestion of the kidneys.

When the symptoms are slight we may anticipate a complete cure by instituting at once an exclusive milk diet, while we combat the anasarca, which is still slight, with purgatives, sudorifics, and diuretics. Drastic cathartics should be reserved to ward off symptoms of uræmia. Subcutaneous injections of pilocarpine are to be employed only in young and vigorous subjects. Vapor baths, hydrotherapy, dry rubbings can be employed with prudence, keeping in mind the susceptibility of subjects of Bright's to chilling of the surface and renal congestion. The best diuretic is milk, and this too is the best food. To avoid intolerance in protracted cases we may permit the addition of green vegetables, farinaceous foods, and fats, but we must forbid absolutely the use of dark meats, game, condiments, spices, alcohol, and beer. For those who have tired of milk, red wine may be prescribed, especially that containing a large proportion of tannin.

To remove the renal sclerosis one employs scarcely any other than the remedy so much used for sclerosis in general—iodine and the alkaline iodides, potassium, sodium, calcium.

Semmola has advised the iodide of sodium with another object. According to this observer it possesses the property of modifying the state of the albuminoid substances in the blood. Whatever there may be in this theory, it is certain the iodine and the iodides have a direct action upon the kidney in their elimination by this organ. Inhalations of oxygen may be reserved for special cases in which the patient's great depression makes the employment of this excellent means justifiable. The intestine furnishes a precious supplementary route for excretions which usually pass by way of the kidney, and permits us to guard against threatening accidents of uræmia for a long period. Purgatives are to be prescribed without hesitation each time a subject of Bright's complains of cephalalgia, heaviness in the head, shows intellectual hebetude, dyspnœa, etc., all of which are to be looked upon as precursors of uræmia. In an article upon the same subject by Dr. Paul Chéron in the *Gazette Médicale de*

Ziège, some points are touched upon which may well supplement the *résumé* just given. Digitalis and its glucosides are thought to be fully indicated as diuretics in cardiac insufficiency. The dose should be small and continued for a short time only. Strophanthus acts more rapidly and is not irritating for the kidney. Pure water and mineral waters are excellent for washing out the tissues.

Theobromine produces a diuresis which continues for twenty-four hours. It is quite expensive.

Calomel may be given as a resolvent in chronic nephritis in daily dose of sixty to eighty centigrams for a period of three to five days, stopping as soon as diarrhoea occurs.

Lancereaux has obtained excellent results from cantharidin in dose of from six to twelve drops daily, while Sée and Dujardin-Beaumetz consider its use dangerous.

Hot baths at 40° C. should be continued for an hour and followed by means to keep up the perspiration for several hours. In advanced forms they should be avoided, according to Lecorché and Talamon, and are not free from danger, because of heart weakness and pulmonary congestion which they may occasion.

THE PRONUNCIATION OF "COCCI."

THERE is more trouble ahead for those who are trying to pronounce medical terms correctly. The *Cleveland Journal of Medicine* discusses, with mingled sadness and reproach, the prevailing mispronunciation of the word "micrococci" and similar terms ending in *ci*. That paper quotes the authority of the Century Dictionary, which gives *si* as the sole pronunciation of the last syllable. It also says that, according to general rule and analogy, the soft sound of the last *c* should be given. It begs its readers, therefore, if they are going to pronounce the word with the hard *c*, to be consistent and spell it with a *k*. There is no doubt that our contemporary is theoretically right, if he looks upon the word as English. As it was, however, originally Greek, and as the original letters were kappas, there is some reason also for using the hard sound. Reason or not, it has, so far as we can learn, become an almost universal practice to use the hard sound in pronouncing words with this termination, and Century Dictionary to the contrary notwithstanding, we venture to say that this form of pronunciation will prevail. The termination is not euphonious at the best, and the introduction of a sibilant into the final syllable makes it still harsher to the ear. Besides this, there is some lexicographical support for the hard pronunciation; at least, Foster's Dictionary gives the *si* as the first pronunciation and the hard sound as the second one.

Philadelphia Polyclinic.—Dr. Judson Daland has been elected professor of diseases of the chest, Dr. H. M. Christian, adjunct professor of genito-urinary surgery, and Dr. D. Riesman, adjunct professor of clinical medicine and therapeutics.

News of the Week.

Bellevue Hospital Medical College.—Dr. J. Lewis Smith, in consideration of his long connection with the college, extending over a period of more than twenty years, was appointed emeritus professor of diseases of children, Dr. George D. Stewart was appointed adjunct professor of anatomy, and Dr. William P. Northrup was appointed professor of paediatrics.

Medical Legislation in Rhode Island.—The Senate of Rhode Island has granted an appropriation to the State board of health of \$1,000 for the suppression of tuberculosis. A bill is pending repealing the law requiring the vaccination of children before entering the public schools. We are glad to learn that the latter will in all probability fail to become a law.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the week ending May 16, 1896. May 9th.—Medical Inspector R. A. Marmion detached from the *Newark*, ordered home, and placed on waiting orders. Surgeon L. B. Baldwin detached from the *Cincinnati* and ordered to the *Newark*. Surgeon N. H. Drake detached from the *Franklin* and ordered to the *Cincinnati*. Passed Assistant Surgeon I. W. Kite, detached from the Naval Hospital at New York and ordered to the *Franklin*. Passed Assistant Surgeon P. Leach detached from the Naval Hospital, New York. May 14th.—Medical Inspector R. A. Marmion ordered as member of the board of inspection and survey, June 3d, and member of the medical board, Navy Yard, Washington, D. C. Medical Director W. K. Van Reyken granted three months' leave of absence from June 3d, with permission to leave the United States.

Medical Laws for the District of Columbia.—A medical law has been enacted for the District of Columbia providing for government examinations by a board of medical supervisors of all candidates for medical license; also a law forbidding the disclosure of medical confidences, save those implying criminal actions.

Dr. Edward J. Forster, of Boston, died suddenly on the steamer *Puritan* in this city on May 15th. He had been in Philadelphia attending the meeting of the Association of Military Surgeons, and had just boarded the steamer on his way home. His death was due to apoplexy. Dr. Forster was born fifty years ago at Charlestown, and was graduated from the Harvard Medical School, afterward completing his studies abroad. He was the treasurer of the Massachusetts Medical Society, first vice-president of the Society of Military Surgeons, and for many years visiting physician of the Boston City Hospital. He was also a member of the Union and University clubs of Boston and of the 999th Artillery Club of Charlestown. He leaves a widow and three daughters.

The Cholera is increasing in Egypt and has crossed the Mediterranean to Marseilles, where several deaths have been reported daily during the past week. In Alexandria during the week there were two hundred

and sixteen cases and one hundred and sixty-one deaths, among those attacked being a number of the foreign residents. In Cairo also the spread of the disease has begun to excite alarm. Eleven new cases and nine deaths were reported there on May 16th.

The Camden County (N. J.) Medical Society held its annual meeting on May 12th and elected the following officers for the ensuing year: *President*, Dr. J. E. Hurff, of Blackwood; *Vice-President*, Dr. D. M. Stout, of Berlin; *Secretary*, Dr. B. S. Lewis; *Treasurer*, Dr. John J. Doron; *Historian*, Dr. H. H. Sherk; *Reporter*, Dr. D. E. Strock. Delegates were elected to the Medical Society of New Jersey, to the Gloucester County Medical Society, to the Berlin County Medical Society, and to the American Medical Association.

The Mountside Hospital at Montclair, N. J., has received \$10,000 from the estate of the late John W. Pinkham, M.D., who at the time of his death was consulting physician to the institution.

Section Officers of the American Medical Association.—The following officers of sections were elected at the Atlanta meeting of the association:

OPHTHALMOLOGY.—Dr. George E. de Schweinitz, of Philadelphia, *chairman*, and Dr. Horace M. Starkey, of Chicago, *secretary*.

MATERIA MEDICA.—Dr. W. B. Hill, of Milwaukee, *chairman*, and Dr. F. Woodberry, of Philadelphia, *secretary*.

SURGERY.—Dr. R. H. Sayre, of New York, *chairman*, and Dr. B. Holmes, of Chicago, *secretary*.

OBSTETRICS.—Dr. M. B. Ward, of Topeka, *chairman*, and Dr. George H. Noble, of Atlanta, *secretary*.

LARYNGOLOGY AND OTOTOLOGY.—Dr. W. E. Castleberry, of Chicago, *chairman*, and Dr. D. B. Kyle, of Philadelphia, *secretary*.

STATE MEDICINE.—Dr. Elmer Lee, of Chicago, *chairman*, and Dr. L. F. Bishop, of New York, *secretary*.

NEUROLOGY AND MEDICAL JURISPRUDENCE.—Dr. W. J. Herdman, of Ann Arbor, *chairman*, and Dr. Charles Hughes, of St. Louis, *secretary*.

DENTAL AND ORAL SURGERY.—Dr. R. R. Andrews, *chairman*, and Dr. Eugene S. Talbot, *secretary*.

Philadelphia Neurological Society.—At the meeting of the Philadelphia Neurological Society on April 27th, Dr. A. A. Eshner presented a case of astasia-abasia believed to be of hysterical origin. Dr. D. Riesman read a paper entitled "Chorea in the Adult, with the Report of a Case in a Man Aged Seventy-five Years," and presented the patient. Dr. Judson Daland made a preliminary report upon the post-mortem findings in two cases of electrocution. The most conspicuous features observed were considerable post-mortem elevation of temperature, general fluidity of the blood, and intense venous engorgement. Dr. F. X. Dercum showed a case of bilateral deafness following a fall upon the back of the head, without other noteworthy symptoms. Dr. C. W. Burr read the report of a case of hemiatrophy of the tongue. Dr. A. A. Eshner reported the case of a woman of twenty-three, free from hysterical manifestations, who pre-

sented from the age of seven irregular shock-like contractions, choreic in type, of the upper extremities.

The Second Pan-American Medical Congress will be held in Mexico, November 16-19, 1896. The president of the congress will be Dr. Carmona y Valle, the vice-president Dr. Lavista, and the secretary Dr. Licéaga.

An Unknown Fever of Assam.—A fever, called by the natives kala azar, has caused an excessive mortality among the foreign troops. The Indian government has recently appointed a medical officer to study the cause of the disease.

Succi, the Fasting Man, has recently been starving himself in Vienna, but much to his disgust he has been let alone by the doctors. He has had no medical watchers, no one has examined his urine or other excretions, his pulse has not been counted, and his temperature has not been taken. He was so put out by this unscientific neglect that he almost decided to begin eating again before the appointed term of fasting was reached.

The Michigan State Medical Society will hold its thirty-first annual meeting on June 4th and 5th. Among the visitors who are to read papers are Drs. Senn, of Chicago, and Jacobi, of New York.

Pocket-Full of Spoons.—A physician recently appeared at a meeting of his medical association in this condition. He stated that he had accumulated them at the houses of his patients, and measured their capacity, which he found different in every case, ranging from two-thirds to three times the standard capacity. One teaspoon held exactly five times as much as another. He had brought them to serve as a warning to his colleagues in ordering their medicines.—*Journal of the American Medical Association.*

The Jacksonian Prize of the Royal College of Surgeons has been awarded to Dr. A. A. Kanthack for an essay upon tetanus. The subject for the prize for 1897 is announced as the pathology, diagnosis, and treatment of the various neoplasms met within the stomach, small intestine, cæcum, and colon.

Medical Superintendents in Insane Asylums.—At the recent meeting of the Florida Medical Association a resolution was passed urging upon all the members of the society to use their influence to have a competent medical man appointed as a superintendent of the State Insane Asylum.

Theosophy and Vivisection.—At the convention of the Theosophical Society of America, held during the past week, a resolution denouncing vivisection and hypnotism was introduced, but did not come to a vote.

The Woman's Medical Club, of Chicago, claims to be the first organization of the sort in the country. It has a membership of between twenty and thirty. We may before long have men's rights associations established for the purpose of agitating against the unjust exclusion of the male practitioner from medical societies.

Bellevue Dispensary has fallen in line with all well-regulated institutions of this character in having a trained nurse on duty there. Commissioner Faure, to whom so much is due in the remedying of old evils, has seen the need of a nurse to assist in the gynecological and surgical rooms, to prepare the gauzes, attend to the linen, and to see that the help do their work properly.

A Lecture on the Proper Pronunciation of Greek will be delivered by Dr. Achilles Rose in Hosack Hall of the New York Academy of Medicine, on Friday evening, June 5, 1896, at 8 o'clock. The meeting will be presided over by Dr. S. Stanhope Orris, professor of Greek at Princeton College, formerly director of the American School at Athens. Short addresses will be made by the Hon. D. N. Botassi, consul-general of Greece in New York, Professor Leotsakos, of Philadelphia, and C. E. Sprague, Esq., president of the Union Dime Savings Institution. Miss Marie Rose will sing the national hymn of Greece and recite in Greek. Greeks in national costume will sing and play their musical instruments.

Medico-Chirurgical Hospital of Philadelphia.—The cornerstone of the new amphitheatre of the Medico-Chirurgical College and Hospital of Philadelphia was laid on May 12th with Masonic ceremonies, in the presence of the governor and the mayor and other distinguished men. The new building will be seventy feet wide, ninety-five feet deep, and about fifty feet high to the main cornice, and will connect on the east with the hospital and on the west with the maternity department. The auditorium will accommodate six hundred students, and will be adequately provided with instrument and sterilizing rooms. There will be besides a waiting-room for patients, rooms for medical and surgical examinations, an etherizing-room, a private room for visitors, a room for the preparation of dressings, one for the storing of dressings, as well as private operating-rooms, accommodations for a registrar and records, and finally a room for skiagraphic purposes. The building will be, so far as possible, thoroughly fire-proof, and so constructed as to be readily rendered aseptic. Special consideration will be given to heating, lighting, and ventilation. At the fifteenth annual commencement of the Medico-Chirurgical College on May 13th the degree of doctor of medicine was conferred upon fifty-four regular and seven special students. The graduation address was delivered by Dr. L. Webster Fox.

Association of Military Surgeons of the United States.—The sixth annual convention of the Association of Military Surgeons of the United States was held at Philadelphia on May 12th, 13th, and 14th.

On the first day, after an opening prayer by the Rev. H. A. F. Hoyt, addresses of welcome were delivered by Governor Hastings on behalf of the State, by Maj.-Gen. George R. Snowden on behalf of the National Guard of Pennsylvania, by Mayor Warwick on behalf of the city, by Brig.-Gen. Thomas J. Stewart on behalf of the Medical Department, N.G.P., and by Dr. J. M. DaCosta on behalf of the

medical profession of the city. The president of the association, Col. Louis W. Read, M.D., made some remarks on the advantages of organization and reviewed recent advances in surgery. At the conclusion of the morning session the first flag of the association, constituted of a white ground bearing in the centre the red cross of the hospital corps upon which is an American shield and edged with green, was unfurled. Subsequently the members of the association were entertained at luncheon by Mr. W. B. Saunders.

In the afternoon, Col. C. H. Alden, M.D., read a paper on "Instruction of the Hospital Corps." Major D. A. Kuyk, of Virginia, read a paper on "The Hospital Corps of the National Guard." Capt. J. J. Irwin, M.D., of Ohio, read a paper entitled "The Annual Encampment and What it Teaches the Surgeon of the National Guard." In the evening a reception was tendered to the members at the Union League club house.

The second day's sessions were held in the auditorium of Houston Hall of the University of Pennsylvania. Col. N. Senn, M.D., of Illinois, described "A New Bullet Forceps," Dr. H. G. Beyer, U. S. N., read a paper entitled "The Physiology of Bathing and Swimming," and Lieut. H. L. Chase, M.D., of Massachusetts discussed the subject of "Baths, Bathing, and Swimming for Soldiers." After luncheon the members attended a clinic at the University Hospital, conducted by Dr. J. William White, who demonstrated the results obtained through the use of skiagraphy in surgery.

In the afternoon the following papers were read: "The Vitality of the Cholera Spirillum in its Relation to Certain Fruit Acids," by Dr. T. C. Craig, U. S. N.; "Notes by a Medical Officer in the East," by Dr. Charles C. Foster, of Massachusetts; "Notes and Comments on the French Field Sanitary Service, and What We May Learn from It," by Maj. Valery Havard, M.D., U. S. A.; "Some Thoughts on Wheeled Vehicles for the Transport of Wounded," by Maj. George W. Adair, M.D., U. S. A.; "Methods of Caring for Wounded in Field and Hospital of the Chinese and Japanese Armies," by Dr. C. U. Gravatt, U. S. N. Lieutenant Arnold, M.D., exhibited a litter constructed by Maj. W. F. de Niedman, M.D.

On the third day Maj. Paul R. Brown, M.D., U. S. A., read a paper on "Modern Methods of Anthropometric Identification so far as the United States Soldier is Concerned"; Capt. J. E. Pilcher, M.D., U. S. A., read a paper entitled "Methods of Instruction in First Aid"; and Capt. D. M. Appel, M.D., U. S. A., read a paper on "Asbestos Surgical Field Dressings." The following officers were elected for the ensuing year: *President*, Medical Director Albert L. Gihon, U. S. N.; *First Vice-President*, Brig.-Gen. E. J. Foster, of Massachusetts; *Second Vice-President*, Maj. John Van R. Hoff, U. S. A.; *Secretary*, Maj. Hermann Bergen, of Pennsylvania; *Treasurer*, Capt. James J. Erwin, of Ohio; *Editor*, Maj. Charles C. Foster, of Massachusetts; *Executive Committee*, Gen. John Cook, of New Hampshire, General Byers, of Wisconsin, Lieut.-Col. C. M. Woodward, of Michigan, Maj. P. F. Harvey, U. S. A., and Major Kuyk, of Virginia. It was decided to hold the next convention at Columbus, O.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Forty-Seventh Annual Meeting, Held at Atlanta, Ga., May 5, 6, 7, and 8, 1896—Concluded.

(Continued from page 715.)

SECTION ON PRACTICE OF MEDICINE.

WILLIAM E. QUINE, M.D., OF CHICAGO, CHAIRMAN.

Second Day—Wednesday, May 6th.

Some General Considerations in Relation to the Nature and Treatment of Disease.—DR. L. B. BAKER, of Pennsylvania, read the paper. That view of disease, he said, which regarded it as something extraneous, which could be cast out into a herd of swine, was the physiological equivalent of astrology and alchemy. It represented the disposition of all primitive people to personify sky, earth, and sea. It is not tenable that modern medicine should base its therapeutics upon such a view, and the paper entered a strong protest against the administration of medicines for the cure of disease to the almost total neglect of hygiene. Drugs have their use, but most assuredly they have been abused.

Nervous Shock and Disease of the Nervous System as a Cause of Pernicious Anæmia.—DR. JAMES B. HERRICK, of Chicago, read a paper with this title. The author's attention had been called to the possible causative relation of nervous shock to pernicious anæmia by a case which he related in detail. A healthy woman fell on the sidewalk, hurting her back and left side. She walked home, but from that time she found herself weaker physically and mentally, and was obliged to lie down most of the day. She felt dizzy, her legs began to swell, and she became pale. Her appetite was good. There was no evidence of organic lesion and no paralysis. The red globules were reduced to less than seven hundred thousand, and the leucocytes relatively increased. The liver was somewhat enlarged. After a year there had been gradual improvement, blood globules had increased to two and a half million, and hæmoglobin to eighty per cent. The further history was unknown.

The author recalled a case of cerebral hemorrhage with aphasia and left hemiplegia, in which there was most profound and fatal anæmia; also a fatal case of anæmia following sunstroke. A number of cases have been reported in literature, but the connection between the nervous shock and the anæmia, he said, have not been definitely studied.

Dr. Herrick felt warranted in drawing the conclusion that in some cases of pernicious anæmia there is a causal connection between shock or injury to the nervous system and the resulting anæmia. Whether such shock acts by interfering with the nervous mechanism of the digestive organs, the stomach, intestines, pancreas, the ultimate result being a severe anæmia, or whether through altered nervous influence there is abnormal performance of function on the part of the hæmatopoietic organs, it was impossible to say. It is not necessary to regard the nervous shock as the sole or even the prime cause.

How to Cure Rheumatism.—DR. ELMER LEE, of Chicago, said that it is upon the recognition of the physical alterations of the blood, consisting so far as known in diminution of the red globules and serum, that his treatment is based. Such changes seemed to throw the responsibility upon the capillary circulation rather than upon any change in blood chemistry. Coming to the treatment, he said it is hydriatic, requiring the use of water internally and externally.

None of the patients on coming to him had been taking sufficient water. Further, attention should be given to nutrition and elimination.

The Care of Cardiac Disease during the Quiescent Period.—DR. LOUIS FAUGÈRES BISHOP, of New York, read a paper with this title. One of the most honorable offices of the physician, he said, is the care of chronic disease. Modern accurate diagnosis and therapy have removed much of the dread of sudden death in heart disease. The care of chronic cardiac disease is the care of the myocardium and the protection of the endocardium from further acute inflammation. The danger of extension of chronic inflammation from the endocardium to the other structures of the heart is great. The value of suitable exercise in maintaining compensation is very great. Indolence is as fatal as overwork. Golf and quiet bicycle riding helps many indolent cases. When failure of compensation is threatened absolute rest is better than drugs. Hydrotherapy and massage are very useful in combating passive congestion. The patient, if intelligent, should be instructed as to the nature and requirements of his disease. The greatest evils to be avoided are indolence and dissipation on the one hand, and overwork and worry on the other. The proper care of such cases is far more satisfactory than the hopeless contest when the power of the myocardium has been exhausted.

The Action of Alcohol on the Organs of Special Sense.—DR. J. W. GROSVENOR, of New York, said in this paper that there is no difference of opinion among physiologists regarding the effects of large doses of alcohol. It is narcotic. All the senses are dulled—the pupils fail to respond to light, a sharp instrument does not cause pain, most volatile substances produce no influence on the olfactory nerve, and so with the other senses. The author quoted recent experiments by Ridge, Crouthers, and others, testing the effect of varying doses of alcohol on the special senses in total abstainers and those more or less given to the use of alcohol. The results showed diminished sense of pain, weight, hearing, etc., produced by small as well as large doses of alcohol, and in proportion to the dose administered, from half a drachm upward.

Dr. Grosvenor said that in his study of this subject the thoughts which have forced themselves upon his attention are as follows: 1. Guided by the chief characteristic of alcohol, its paralyzing influence, is it not more appropriate to call it a depressant than a stimulant? 2. If alcohol becomes popularly known as a depressant, will it not be less frequently used by the laity in those physical conditions which are commonly supposed to demand stimulation? 3. Knowing that alcohol is a depressant, even when given in small doses, ought not the medical profession to exercise great care in administering it in debilitated states of the system? 4. The use of alcoholics hypodermically in cases of heart failure or arrest of respiration caused either by ether or by chloroform narcosis is bad practice. 5. It is the duty of the profession to discard its use to the end that our national life may be characterized by physical and moral integrity, clear brains, steady hands, and brave hearts.

DRS. HARE, OCHTERLONY, and a number of members opposed the view that alcohol is never a stimulant, while some held that it is always depressant.

Lycopersicum Esculentum in Cardiopathia.—DR. W. T. ENGLISH, of Pennsylvania, in describing this plant, said it is indigenous to South America, but was introduced for its beauty into the United States and England. Then it came to be used as a food. The writer believes that the tomato has a more or less poisonous effect upon one-half to one-fourth of those who use it as food. It causes irregularity and inequality of heart rhythm and force, and

the effect upon those with previous heart disease has been deplorable. Among the unpleasant symptoms are gastric uneasiness, pyrosis, heartburn, acid eructations, sighing respiration, dyspnoea, etc. In pregnant women it produces particularly unpleasant circulatory symptoms. Many suffer from this form of poisoning unaware of the cause of their symptoms. The best remedy is avoidance of tomatoes. Antipyrin and alkalies and other remedies may be useful.

DR. PAUL PAQUIN, of St. Louis, and DR. HILL, of Milwaukee, expressed the opinion that the tomato is a healthy food, and that the symptoms described were due to fermentation in the stomach from use of tomatoes picked before ripe.

Officers Elected.—At this point the section elected Dr. J. H. Musser, of Philadelphia, *Chairman*, and Dr. J. T. Priestly, of Des Moines, *Secretary*, for the ensuing year.

Early Diagnosis of Cancer of the Stomach by Means of Chemical Analysis of the Gastric Contents.—DR. W. C. WEBER, of Cleveland, O., in this paper considered the diagnostic value of absence of hydrochloric acid from the stomach, of presence of lactic acid, and the different tests, the Congo red, tropæolin, etc. He expressed the belief that while advantage must be taken of other aids, such as examination of the blood, etc., yet chemical analysis of the stomach contents is becoming more and more valuable in early diagnosis, and is extremely important in order, if possible, to lead up to surgical interference before the appearance of cachexia and marked emaciation, which often precede physical signs of tumor and which are the precursors of a fatal termination.

DRS. HERRICK, of Chicago, PAQUIN, of St. Louis, and WAINWRIGHT, of Kansas City, corroborated the testimony of the author as to the need of aid from chemical analysis of the contents of the stomach in diagnosis of tumors requiring surgical interference before the case has become hopeless.

Third Day—Thursday, May 7th.

Intestinal Antiseptics, Diet, and Castration in Relation to the Treatment of Epilepsy.—DR. EVERETT FLOOD, of Massachusetts, was the author. The first epileptic attack in many instances is, he said, after excessive eating. Gluttony is common. From the outset of the child's life it should have suitable food, in proper amount, and at proper intervals. Regulation of diet has proven effective in stopping the attacks in many instances. Intestinal parasites are undoubtedly common in children, and should be removed. The author thought the controlling effect of certain drugs commonly administered in epilepsy may be due to their parasitic effect in the intestinal tract. Regarding castration, of which he had twenty-two cases to report, twenty of them in males, the results were favorable. First, and most important, the masturbation finally ceased in every case. The boy got plumper and had a clearer complexion. The voice became milder and pleasanter, and he was less inclined to violence and domineering. The possibility of reproduction was eliminated—a most useful safeguard. They did not entice other boys to masturbate. There were the same periods of fits, but each fit was shorter and milder in type. He thought castration is not so useful in females.

Report of Five Hundred Cases of Gastritis.—DR. FENTON B. TURCK, of Chicago, referred to his work published two years ago on the pathology and bacteriology of gastritis. He now protested against the appropriation abroad and in this country of the facts first published in that work without giving him credit.

Time permitted on the present occasion of reading only that part of his paper relating to some methods of diagnosing gastritis. Gastritis, or inflammation of the stomach, he said, can be determined by examination of the material adhering to the stomach wall. This is obtained by rotating a sponge at the end of a tube passed into the stomach and is composed of food detritus, of cells, of leucocytes, and of mucus. Such material furnished a most fertile soil for the development of micro-organisms. The presence of leucocytes indicates inflammation. Bacteria developing in large numbers, toxin is produced and is absorbed by the underlying cells of the stomach wall, giving rise to inflammation or chronic catarrh of the stomach. The author did not have time to read the analysis of his cases.

Chemistry and Bacteriology of the Stomach in Relation to Therapeutics.—DR. J. H. KELLOGG, of Michigan, gave methods and results of bacteriological and chemical studies of the contents of the stomach. It has been supposed that germs are always present in the stomach, and that they cannot be excluded, if indeed their presence was not an aid to digestion. A few observations were related in which the stomach contents gave no cultures whatever. The author has also made studies in relation to the number of bacteria ordinarily in the stomach having distinct characteristics. The number is large. One of the most poisonous gave a green appearance to bouillon, the shade of which was deeper on shaking. His studies also show that the stomach takes no small part in the conversion of starches. Regarding the saliva, he had found it to vary quantitatively and qualitatively, so that although the quantity in a given case may be deficient, this may be made up by quality, a small amount converting as much starch as a large amount in another case.

Constipation: Some of Its Effects and Its Non-Medicinal Treatment.—DR. E. S. PETTYJOHN, of Alma, Mich., gave a study of the history of three hundred cases, and showed that about sixty per cent. of all patients suffered from constipation, the number being proportionately larger among women. While the colon and rectum have not the digestive office long supposed, their absorptive power is greater, and the quantity absorbed is in proportion to the time of contact and concentration of the substance. The intestinal nervous system is complex. Since all functional action in the system is reciprocal, it follows that the functional activity of the chylipoietic system must affect the nutrition of the brain and entire nervous system. The absorption of toxic and excrementitious substances produced retrograde changes in the quality of the blood, diminution of the red corpuscles, and, by supplying an infected or imperfect nutriment to the brain, becomes a prominent factor in the production of cerebral anemia and nervous debility. After further remarks on the effects of constipation, the treatment received attention. The first elements in the curative treatment, he said, are good food and good digestion. Coarser foods, such as would have a residue, were advised—whole wheat, hominy, figs, etc. Massage on anatomical principles, cannon ball, gymnastics, rowing, riding, faradic and galvanic currents, and hydro-therapeutics, including drinking large quantities of water, etc., should be insisted upon. "Those persons whose bowels are freed by an easy, regular movement every morning, so soon as they have breakfasted, are meek, affable, gracious, kind, and 'no' from their mouth comes with more grace than 'yes' from the mouth of one who is constipated."

Further Report on Serum-Therapy.—DR. PAUL PAQUIN, of St. Louis, in this paper first considered serum-therapy in tuberculosis. The serum of the ass was first used in Europe, but that of the horse prob-

ably in this country. The author felt confident that early tuberculosis can nearly always be arrested by either hygienic measures or serum-therapy, which tended to aid nature's own forces.

About sixty cases were reported in the paper, a number of them in the practice of physicians in different parts of the country. The results of this treatment, he said, are almost uniformly cessation of cough, fever, increase of weight, disappearance of tubercle bacilli from the sputum. Dr. Paquin usually begins with ten minims, and increased up to perhaps forty-five minims; at one time he injected as much as two hundred and forty minims. Some unfavorable symptoms were eruptions, and also fainting, pain in spine, etc., symptoms occasionally somewhat alarming. Dr. Paquin said he was surprised to find that in thirteen per cent. of his tuberculous patients there was some albumin in the urine before use of serum. In only one case did albumin appear after the treatment in which it had previously been absent.

Dr. Paquin, in answer to questions, said the horse undergoes a treatment similar to that in obtaining diphtheria antitoxin, tuberculin being injected into its system instead of toxin of diphtheria.

DR. A. M. HAIG, of Illinois, gave favorable experience with the horse serum in eight out of ten cases. Some of the cases had gone so far as to be regarded as hopeless, yet they were among those most improved.

Internal Secretion.—DR. J. B. MARVIN, of Kentucky, in this paper gave a general view of the relation of myxœdema to the thyroid gland, of the effect of removal of the spleen, etc. He thought it probable that exophthalmic goitre is an opposite condition from that of myxœdema, the latter being due to deficient thyroid secretion, the former to increased thyroid secretion.

SECTION ON SURGERY AND ANATOMY.

Second Day—May 6th.

Exploration and Treatment of Fissures from Skull Fractures.

—DR. H. H. BEACH, of Boston, read a paper with this title. The modern treatment of fractures of the skull is in a word the impression that Lister and his teaching have made upon the surgical work of pre-antiseptic days. The results obtained before that time, through the application of principles based upon cleanliness as then understood, are not less astonishing than those of to-day, considering that the work was done in ignorance of bacteria and their appalling ravages. The confidence and boldness with which the surgeon may now undertake explorations involving the gravest consequences have really been the outcome of protection from septic disease afforded by the gradual development of aseptic principles.

With all these advantages, the mortality of skull fractures involving the base remains high. It has an association with such elevation of temperature as to point in the direction of septic infection as an explanation, and suggests a doubt of perfect asepsis in some cases. Without question a certain number is inevitable from severity of injury as well as from complications that are independent of sepsis. Crushing injuries of the head, with extensive laceration and destruction of tissue, together with abundant hemorrhage, will surely determine a proportion of more or less early and irremediably fatal results. Of the patients who survive the immediate effects of injury, a number are subject to a comparatively slight rise of temperature for a short time, associated with varying symptoms of concussion, and ultimately recover. The remainder improve for an uncertain period, then develop a temperature that gradually rises as the patient sinks to his

death. It is possible that, of this last group, some die from chronic inflammation of brain tissues following their contusion or laceration, and the interference with their nutrition through the pressure effects of masses of clot added to the degenerative changes characteristic of those processes. Progressively high temperatures common to fatal cases, however (though every care prescribed by aseptic rules be followed), and their similarity in other respects to those treated without asepsis, make it doubtful, to say the least, if sepsis has been completely eliminated from them. The reduction of this mortality is a problem that now confronts the surgeon, and, as an entering wedge toward its solution, the importance of a series of observations that will establish beyond doubt the relation of sepsis to the fatal cases cannot be overestimated. Much may be accomplished by the systematic and accurate observation of all cases of fractured skull in which there is an open surface requiring dressing or in which any discharge exists, by making bacteriological cultures at intervals during life and at the autopsy. Briefly, freedom from sepsis should be definitely and unmistakably proved in any fatal case by the unassailable evidence supplied by bacteriological tests, to clear it from the suspicion of putrefactive infection.

In searching for the source of infection, one is impressed with the invariable freedom with which the immediate seat of injury is now inspected, cleaned, and dressed, relieving in a measure the region of direct violence from the suspicion of contamination. Of the more remote sources, the common association of bloody and serous discharges from the ear and nasal passages suggests possibilities of bacterial infection through the extension of a fracture by fissuring to the internal ear; which, in addition, may supply abundant material through the retained products of chronic disease. By laceration of the membrana tympani, direct connection is made with the outer air on one side, and on the other communication is opened through the Eustachian tube with the cavity of the naso-pharynx, which Paul Raugé terms "the storehouse from which the infective elements passing through the tube into the tympanum are derived." Fissures communicating directly with the nasal cavity are of necessity open to the same infective influences.

A large percentage of those who die from skull fractures have these bloody or serous discharges; also those who survive for more than five or six days and then die. On the other hand, a good proportion of those who recover have the same history; from which it is proper to infer that such discharges are not in themselves necessarily fatal nor the bony fissures associated with them.

Another explanation for fatal cases must be found either in the character of the injury to the brain and its vessels, or that of the fissures through which they escape. A fissure extending through loosely fractured bone would be more likely to supply an avenue for infective material to reach the skull cavity than one that could be barely detected and closely resembled a crack in glass or porcelain. The variations between these extremes are common to all fractures, and may explain a part at least of the differences of results in cases presenting similar symptoms. Should fissuring extend in the direction of the internal ear, the difficulty of making that region aseptic and free from the possibility of dangerously contaminating an opening communicating with the brain is a serious one; especially so in old cases of otorrhœa.

The cavity of the skull is not second to that of the peritoneum in the importance of maintaining perfect aseptic defences. The septic area, after careful disinfection, should be approached from the wound at the vertex by widening connecting fissures with the rongeur to half an inch, until the base can easily be

reached and packed with gauze above and below the fissure extending along the base. The brain can be lifted with a retractor and the auricle dissected up and displaced forward should it become necessary. This packing of gauze limits hemorrhage without undue pressure upon the brain, and provides an excellent drainage apparatus from the vertex to the base of the skull.

As possibilities of infection cannot be estimated before the development of unfavorable symptoms, when too late to institute antiseptic measures, however radical, conservative treatment should include at the first inspection of the wound a most rigid asepsis, the exploration of fissures with the utmost precision, uncovering the whole circumference of the perforation in the skull for that purpose, and providing unlimited drainage by widening the fissures into loosely connected bone that extend in the direction of the base. When nearly fifty per cent. of brain abscesses originate in suppurative ear diseases, the isolation of this region from the brain and its attachments during the repairs of a fractured skull demands the serious consideration of the surgeon. It also suggests the question of a more radical clearing and asepsis of the ear cavities than can be obtained without anæsthesia in cases in which the temperature steadily rises, notwithstanding our precautions. The danger associated with such a plan lies in the possibility of forcing, by washing under pressure, septic material through a wide fissure into the skull cavity, and emphasizes the importance of a competent primary asepsis of the ears in all fractures connected with them.

Reports of cases were given illustrating the practice advocated.

DR. W. L. ESTES, in discussing Dr. Beach's paper, said that the questions involved in this paper, which set forth very clearly the necessity of disinfection, the production of a septic state, and the employment of proper drainage, are important ones and should not pass unnoticed. Too frequently these fractures and the necessity for their proper disinfection are overlooked by the busy practitioner, and in a number of cases which had come under his notice he had found that there had been absolutely no attempt at disinfection of the nasal passages or of the external auditory meatus, although all the symptoms pointed to a fracture involving the base. The speaker's custom is to douche or spray thoroughly the nasal cavities, and when necessary to plug them anteriorly and posteriorly with some disinfectant gauze, after which he usually plugs the external auditory canal. With regard to the drainage of these conditions he said that it is often a very serious matter, although, if the disease involves only the area posterior to the auditory canal, it may not be so difficult. The securing of proper drainage when the area anterior to this canal is involved is the most difficult matter, but this should not be neglected. Hemorrhage is another dangerous factor, and it should receive prompt attention. The meningeal vessels are those especially likely to be involved, while the sinuses need not necessarily be injured.

Brain Surgery.—DR. J. C. OLIVER, of Cincinnati, presented a report of four cases representing injuries and operations upon the brain.

CASE I. was that of a man, aged fifty-nine, who fell through a dust chute, striking upon his head. He presented ptosis on the left side, hemorrhage from the left nostril, and motor aphasia; the pupils were midway between contraction and dilatation and did not react to light. There was no paralysis of the limbs nor of the face. The autopsy showed that the symptoms were each dependent upon separate lesions. There was found rupture of the middle meningeal artery on the left side, a fracture of the left orbital

plate, and also a distinct, separate fracture of the cribriform plate on the left side.

CASE II.—The patient presented Jacksonian epilepsy, the convulsion always beginning in the left leg, then involving the left arm and the left side of the face, and then becoming general. Following the convulsion the patient would have left-sided paresis, which would remain for only a few hours. After the attack he would become maniacal, in which condition he was dangerous to those about him. The convulsions occurred in groups, so that he would have ten or fifteen in a day. Because of the symptoms, trephining was done over the leg centre on the right side of the brain. A varicose vein in the diploe was found to have ulcerated through the internal and external plates of the skull, and had also caused absorption of the dura mater at one point. At this point there was a small hernia or protrusion of the pia and brain. No other lesion was discovered. The course of the vein was bitten out with rongeur forceps and the channel in the diploe plugged with a sterilized match. Following the operation the patient was free from epilepsy for six months. After this he began to experience pain in his left leg, and there was a gradual return of the convulsions. As it was believed that the return of the convulsions was dependent upon the adhesions which had formed, the patient was again operated upon, nine months after the first operation, and a plate of gold foil inserted in the deficiency in the skull. A few months subsequently the patient died suddenly in the night from causes unknown. Subsequent to the operation he experienced no convulsions. An examination of the head after death showed no gross lesion of the brain. The gold plate had very effectually accomplished the purpose for which it was inserted.

CASE III.—The patient in this case had an inflammatory condition in the left upper eyelid which went on to suppuration. This was opened and the patient returned to his occupation, that of a machinist. After being at work for about three weeks he began suffering with pain in the head, which was most marked over the left frontal region. He became stupid. On testing the vision it was found to be $\frac{7}{8}$ in each eye. A choked disc was present in the left fundus. A paresis involving the right side was found to exist. The deep reflexes were normal. Temperature was slightly subnormal, the pulse was irregular and hard. The diagnosis of cerebral abscess of the left frontal lobe was made, and a trephining over this area and exploration of the brain in this region led to the evacuation of an abscess containing three ounces of pus. The patient recovered and is now in his usual condition of mind and body.

CASE IV.—In July, 1895, the patient was treated for an acute otitis media. This condition persisted in spite of treatment. On the 13th of October the patient was found comatose, with pulse of about 90. The pupils contracted, slightly reacting to light, and the Cheyne-Stokes respiration was apparent. This condition continued until the following morning, when he was removed to the Cincinnati Hospital. That evening his temperature was 103° F.; he was delirious and the pulse was rapid; he had divergent strabismus, and there was no evident facial paralysis; pulse, 132; respiration, 26. He became very restless and had to be restrained. The reflexes were present and active; slight trismus was noticed. In view of the fact that these symptoms followed the ear trouble and also in view of the very evident meningitis, it was deemed advisable to trephine over the temporo-sphenoidal lobe for possible abscess. This was done with a negative result. The left lobe of the cerebellum was then opened with likewise a negative result. The patient died within an hour after the operation. Post-

mortem showed diffuse purulent meningitis involving both the base and the convexity. There was no localized accumulation of pus. The infection in this case followed along the carotid canal.

DR. RANSOHOFF, of Cincinnati, said that it having been stated that there was considerable hemorrhage in the case just reported, he would like to mention a method which he had employed to overcome this. We all know that under the older methods much blood was lost, and that very frequently in an operation for the removal of a brain tumor the dura and the cerebral veins were divided, causing such a loss of blood that the operation could not be completed in one sitting. The Esmarch strap has been used considerably, but all know the difficulty of properly applying it, its entire object often being lost through the sinking of the scalp into the orbit. The method which the speaker employs is a very simple one, but he has never seen a description of it. He introduces about an inch from the surface of the tumor a continuous chain suture, which he draws tight around the entire line of the incision. He recently practised this method in a case of sarcoma of the dura mater, in which the tumor was as large as a small orange, and which had been operated on twice before on the supposition that it was a wen. When this suture is drawn tight, which can be done very rapidly, the entire area of the skull is made absolutely bloodless and the incision was made within the line of the chain. One has but to remember the size of incision that is necessary for trephining and the difficulty of grasping the vessels in the tense scalp to appreciate how much blood will be saved the patient by using this suture. The sutures can be clipped and removed at the end of twenty-four hours in order to remove the gauze packing, and the vitality of the flap will be in no way interfered with.

Cholelithiasis and Cholelithotomy.—DR. CHARLES H. DUNN, of Minneapolis, read a paper based upon a study of forty cases of gall stone and a review of the chief literature of the subject. He had been impressed, he said, with the highly overdrawn notion of biliary colic and the misinterpreted view of the symptomatology of cholelithiasis prevalent in the general professional mind, with the mistaken prominence given to jaundice as a symptom, and with the tenacity with which a childlike pathology explaining its presence or absence on the purely mechanical action of the stone is held. Jaundice is a comparatively infrequent symptom, at least in the earlier course of the average cholelithiasis, and cases not rarely run their whole course without icterus. The author reported a case of a young and otherwise healthy woman who died as a result of six weeks' attack of biliary colic with nearly constant pain, tenderness, and vomiting. She had had but one previous attack, of short duration, nearly a year before. A trace of bile was present in the urine, but at no time had there been a trace of icterus observable by the friends, trained nurses, or physicians. At the autopsy five gall stones were found, three in the gall bladder and two in the common duct. The presence or absence of icterus must not have too strong an influence on one in locating the stone. The indications for cholelithiasis should be divided into relative and imperative. If the attacks be frequent, the calculi not passed, and the symptoms not relieved by a reasonable hygienic and medical course of a few weeks' duration, so safe an operation as cholecystotomy at this stage is doubly preferable to further delay, even though no very threatening symptoms have developed; first, as the cheapest escape from present suffering, and second, as a preventive measure against the ever-possible dangers of cholangioitis, duct impactions, etc., which may entail a much more dangerous and trying operation upon a patient. In time the

proper treatment of cholelithiasis, with few exceptions, will be considered to be early surgical interference, although, so long as the patient is in no apparent danger, a rational non-surgical management through one or several attacks, as good judgment may dictate, cannot be condemned, and is to be heartily advised unless circumstances offer very perfect surgical advantages. When, however, after several days' duration only a partial peace is declared, the general health begins to fail, local tenderness, lesser paroxysms recur, jaundice and infection threaten, one is confronted with a far more serious situation and the indications for interference may be termed imperative. The practical distinction between relative and imperative indications in surgery is of the greatest importance and too often overlooked, and it seems a very pertinent question whether or not operation should be advised in the midst of a recent attack of colic, etc. Kehr, having, as he believes, learned to distinguish between gall-bladder colic and gall-duct colic, advises waiting when the latter exists, lest the stone be left in the choledochus or a difficult choledochotomy need to be performed. Many will be quite unable to make this differentiation with any certainty, while to delay long with a calculus in this most dangerous locality will often jeopardize the patient. The diagnosis once positively made, it would appear less difficult for a surgeon to approximate reasonably the burdens and the dangers of the disease in a given case, and to distinguish between when to advise waiting, when to recommend operation, and when to insist upon it, than to formulate rules for others. One prominent authority seems to regard the size of the stone as having an important bearing upon operative indications, but, in the first place, we can foretell absolutely nothing as to the size of the stones before they are removed or passed, and in the second place, however much the theory that a small stone ought to be passed and a large stone cannot be passed may appeal to rational simplicity, the case above mentioned of the young woman proves that the facts fail to follow mathematical fancy. All modern observations go to show that nine times out of ten the gall stones occupy the gall bladder alone, and ninety-five times out of a hundred they occupy the gall bladder alone or it and the cystic duct alone. In the vast majority of cases, therefore, the indication appears to be to open the gall bladder, remove the stones and debris, and temporarily drain the diseased organ. In the author's opinion, cholecystotomy, with temporary fistula, is the operation of election in the average cholelithiasis, and the one to be chosen probably eight or nine times out of ten. Various conditions in connection with the remaining minority will demand a modification in the operation. In certain cases choledochotomy is the choice operation, but it is always difficult, frequently dangerous, and sometimes impossible of practical execution.

DR. DONALD MACLEAN, of Detroit, in discussing Dr. Dunn's paper, said that the surgery of the gall bladder is only in its infancy, but there is always the hopeful and inspiring feeling about operations on the gall bladder that if the patient be saved from great pain and great danger there is everything to be gratified about and nothing to regret.

DR. ALEXANDER HUGH FERGUSON, of Chicago, said that the great question is, When shall we operate? If we examine the gall bladder and find it enlarged so that there is apparently a tumor, it is the time to operate. If the stone be a small one, it may pass through, but if not, it may force its way into the common duct, where it becomes impacted. Cases of one stone are more difficult than those of several stones, and the side of the gall bladder is no indication. If the patient has colic and jaundice, it is imperative to open the gall bladder and not to wait until the development

of pyrexia. By suturing together the gall bladder, peritoneum, and skin, thirty-three per cent. of the cases have resulted in permanent fistulæ. In view of the fact that jaundice cases stand operation and chlo-roform very badly, we should operate as little as possible. As soon as we see bile, our work is finished. There are two ways of getting at the common duct, one internal and the other external to the duodenum, of which the former is the better. If there be jaundice, the incision should be either oblique or transverse; the oblique gives the more room. In order to tell whether or not the common duct is patulous, a good way is to take a glass tube that is bulbous at one end with a rubber bulb attached to the other. This will become impinged into the duct. If water will then flow through the bulb it is well to stop operating.

DR. J. C. OLIVER, of Cincinnati, asked what was found to be the cause of death in the case of the young woman to whom Dr. Dunn had referred as having had two attacks of biliary colic without jaundice.

DR. HUNTER MCGUIRE, of Richmond, said he believed that some day a method will be found of dissolving gall stones, so that operation will not be necessary.

DR. DUNN said that the young lady referred to by Dr. Oliver died of exhaustion. He was of the opinion that too many men have the idea that in these cases there should be jaundice, or tumors or colic resembling the pains of childbirth. What is wanted is more diagnosis and less technique. In none of his cases had he found tumefaction, unless by this is meant enlargement of the liver dulness which is frequently present.

Operative Interference in Abdominal Ailments.

—DR. DONALD MACLEAN, of Detroit, reported several cases bearing on this question. In opening his paper he stated that he desired to raise the question of the advisability of interference or non-interference in cases of abdominal ailments, traumatic or otherwise. The first case mentioned was that of a very obese woman of fifty, who had suffered from absolute obstruction of the bowels for ten days and was in a very advanced state of exhaustion. Upon opening the abdomen, after a somewhat prolonged and careful examination, a large egg-shaped calculus was found, and the intestine both above and below was so constricted that it constituted a perfect obstruction. Although the abdominal cavity was closed with all possible speed, the patient died in twelve hours. The second case was that of a man who gave the history of several well-marked attacks of appendicitis, but who was apparently quite well and engaged in active manual labor when he came for advice, complaining only of a feeling of weakness in the right iliac region. Operation was advised, and the appendix was found distended with pus. On further investigation extensive intestinal adhesions were encountered, and it was found necessary to sew up several large rents in the intestinal walls produced by disentangling these adhesions. Patient made a complete and rapid recovery. The third case was that of a young man of nineteen, who had had repeated attacks of appendicitis. He was a healthy and robust fellow, and on this account postponement of operative interference was advised, but the speaker was compelled the following day to change his opinion absolutely, as the patient was found in a very different condition, with tongue furred, pulse 120, and temperature 101° F. Operation was then advised, and the appendix was found deeply embedded in an immense inflammatory mass which surrounded the cæcum. The fourth case was that of a man who was taken suddenly and violently ill with all the signs of appendicitis, and when first seen by Dr. Maclean the patient was in a state of great distress from constant cough, with exces-

sive expectoration of an indescribably fetid character. The temperature was high, pulse rapid, and there was a total loss of appetite with proportionate general weakness. The burrowing of an appendicitic abscess behind the peritoneum was suspected, and an incision was made between the sixth and seventh ribs on the right side, which fortunately tapped the depot of fetid pus. Three years have elapsed since the operation, but when seen recently the patient presented the very picture of manly health and vigor. The fifth case was that of a man, thirty-five years of age, who was thrown from his bicycle and alighted on the asphalt pavement with very great force on his buttocks, between five and six o'clock in the afternoon. He noticed no bad effects from his fall until late the same evening, when he was taken so ill that he was compelled to enter a drug store and telephone for a physician. An anodyne was administered, but during the next day and evening such alarming symptoms developed that the author was called to see him, and, finding him very tympanitic, with pinched and pale face, pulse 120 and temperature 102° F., a laparotomy was advised and performed at 10 P.M. Upon opening the abdomen the following condition was found: An ancient ulcer of the stomach had induced a firm adhesion between the pyloric end of the stomach and the duodenal mesentery. The jar of the fall had had the effect of separating this adhesion and thereby caused a rupture of the stomach at the point of the ancient ulcer and consequent adhesion. This rupture was carefully stitched and all foreign matters which had escaped from the stomach into the peritoneal cavity were washed out with gallons of sterilized hot water, after which the abdominal incision was closed. The whole procedure was conducted with the utmost possible expedition, and, during its performance, every means of stimulation were resorted to, hypodermically and otherwise, but in spite of all efforts the patient died twenty hours after the operation. In addition to the morbid condition of the stomach already described, the left kidney was found situated just below the promontory of the sacrum, and was very small and very imperfectly developed. It is reasonable to suppose that this abnormality may have had some part in the fatal issue, but, at any rate, it is a fact that complete suppression of urine existed from the time of the accident to the end of the patient's life.

DR. THOMAS H. MANLEY, of New York, stated that he recently had a case very similar to that mentioned by Dr. Maclean. He took exception to the practice so prevalent of recommending early exploratory incision in every instance, as in some cases but little will be gained by it. He mentioned the case of a young man who had been kicked by a horse, and who when seen by his family physician was in a state of profound shock, perfectly rational, but cold. Reaction was brought about in twenty-four hours, during which time not a drop of urine was passed. Thorough examination caused the speaker to diagnose peritoneal hemorrhage, although one would suppose it would have been a renal hemorrhage. On the fourth day bad symptoms set in, the most serious of which was fecal vomiting. Operation was recommended, and not being able to find any kidney, he commenced to search for the horseshoe kidney, which he found lying over the cæcum. About five feet from the duodenum two large gangrenous patches were found, one of which had just perforated. The patient sank and died. Dr. Manley asked what good a laparotomy would have done had it been performed immediately after the accident.

In response to an inquiry, DR. MACLEAN said he did not think the patient died from hemorrhage. The gall stone was removed from the jejunum.

DR. WHEATON, of St. Paul, said that about four months ago he removed a stone weighing three hun-

dred grains, and the patient died of hemorrhage on the third day.

DR. J. T. THOMAS, of Pennsylvania, said he wished to bring up the question of enteroliths and to ascertain from those present what was their usual result in these cases. A few years ago Dr. Thomas operated on a patient suffering from an obstruction resulting in fecal vomiting. Upon opening the abdomen, an enterolith was found which entirely occluded the lumen of the intestine. The patient died in about two hours, and, in the opinion of the speaker, these cases are more often fatal than is generally supposed.

DR. WINSLOW, of Baltimore, said he wished to add to the list a fatal case of a similar nature. The case was that of a lady who had presented symptoms of obstruction of the bowels for three days. There was no great pain, but vomiting and persistent constipation were present. The symptoms were those of intestinal obstruction and an operation was decided upon. On opening the abdomen, complete intestinal obstruction was revealed, which was caused by a mass which proved to be a gall stone. The patient died shortly after the operation. Another case was mentioned of a man who had been injured by the pressure of a car, but who presented no other symptoms than considerable pain in the abdomen and some vomiting. An operation was performed and a genuine hernia in a sac, which was entirely within the peritoneal cavity, was discovered. This patient also died. The interesting feature about cases of this character is the entirely different conditions that are found to exist from those suspected previous to operation.

DR. PHILIP MARVEL, of Atlantic City, mentioned the case of a lady who had suddenly fallen in a store, and who for some hours thereafter experienced hysterical convulsions at half-hourly intervals. Total suppression of urine existed, and the autopsy showed but one kidney, which was in the normal position on the right side and was not diseased.

DR. McRAE, of Atlanta, said he wished to give the particulars of a case that was of extreme rarity and of important medico-legal interest. The man had received a stab wound between the sixth and seventh ribs six months prior to the time he was first seen by Dr. McRae, at which time he was suffering from intestinal obstruction, which had been diagnosed as cramp colic and for which morphine had been administered. In consultation it was decided that the patient had a hernia of the diaphragm and an operation was agreed upon for the next morning. Upon entering the abdomen, an opening was found in the diaphragm with a band of adhesive tissue extending up to the exact point where the stab wound was. It was evident that the man would die, and the opening in the diaphragm was enlarged until the band could be inserted into the left thoracic cavity. A small portion of intestine was found in the pleural cavity and the adhesions were very dense. The lung was compressed and the condition of the bowel was one of beginning gangrene. The patient came out of the anæsthesia and died shortly afterward. One of the most interesting points about the case was that the man who did the stabbing was declared not guilty.

DR. MACLEAN closed the discussion by saying that the result of his paper and the discussions seemed to be that a surgeon should have the courage of his conviction and advocate an early exploratory incision. Although some patients get well without operation, ninety-nine in every hundred do not.

Some Mechanical Causes of Interference with the Action of the Stomach and Their Surgical Relief.—DR. W. J. MAYO, of Rochester, Minn., presented a communication with this title.

The author divided his subject into two classes: first, those which act from within the cavity of the

stomach or its immediate connections, such as a tumor, cicatrix, or a foreign body which may obstruct its inlet or outlet or prevent its normal muscular action; and second, those which act from without the stomach and interfere either by pressure or adhesion, obstructing its inlet or outlet or fixing some portion of its wall, thus preventing its functions. The history of the case, the physical examination, the distention with air, and the test meal constitute the main diagnostic resources. The diminution or absence of free hydrochloric acid, when taken into consideration with the physical examination and the history, is of some service. The treatment of forms of obstruction due to stenosis as a result of scar tissue is exceedingly trying, but some of the less resistant cases, when seen early, can be dilated by means of bougies used through the mouth. If it is impossible to pass a bougie, retrograde dilatation by means of gastrotomy is a rational procedure, and the olive-tipped whalebone bougies are of most value. Gastrotomy for the purpose of retrograde dilatation is perhaps best done by Fenger's oblique left lateral incision through the abdominal walls, which brings this opening more directly in line with the cardiac orifice. Gastrotomy for the removal of foreign bodies is an operation of great efficiency, while gastrotomy for the purpose of feeding is subject to great annoyance in the way of leakage. For temporary purposes the Witzel method is of the greatest benefit, as immediately after removing the tube the fistulous tract closes, while for permanent feeding Frank's spout method is undoubtedly the best. Obstructions at the outlet of the stomach are exceedingly common, and many cases, especially those of pyloric stenosis secondary to ulcer, are too often pronounced malignant without proper examination. For the relief of non-malignant stricture at the pylorus the Hoenke-Mikulicz pyloro-plastic operation is the one of choice and is wonderfully well adapted to the average case. The author briefly cited a case in which this operation had been done and in which the recovery was prompt and the gain in weight remarkable. For inoperable obstruction, such as advanced malignant disease, gastro-enterostomy is the operation of choice. As a result of three of these operations, in which the Murphy button was used by the author, there were two successes and one death. Of the two patients who recovered, one has gained forty pounds up to the present time, which is one and a half years after the operation. The frightful mortality of pylorotomy in malignant disease without reported permanent cures is not encouraging, and the reason for this great mortality lies in the debilitated and starved condition of the patient at the time the operation is resorted to.

Among the external causes of interference with the stomach, adhesions of the pylorus or duodenum to the gall bladder due to the inflammation excited by gall stones is not infrequent. The most common cause of external interference with the action of the stomach is adherent omentum. Irreducible omental herniæ of any variety are almost always accompanied by gastric distress which disappears after the radical cure of the hernia. The author mentioned a case of a man fifty-four years of age who had suffered for seventeen years from gastric pain and chronic indigestion, and in whom upon dilatation of the stomach an old irreducible omental hernia was found. Radical operation on the hernia with liberation of the omentum promptly relieved the symptoms.

Third Day—Thursday, May 7th.

Surgery of the Stomach.—DR. ALEX. HUGH FERGUSON, of Chicago, in discussing Dr. Mayo's paper read at the previous session, said that he approved of Dr. Mayo's methods of treating non-malignant and malig-

nant stricture of the cesophageal end of the stomach and also the palliative treatment that he recommends for malignant disease of this region, discarding curettage and adopting Frank's operation as superior to Witzel's and Fenger's, since this operation, although only palliative, will give the patient considerable trouble. He also agreed with him in advising forcible dilatation in diseases of the pyloric end of the stomach, which can be done in several ways. There are two classes of cases in which gastro-enterostomy can be done: first, those in which the patients are weakened and cannot withstand pyloroplasty, and secondly, those in which it is expected to cure palliatively. In addition to this, dilatation may also be done as a preliminary step to the complete removal of the pylorus. He believes in encouraging pylorotomy, although he fully realizes the gravity of the operation and is aware of its mortality. The medical treatment of cancer of the pylorus has a mortality of one hundred per cent., while within certain limits pylorotomy permits of a cure. In fifty per cent. of the cases in which it was performed recovery followed, and one patient, who went on for three years, is now working on a farm. In nineteen per cent. of over nine hundred cases recorded cancer did not reach the peritoneum.

DR. DONALD MACLEAN, of Detroit, said that he agreed with Dr. Mayo, but was not able to speak very positively on the subject, not having had much to do with surgery of the stomach.

Exploration of the Brain with a Needle and Syringe through Capillary Holes Drilled through the Skull.—DR. EDWARD SOUCHON, of New Orleans, read a paper with this title. The method, he said, is designed to take the place of trephining, *i.e.*, removing a ring of bone before exploring the subdural spaces and the brain. The simplicity of the procedure and its safety recommend it as an easy means within the reach of a greater number than the other comparatively more serious and complicated operation of the trepan. By its ready employment it is expected that many lesions, especially abscesses, cysts, and hard tumors, can be earlier diagnosed and located with certainty after exploring by this means the region suspected from the distant symptoms. It is only in cases of tumors of the same consistency as the brain, that is, soft but not fluid, that the explorations would be of no avail, but this would also be the case if the trepan had been used instead of the drill. Even then, in some cases, the microscopical examination of the particles expelled from the needle might give reliable information. The *modus operandi* is most simple. Spots of the scalp are disinfected; a puncture is made with a sharp bistoury down to the bone. The drill employed is an ordinary stem-watch drill, to which is added an adjustable guard to prevent unlimited penetration of the drill into the brain substance after penetration of the bone. When the inner table is reached the drill is worked more cautiously. The perforation of the skull is easily completed with the point of a No. 1 aspirator needle attached to a syringe. All must be done under thorough asepsis and according to the rules followed in exploring after ordinary trephining. Several holes can be drilled at a distance from one another at the same time. Referring to apprehensions which have been expressed as to the danger of hemorrhage, the writer cited experiments made by himself on dogs whose brains were several times explored at several places at each sitting and which never exhibited any symptoms of hemorrhage. One of the dogs was killed and no trace of hemorrhage worth mentioning was found. He reported also post-mortem examinations by Spitzka, Meinhard, and Schmidt of cases in which the subjects had succumbed from the natural course of the original disease and in whom no traces of hemorrhage were found.

DR. THOMAS H. MANLEY, of New York, said that he could not agree with many of the points mentioned in this paper. If there is an effusion of blood into the brain, there is no reason why that blood should not undergo rapid resorption the same as it would elsewhere, especially on account of the high vascularity in this region. If it is necessary to explore the skull, we should be ready at the same time to go on and operate, and the anæsthetizing of the patient should be just as complete as for any other operation.

DR. NICHOLAS SENN, of Chicago, said that the paper was a very valuable one, but he was compelled to disagree with a number of the ideas which it contained, as the operation described had never given any diagnostic information that he felt he could rely upon. A small perforation is attended with more danger than is opening the skull, just as small wounds often give more trouble than large ones. Temporary resection of the skull combined with a puncture with the needle often yields valuable diagnostic information, and when doubtful these may be followed by palpation. The sensation imparted to the finger is also of great value in determining between a solid tumor and a cyst, and increased resistance to the needle will often be of service. In the case of such pathological productions as blood, serum, cysts, or abscesses, the needle may give positive results and may also be utilized as a guide to reach the abscess. The difficulty of sterilizing and properly cleansing the apparatus is an objection to the use of the needle.

DR. ALEX. HUGH FERGUSON, of Chicago, considered Dr. Souchon's paper a valuable one, but in his own experience he had not found the use of the needle a reliable method. In cases of hemorrhage he would prefer to use some other method, as, for instance, gauze packing.

DR. SOUCHON, in closing the discussion, said the use of the needle has frequently proved of great service to him, and if the size of the needle and its thorough cleanliness be attended to, much good may result from its use.

Surgical Shock.—DR. FENTON B. TURCK, of Chicago, read a paper on the treatment of shock. He said that he had performed twenty-three experiments and obtained practically the same result in all of them. The following was the method employed in his experiments upon animals: The abdominal wall was opened for about four inches and the stomach was brought out of the opening and exposed to the air from an open window. The chloroform was pushed to narcosis and in a short time the vessels became markedly congestive, while the gastric vein and the gastro-epiploica were distended and of a bluish color. An empty bag with tube attachment was then introduced into the stomach and hot water at 125° F. was rapidly introduced, with the result that the animal began to breathe and the color of the stomach markedly changed from a dull blue appearance to a bright red color. The author gave a practical demonstration of his method before the section.

Ligation of the External Carotid Artery in Conjunction with Exsection of the Jaws.—DR. WILLIAM PERRIN NICHOLSON, of Atlanta, Ga., read a paper with this title.

The author referred at some length to patients on whom he performed the operation of ligation of the external carotid artery and to the good results which he obtained. The incision employed is from two to four inches long, according to the depth of the neck, though it is better to begin with the former and extend if necessary. The centre of the incision should be at a point parallel with the Adam's apple. After the skin and deep fascia have been passed, the work is largely done with the handle of a scalpel and the finger, and in this way the vessel can be rapidly approached

without danger. The chief obstacle to be encountered is the crossing of the vessel by the facial, lingual, and superior thyroid veins, their combined trunks making, in some cases, an enormous vessel. These can be pulled aside when the division is at the normal point, but sometimes they must be cut between forceps and tied at once. In only two cases did the author see the internal jugular vein, and this was when the common carotid was followed to the dividing-point. It must always be remembered that the external carotid is the one nearer to the median line. The point of ligation varies considerably. The material employed for ligature and sutures in every case was catgut. In five of the cases the only dressing applied was iodoform and collodion scab, and not a single case required a second dressing.

The Technique of Removing the Appendix Vermiformis.—DR. M. M. JOHNSON, of Hartford, Conn., read a paper with this title and gave a report of one hundred cases. He described the method of preparing the patient for the operation which he is in the habit of employing in these cases. He spoke at some length concerning the incision to be made and considered that the statement of Dr. Morris, "an inch and a half and a week and a half," contained a sound surgical principle to go upon. He also strongly advised as little manipulation as possible of the intestines. In chronic recurrent cases he makes an incision one and one-half inches long directly over the appendix, and when the peritoneum is reached a catgut suture is passed through it at the upper angle of the incision, so as to prevent its retraction. In finding the appendix he passes the thumb and index finger through the incision and seizes the colon, which he draws through the incision until the appendix is brought into view. When the cæcum is surrounded with a pus sac, a perforated and sloughing appendix is usually found and should be removed. It should be a fixed rule never to close up the incision without finding and removing the appendix. The treatment of the stump resolves itself into the treatment of an intestinal perforation, and the surgical rule for the treatment of this condition should not be violated in the treatment of the stump, although it is stated by Dr. Robert H. M. Dawbarn, of New York, in the May number of the *International Journal of Surgery*, that there are eleven different methods employed in its treatment. While these methods are popular, they are at variance with correct surgical principles, because they leave a point of infection in the peritoneal cavity which will sooner or later prove a serious complication. In closing the incision we are justified in assuming that the various layers of tissue are arranged in the best possible order, and the work of nature should be respected by leaving them as nearly as possible as they were found. By making gentle traction on the catgut suture passed through the peritoneum at the upper angle of the incision, the retracted peritoneum is brought into view, and with a Martin needle loaded with No. 2 catgut a stitch is easily passed through the free borders of the peritoneum and the edges are drawn together. By removing the original suture and making gentle traction on the last stitch, enough more of the peritoneum is drawn into the incision to allow another stitch, and this is continued until the peritoneal incision is closed by a continuous catgut suture. The transversalis fascia and transversalis and internal oblique aponeurosis are secured by a continuous suture separately. The skin is put hard on the stretch by a tenaculum placed in the angles of the incision and the edges are united with No. 0 catgut in a fine needle. The author has never had a case of hernia following this method of closing the incision. Catgut is used throughout the entire operation, which is sterilized by the author himself. With regard to multiple pus sacs and other complications oc-

asionally met with, there is a great diversity of opinion as to what should be done. Gilbert Barling states, in the *British Medical Journal*, page 1,254, that "if the vermiform appendix is left, little anxiety need be felt as to future attacks of appendicitis, as they rarely occur." This means that little anxiety need be felt when dead, decomposing, highly infectious animal tissue is left in the abdominal cavity. A more dangerous opinion, he thought, could not be expressed, and the author related a case in which Barling's dictum was followed and in which a second operation was necessary. Upon opening the abdomen a perforation in the cæcum was observed and many strong bands of adhesion were present. The appendix was in a gangrenous, highly infectious condition, and was removed, the patient making a good recovery. With regard to the time for operation, this should be decided from the standpoint of the best interests and safety of the patient. In the author's opinion operative measures should be an early consideration rather than the last resort. Of one hundred operations performed by Dr. Johnson, ninety-eight resulted in recovery and two in death, of which number sixty-four were males and thirty-six females.

DR. PARKER, of New Orleans, said that he was much surprised at the large number of cases of appendicitis in the North as compared with the South, as he did not believe half a dozen cases a year were seen in New Orleans. He never saw any in the negro. He could not agree with the author as to the advisability of at all times removing the appendix, and thought that in those cases in which the appendix is surrounded by an abscess all that is necessary is to open the abscess and drain the region. He was in favor of opening the bowel with an enema and saline as a preparatory procedure, but did not believe in the use of opium.

THE SECRETARY said that he fully agreed with the last speaker that the opening and draining of abscesses surrounding the appendix is in the majority of cases all that is necessary, and in the large number of cases which he had observed he had not encountered a single recurrence after this method had been employed. One should no more think of treating every case of appendicitis in the same way than he should think of treating all cases of pneumonia with the same drug, and the same remark applied to the length of the incision. He thought this a matter which should be decided entirely according to the requirements of the case. The result obtained by the author of the paper was, he thought, almost unparalleled.

DR. CARPENTER, of Kentucky, said that each case is a law unto itself and must be treated in that way. He believed many patients are lost by meddling surgery and also that excision, irrigation, and drainage are all that is necessary in the majority of cases.

DR. MCRAE, of Atlanta, said that, as regards the question of appendicitis in the negro, he had operated on two patients, one male and one female, both of whom recovered. He was firmly convinced that it would be a very dangerous practice to state that every appendix should be removed when it is contained in an abscess wall, and he agreed with the other speakers that simple drainage is usually all that is necessary. He was satisfied that the appendix could be removed at a later sitting with less danger to the patient.

DR. ALEXANDER HUGH FERGUSON, of Chicago, said that in his opinion the most favorable time to operate is between the attacks, and he considered it dangerous to operate during the height of inflammation, particularly when there is a tumor. The second most favorable time to operate is early, say within twenty-four hours, and the patient's chances are much better than if left until the fourth or fifth day. In ninety-nine

per cent. of the cases an inch and a half and a week and a half is wrong. Upon entering the abdomen, as soon as pus is found a drain should be employed, and the best way of doing this is with gauze and a glass tube.

DR. HAINES, of Omaha, said that he did not believe that it is always necessary or advisable to remove the appendix; in fact, he considered that such routine practice should be condemned.

DR. JOHNSON, in closing the discussion, said: "When the appendix is situated in the wall of the pus sac, I think it should always be removed. Although there are good authorities against this procedure, my experience is that it is the best thing to do. I have never yet had a case of peritonitis resulting. You have a highly septic matter which, in my opinion, it is dangerous to leave behind. As to the length of the incision, I do not think a seven-inch incision should be required in any case, as it not only prolongs the operation but weakens the abdominal wall, which is a serious matter if your patient be a laboring man. Experience soon enables one to perform the operation through a very small incision. The Dawbarn method, when it can be employed, is an excellent one and by it the operation can be done in five minutes after you get used to it. Fecal fistulæ will usually take care of themselves. As to the preparation of the catgut, I do this myself by placing it in ether, changing the latter until all the fat is taken out. I then boil it continuously at a temperature of 173° F., and put it away in sterilized glass jars until I wish to use it, when I resterilize it."

Illumination of the Sigmoid Cavity.—DR. J. G. CARPENTER, of Stanford, Ky., made a few remarks on his method of illuminating the sigmoid cavity which he has employed for a number of years, and drew diagrams of the instruments used. He stated that Dr. Kelly, of Baltimore, claims to have been doing a similar operation for many years, but no account of the work can be found in medical literature previous to 1894.

Fourth Day—Friday, May 8th.

Gastrostomy for Stricture of the Oesophagus.

DR. HUNTER P. COOPER, of Atlanta, related the history of a young man who one year ago took one swallow of pure nitric acid by mistake, causing corrosion of the entire mouth, lips, and oesophagus. The mouth and lips healed about three weeks after the sloughs separated. The author first saw the patient in January, 1896. Several months previous to this an increased difficulty in swallowing was appreciated, but at that time this symptom was considerably worse and the feeling existed that small particles of food were stopped before reaching the stomach, apparently low down in the oesophagus. Liquids could be swallowed slowly and with difficulty, but half an hour was occupied in drinking a glass of milk. For two or three days at a time swallowing was impossible, and then relaxation occurred. When first seen, the pulse and temperature were normal, the tongue was clean, the appetite good, and the pulse regular. Examination of the stomach revealed three strictures, seven and one-half and eight inches from the edge of the incisor teeth. No more were discovered until the instrument had passed thirteen and one-half inches down the oesophagus, when an obstruction was met which would not allow any instrument to pass. The largest instrument that would pass the stricture seven inches from the teeth was of the size of a No. 22 French urethral bougie, and nothing would pass lower than thirteen and one-half inches. Gastrostomy was decided upon, and the Sbanijew-Frank method was selected, which the author briefly described as follows:

An incision is made about a finger's breadth below the costal cartilages on the left side over the stomach. The first incision, three and one-half inches in length, goes down to the muscles, and the muscles are then divided in the direction of their fibres by blunt dissection. The peritoneum is opened in a line parallel with the edge of the costal cartilages. The stomach, having been withdrawn from the wound, is drawn strongly outward by a ligature passed through its walls, and traction is then made on this ligature by an assistant until a cone of the stomach three or four inches long is drawn out of the abdominal incision. While the assistant holds this cone in position by means of the ligature, the base of the cone is sutured to the parietal peritoneum all the way around. The next step consists in making an incision through the skin, superficial fascia, and areolar tissue down to the deep fascia. This incision is placed one inch above the margin of the costal cartilages, and its direction is parallel to that of the primary incision. By blunt dissection communication is made underneath the skin and superficial tissues between this incision and the primary incision, and through this communication the apex of the cone formed by the stomach is drawn. The wall of the stomach is then sutured to the skin and the stomach is opened. The primary wound is closed, the muscles being sutured seriatim and the skin incision sutured last. The advantage of this plan is that it brings the stomach through the abdominal wall in an oblique direction, and a part of the stomach is included between the edge of the costal cartilage and the skin, forming as it were a valve. This device prevents leakage of the contents of the stomach during digestion, and is a great advantage over the old method of making a direct communication between the stomach and the abdominal incision.

The subsequent history of the case is uneventful, the patient gaining in flesh and strength and being perfectly nourished by means of feeding through the artificial opening. Since the operation a small bougie has been passed eighteen inches from the edge of the teeth, No. 15 on the French urethral scale was passed twenty inches, and No. 22 of this scale has been passed through the strictures at seven and seven and one-half and eight inches from the edge of the teeth. On account of the large amount of cicatricial tissue present, it is doubtful whether it will be possible to thoroughly divide it so that recontraction will not take place. The valve does its work very well and there is practically no leakage. A little gastric juice exudes from the opening, but none of the stomach contents.

DR. ROSENTHAL, of Philadelphia, said he had seen this operation performed by Dr. Thomas S. K. Morton, and the only point about it upon which Dr. Morton laid great stress was the advisability of getting the patient up as quickly as possible.

DR. THOMAS, of Pennsylvania, said that, in employing the Abbe ligature in this operation, there might be the danger that the stricture will recontract and necessitate a repetition of the operation.

DR. COOPER said that he agreed with Dr. Morton as to the necessity of getting the patients up as early as possible.

DR. FERDINAND C. VALENTINE said that he had had considerable experience in dealing with strictures of the urethra, but not of the oesophagus. He thought that somewhat the same methods would apply in each case, and he believed that the method suggested by the author is a good one.

DR. W. J. MAYO, of Rochester, Minn., said he was of the opinion that Fenger's operation is the best for this particular class of cases, although it causes great annoyance from leakage. He thought Dr.

Cooper's operation very complete and in cases of lingual stenosis the one of choice.

DR. COOPER, in closing the discussion, said that one good point about the wound is that if you divide the strictures and they recontract, you will simply have to open at a certain point and turn in the edges.

The Abortion of Gonorrhœa and Treatment of Other Urethral and Vesical Diseases by Hydrostatic Irrigations.—DR. FERDINAND C. VALENTINE, of New York, read a paper with this title. He said that he desired to submit some modifications of his usual method of performing hydrostatic irrigations, and mentioned: 1, the substitution of a cast-iron ring to hold the irrigator; 2, a rubber tube with a lumen one-fourth inch in diameter, made especially for this apparatus, which enables the operator easily to overcome any sphincter vesicæ; 3, a stopcock nearly thrice as large as its predecessor, which prevents cramping of the hand when frequent irrigations are required; and 4, the enlargement of the shield's neck, which facilitates its being slipped over the nozzle when attached to the hose and also attaches it firmly to the stop-cock.

The apparatus of the author of which the above are modifications was fully explained in a paper entitled "The Technique of Urethral and Intravesical Irrigations," which was published in the *Clinical Recorder* for February, 1896.

In Dr. Valentine's opinion, the difficulty of obtaining statistics of gonorrhœa is very great and its serious nature is far too lightly viewed by the laity. In those cases which he has observed from the beginning of the muco-serous discharge and in which gonococci were present, every one of the patients has entirely recovered within thirty-six hours, and in those in which the discharge had grown distinctly purulent, when not complicated, all the patients have recovered within ten days. Chronic cases which have lasted for months and years recover in varying lengths of time, and in one case (that of a physician who had persistently treated himself for twelve years) the copious, yellowish-green blood streaks discharged grew watery in two days, the gonococci disappeared in five days, and the discharge was entirely gone in eight days.

The following is the method of treatment employed: "After the discharge ceases, the patient is not treated for a week or ten days, when, no discharge reappearing, he is ordered to drink at least twice the quantity of beer to which he has been accustomed. No discharge resulting, after another lapse of ten days he is given a strong irritating injection of nitrate of silver. If the resultant discharge, which lasts from eight to thirty-six hours, contains no gonococci, all restrictions are removed, except that the patient is requested to bring the next seminal emission resulting, coitus-condonatus, in the same condom. If this contains no gonococci and anterior and posterior urethroscopy show a healthy urethra, the patient is discharged.

According to statistics compiled by Berthold Goldberg, of Cologne, of patients treated by systematic intravesical irrigations, sixty per cent. recovered in less than ten days, thirty per cent. in from two to three weeks, and ten per cent. mischanced. One-half of this ten per cent. was attributable to avoidable causes—disobedience of patients, repeated excesses, etc.—while the remaining five per cent. distinctly resisted treatment. Goldberg's experience and that of others lead him to conclude that carefully systematized irrigations with potassium permanganate (1) are indicated when gonococci are present; (2) are contraindicated in acute inflammatory conditions; (3) permanently removed the gonococci in ninety-five per cent. of far more than half the cases within one to two weeks, in any stage of the disease; (4) are reliable as a means of aborting gonorrhœa; (5) the successes are due to coincident mechanical and chemical effects.

Dr. Valentine agreed with Goldberg in all but one of his conclusions, viz., the second one, for he thought that the pain of an acute local inflammatory condition could easily and quickly be overcome by an injection of cocaine.

Although the author follows Oberlaender's methods of treating gonorrhœa, he never fails to add irrigations, as this combination invariably yields the most satisfactory results. If this method is correctly followed (1) the disease is cut short; (2) pain is stopped; (3) no complications ensue; (4) no hand injections are used, with their unreliability; (5) no drugs are given by the stomach; and (6) the patient cannot peddle prescriptions.

In referring to a number of advantages which the author claims for his method, he mentioned as the most important the fact that a larger proportion of complete cures have resulted from it than from any other method with which he is acquainted.

Dr. Valentine concluded his paper by referring to the relation various diseases bore to the use of his apparatus, and stated his experiences as follows:

Catheter fever. He has never seen a case after use of the apparatus.

Cowperitis, folliculitis, and seminal vesiculitis do not contraindicate irrigations.

Cystitis and posterior urethritis. Irrigations are exceedingly well borne and yield excellent results.

Epididymitis and orchitis. If the case is one-sided, strap the testicle and irrigate at once. If both testicles are involved use Wossido's method, which consists in applying the galvanic current, two to eight milliamperes, for from three to fifteen minutes daily, after which apply suspensory bandage and irrigate at once.

Neurasthenia. Irrigations render surprising results.

Prostatitis does not contraindicate careful irrigations of the anterior urethra.

Retention. Irrigations should be used.

Secondary syphilis. Patients have not been found to bear the irrigations badly.

Strictures. The Oberlaender method combined with irrigations yields brilliant results.

Tuberculosis. Tuberculous patients when not very low or in fever can be treated as other patients.

Skin Surgery.—DR. E. W. EPLEY, of New Richmond, Wis., reported a case in which he transferred fifty-two square inches of skin in six large pieces from five different persons and three hundred smaller grafts from four other persons to repair an injury to a man's foot, all of which transfers were successful. After a brief description of the method employed, he laid special stress upon the necessity of using antiseptics freely, cocaine fearlessly, and making the donor's wound boat-shaped.

A New and Original Method of Obtaining Material for Skin Grafting.—DR. Z. J. LUSK, of Warsaw, N. Y., reported a number of cases of skin grafting, and stated that he employed two methods in the work. The first method is that of raising epidermis by cantharides, and the second is the employment, after proper softening and sterilization, of exfoliated epithelium. In all cases in which these methods have been employed excellent results were obtained.

DR. J. MCFADDEN GASTON, of Atlanta, said he would like to mention two methods with which he is familiar and which he considers superior to those mentioned. The first is the employment of traction with adhesive strips to bring the edges of the torn skin together and thus cover up the injury, and the other is the use of the inner membrane of the egg for granulating purposes. He did not think the use of corrosive sublimate, which was mentioned in Dr. Epley's paper and also in Dr. Lusk's, should be advised.

DR. EPLEY, in closing the discussion, said that he had found the use of corrosive sublimate very advantageous. One great advantage of his method of skin grafting was the preservation of the elasticity of the skin.

The Therapeutic Value of Oxygen in Combination with Ether, Chloroform, and A. C. E. Mixture.—DR. J. N. DEHART, of Brooklyn, N. Y., dwelt at some length on the details employed in his methods, described cases in which they have been used with excellent results, and stated that he considers the administration of anæsthetics in the way he suggests perfectly safe.

Treatment of Cancer of the Rectum.—DR. LEWIS H. ADLER, JR., of Philadelphia, read a paper on this subject. He said that the four recognized operations for this affection are extirpation, colotomy, posterior linear proctotomy, and curettage. The ideal method is extirpation, but unfortunately it is not often that the rectal neoplasm is discovered in time to permit of the entire removal of the growth and of all glandular involvement. Colotomy is quite practicable in a large number of instances and the benefits derived from its performance were minutely described by Dr. Charles B. Kelsey, in the *New York Medical Journal* for November, 1892.

The author described at some length a case in which he performed the operation of inguinal colotomy and secured excellent results, although at the present time (three years since the operation) the patient has suffered considerable distress from pain over the sacrum and has not been able to work.

Dr. Adler has never attempted to relieve malignant trouble affecting the rectum by means of a linear proctotomy, but has found it an excellent plan of treatment when combined with the subsequent use of bougies in benign stricture. He called particular attention to the value of curettage in those cases of cancer in which the disease is within the lower three inches of the rectum, and its character of such a nature as to permit of its more or less complete removal by the curette. In certain cases the combined operations of colotomy and curettage afford the patient more relief than where one or the other procedure is individually adopted. At the present time all that can be offered patients under any plan of treatment in the majority of cases is temporary relief. Of seven cases of curettage of the rectum for the relief of malignant trouble, performed during the past few years, only one was deemed unsatisfactory. In this case after the curettage the patient was unable to leave her bed, her appetite failed, emaciation followed, and death from exhaustion ensued in a little over two months. Even in this case, which for several reasons was a most unfavorable one for operation, the patient was much relieved of pain, and the two months she lived were certainly passed with more comfort than would have been the case had no operative interference been attempted.

Dr. Adler described a case in which he performed the operation of curettage and secured such excellent results that four months after the operation the patient was in such good health that he married. His gain in flesh was very marked. A short time after his marriage the growth in the rectum was noticed returning and the discharge reappeared. Other symptoms developing, he was subjected six months afterward to a similar operation. A month later marked tympanites suddenly appeared and the patient was unable to pass either wind or feces. Various laxatives were employed and several enemas administered before the bowels were made to move, which was not until the third day. Finally the patient became confined to his bed through sheer weakness, and death occurred from exhaustion about nineteen months from the time Dr. Adler first saw him. The autopsy revealed cancerous involvement of the liver and intestines.

In conclusion, the author summarized the indications for the operative treatment of rectal cases as follows:

Extirpation, to be considered only in those cases in which the disease admits of the hope of obtaining a permanent cure.

Colotomy, when the rectum is involved above the lower three inches of the bowel and the disease has produced an appreciable obstruction.

Curettage, or a posterior linear proctotomy, or the two combined, for those cases in which the disease occupies the lower three inches of the rectum.

Surgical Sterilization and Sterilizers in Private Practice.—DR. EDWARD BOECKMANN, of St. Paul, Minn., referred to an address which he read before the Association of Military Surgeons of the United States, on "Asepsis in Military Service." He strongly recommended the 120° F. warm and one to two per cent. strong solution of lysol for combined mechanical and chemical disinfection of the operator's hands and the patient's skin. Provided with lysol, absolute alcohol, and ethereal solution of sterilized lanolin, we are enabled to disinfect the skin, the most dreaded bearer of infection, as safely as is possible at this time and with as few and as simple agents as can be demanded in operations in private practice.

All sterilizers for streaming steam must necessarily be constructed for oversteam. Dr. Boeckmann does not favor combination sterilizers, because boiling and steaming are different processes requiring an unequal time.

He uses a combination portable sterilizer, consisting of four parts: the boiling-pan, the hood, the instrument tray, and the steam chamber. The boiling-pan is filled with a sufficient quantity of water, care being taken to fill the groove at the same time; the hood is adjusted, and the whole placed over a good fire. While the water is heating the instruments are arranged on the tray, and the dressings, etc., in the steam chamber; needles, drainage tubes, ligating and suturing materials are put (separately) in a small metal box (sterile catgut is brought along in hermetically sealed envelopes). When the water boils the hood is removed and the steam chamber put in, whereupon the hood is replaced with a cork in the upper tube. The steam will now ascend between the hood and the steam chamber to the top. The cork at the top and the water in the groove and the pan acting as locks, the steam is forced to work its way through the opening in the cover into the steam chamber, through the articles contained, and out through the tube in the boiling-pan. In the course of five minutes the instruments are surgically sterile.

Dr. Boeckmann urged all surgeons to consider every wound at the end of an operation of some duration as slightly infected, and therefore to combine their asepsis with a judicial antiseptis. Thus, he is in the habit of repeatedly dipping his hands in a weak, sterile solution of lysol (one to two per cent., or even less). This small amount of antiseptic he has yet failed to find objectionable, and he uses lysol because it is at hand and because it is alkaline. When the operation is completed he applies next to the wound an antiseptic dressing, not exactly the customary iodoform gauze, because its preparation requires unusual facilities; but anhydrous lanolin, first sterilized, mixed while cooling with two-per-cent. lysol, and run into sterilized tubes, this being first expressed over the wound, whereafter the ordinary dressing is applied.

Laminectomy.—DR. JOHN A. WYETH, of New York, reported a number of cases of this operation. After a detailed description of each of the cases of injury to the spinal cord which have come under the personal observation of the author in recent years, he briefly summarized them as follows:

In Case II. there was compression of the cord with paraplegia due to the presence of a tuberculous neoplasm. This paraplegia had existed a little over six months. After the removal of the tumor the functions of the cord were restored. While the conductive power of motion and sensation was suspended for six months, the ascending and descending degeneration of the cord evidently took place in so slight a degree that the conductivity of the cord was restored after the removal of the source of compression.

In Cases III. and IV. there were no external evidences of fracture, and while extradural hemorrhage occurred in both cases from rupture of the *venæ basis vertebræ* there was no direct compression from displaced bone. In all the other cases either a projection or depression of bone pointed directly to the seat of injury. In both of these cases the cord was very much reduced in size at the point at which the dura was incised, was pale, and more anæmic than the others. The paraplegia and the ultimately fatal results in both cases were due either to traumatic pachymeningitis or to general concussion and myelitis resulting in degeneration of the cord. Both of these patients were injured by falling directly upon the back. Of the eleven cases of fracture of the *vertebræ* only two were due to direct violence, one of which was a gunshot injury and the other the result of impact of a heavy stone. Two cases were in all probability caused by *contre coup*. The remaining cases were due either to falls from a height, diving, or blows upon the back of the head.

As to the results of the treatment: Three were not operated upon. Of these one was greatly improved by extension and counter-extension, as the fracture occurred in the dorso-lumbar region where this plan of treatment can be satisfactorily carried out. The same treatment was undertaken in the other two cases, but with no improvement in their condition. Both patients are living, but their condition is decidedly hopeless.

Of the eight patients operated upon, one was entirely cured (after the removal of a tuberculous tumor); another (a young man who was thrown in front of a locomotive) was greatly benefited by the operation, as he is still living and able to get about with a cane and crutch. In the latter case the operation was performed eight months after the receipt of the injury. The other cases were not benefited in any way by the operation. Of the eight patients operated upon one died six days after operation, and his death may have been hastened somewhat by the interference, but, on the other hand, destruction of the spinal cord at the level of the fifth cervical vertebra could not have continued without interference with the roots of the phrenic nerve. In none of the other cases could a fatal result be charged in any way to the operation. The operation of laminectomy involves so slight a risk to life that the surgeon should be encouraged to resort to this method of exploration in all cases in which the symptoms point to compression of the cord. Great depression of the pulse, respiration, or temperature may be taken as a contraindication to the operation. In one of the above cases, however, the temperature was as low as 91° F., and did not go above 96° F. in twenty-four hours. The method of operating which Dr. Wyeth employed is as follows:

With the patient in the prone position, reclining somewhat upon one side in order to interfere as little as possible with the movements of respiration, an incision is made with its centre corresponding to the seat of the lesion, seven or eight inches in length, directly over the spinal processes. Strong hooks are used as retractors, which also assist in controlling the hemorrhage. The attachments of the muscles should be cut or scraped from the bones in order to avoid wounding any vessels. In this way the *laminæ* are finally exposed, and

with a small rongeur divided and removed one after another, until the dura is sufficiently exposed. Oozing of blood may be controlled by pressure with sterile gauze. After the wound is entirely dry the dura is opened by a sharp-pointed knife in the middle line. Through the primary puncture a grooved director should be introduced and the dura divided exactly in the middle line as far as necessary. When the fluid escapes the edges of the dura can be held apart by mouse-toothed forceps and the cord inspected. A light probe should be passed up and down from the point of opening to determine if any compression of the cord exists at those points. The dura should then be closed by fine interrupted catgut sutures about three-sixteenths of an inch apart, and the muscles of the two sides stitched together with strong catgut sutures. Silkworm-gut sutures are used for the skin. It is always wise to leave a twist of catgut projecting from the level of the dura at the inferior angle of the wound, as some oozing is apt to occur which may exercise compression on the cord. Most careful asepsis should be practised. The patient should remain upon the back for the first week or ten days after the operation. The wound should be dressed so that the patient suffer no material inconvenience from the removal of the *laminæ* of two or three *vertebræ*.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

J. TABER JOHNSON, M.D., OF WASHINGTON, D.C.,
CHAIRMAN.

Second Day—Wednesday, May 6th.

Gauze Drainage in Pelvic and Abdominal Surgery.—DR. MILO B. WARD, of Topeka, Kan., urged the importance of drainage in a large number of cases following operation. He said it was idle to contend that drainage is necessary only when the operation is imperfectly done. The only consideration is what is the best kind of drainage. While no one kind can meet all cases, yet his own experience led him to urge the claims of gauze drainage in the large majority of cases, as it meets two indications, viz., the control of hemorrhage and drainage at the same time. Of course drainage is not necessary in every case, but where there is any septic condition he thought drainage should always be used. The objections to the use of gauze were the facts that a large opening is necessary in order to remove the gauze and the pain caused by the removal. In his experience he had never seen any ill effects from the use of iodoform gauze, though others had reported cases of poisoning. He had nothing new to offer in regard to technique except to say that the gauze should be used freely. In answer to the question as to what kind of cases required drainage, he would say that it should be used in almost all seriously complicated cases or when the intestine is involved, and in all cases in which an opening is made in the vagina. In conclusion, he thought many patients would recover by means of drainage who otherwise would not survive.

DR. KELLY, of Baltimore, in opening the discussion, said that now he very rarely drains, and that his work has improved very much since he has ceased using drainage in the majority of cases. In the first four hundred out of fifteen hundred abdominal sections he used drainage in seventy-three per cent. of the cases, in his last one hundred in only eight per cent., and the mortality decreased in proportion. When drainage is necessary he thinks the gauze drain the only one to use. He condemns the glass drainage tube, because it does not drain properly and because it introduces sepsis. He no longer uses drainage in cases of tuber-

culous peritonitis, for he has found that the patients all get well; but those cases in which drainage is used required an average of fifty-nine days for convalescence, while those in which no drainage is employed recover on the average in thirty days.

He thought drainage should rarely be employed for hemorrhage, and then only when it is excessive. He limits drainage to the septic cases or those in which the intestine has been wounded. He advocates gauze drainage because it covers a large area—any quantity can be used, and because it can be used in curved and angular spaces, and because a constant capillary action is kept up. The disadvantages are that the drainage is apt to stop after a while unless watched, and the pain of removal. It is his plan to remove the gauze very soon if it has been used for hemorrhage; if for sepsis, to leave it in for five or six days.

DR. NOBLE, of Philadelphia, said that in the beginning he drained a larger percentage of cases than Dr. Kelly, but the longer he operates the less he drains. In his early cases he thought the recoveries were due to the tube, but he has since seen his mistake. According to his experience gauze ceases to drain after a few hours. The serum collects in the gauze and is retained. He, therefore, is in the habit of inserting a glass tube in the middle of the gauze. In his opinion the chief function of the gauze is to pack off the infected area. He has never found it necessary to use drainage for hemorrhage, and thinks that with the patient in Trendelenburg's position it can always be controlled. In a case in which it is necessary to employ drainage for this purpose he would prefer a glass tube for twenty-four hours.

DR. H. O. MARCY, of Boston, said that for many years he stood alone on this question of drainage, and he was glad to see others coming to his views. He has laid down two rules for his own guidance. If the case is aseptic, no drainage; if septic, drainage. The reason, he thought, gauze sometimes ceases to drain is because the operator tries to drain up hill. The proper place to drain is not through the abdominal wound, but through the vagina, and a large opening should be employed.

DR. NEWMAN, of Chicago, said he has lately employed iodoform wicking instead of gauze and has found it more satisfactory. The capillary action is better and it is easier to introduce and remove.

Degenerative Changes that Occur in Uterine Fibro-myomatous Growths.—DR. AUGUSTUS P. CLARK, of Cambridge, Mass., began his paper with the statement that the belief that fibroid tumors are always benign, and that if a patient suffering from these growths once passed the menopause she would have no further trouble, is erroneous.

The same is true of the statement that degeneration of a fibroid is favorable. Later investigations have shown that these growths frequently become harder, and may press upon the ureters and cause renal complications. In addition to the dangers from hemorrhage and pressure, suppurative changes may take place, endangering the life of the patient from septic poisoning. He has seen several cases of this character. He doubts if a fibroid tumor ever wholly disappeared spontaneously. It may remain stationary for a long time, but there is constant danger of degeneration and the development of malignancy. These changes are not rare, and they may occur at any time, even after the menopause. This change is usually insidious in onset, and the early signs and constitutional symptoms of primary cancer attacking the cervix are not present. The patient may appear in perfect health until the growth has become very extensive and involves the lower portion of the uterus. Fatty degeneration is another degenerative change which may take place in fibroid tumors. It may occur under the

influence of pregnancy. It is more likely to take place when the growth is myomatous. The liquefied portions may become absorbed and cavities formed, which give it the appearance of a fibro-cystic tumor, but it is not, as the cavities are not lined with epithelium.

The other degenerative changes liable to occur in fibroid tumors are inflammation leading to obliteration of the vessels and consequent sloughing and gangrene, colloid degeneration, melanotic growths, calcification, contraction, and atrophy.

In consequence of these various changes, many of them fraught with so much danger, he advises the removal of all fibroid tumors as soon as they are discovered.

Drainage versus Radical Operation in Cases of Large Pelvic Abscesses.—DR. CHARLES P. NOBLE, of Philadelphia, said that the object of his paper was to call attention to drainage in large pelvic abscess and to contrast the results with those of abdominal section. He wished to state at the outset that the method is applicable only to a specific class of cases, viz., those in which there is a large collection of pus in the pelvis and the patient has become very weak and ill from a long-continued septic process.

Previous to July, 1895, he always performed abdominal section in these cases, and while he had obtained some excellent results, yet the mortality was somewhat high, being at least twenty-five per cent. This would be fairly satisfactory in this class of cases if there were nothing better, but simple drainage has revolutionized things.

Since July, 1895, he had operated in eight cases of this nature without a single death. Seven of these patients were very septic, and he thought at least six of them would not have survived the shock of an abdominal section. A detailed report of the cases followed.

Dr. Noble then added that his experience was too limited to predict the number of cures by this operation, and that probably some of his cases would require a second operation. What he claimed was that in desperate cases it was a life-saving operation; that it permitted the patient to recover strength and get into a condition which would permit a radical operation if necessary. He also thought that in a certain percentage of cases the operation would bring about a permanent cure without further interference.

Some Suggestions on the Prophylaxis and Management of Puerperal Eclampsia.—DR. H. D. THOMASON, of Albion, Mich., stated that the pathology and etiology of puerperal eclampsia are still undetermined and unsettled and that it is necessary, therefore to fall back upon our clinical experience. The various causes which have been given are: 1, albuminuria; 2, renal insufficiency; 3, cerebral irritation; 4, obstruction to the portal circulation due to cirrhosis; 5, peripheral nerve irritation; 6, pressure on the renal vessels; 7, pressure on the ureters. Probably no one cause can be assigned for every case.

He has been accustomed, therefore, to make for clinical purposes three groups:

1. Toxæmia from some cause.
2. Peripheral nerve irritation.
3. Hysteria.

Whatever may be the cause of eclampsia, the important thing to bear in mind is to keep a close watch on the patient. Rarely are convulsions unheralded. In the vast majority of cases there were prodromal symptoms. Frequent urinary analyses, both qualitative and quantitative, should be made, and if albumin is found or the amount of the solids greatly diminished, suspicion should be aroused. Any abnormal symptoms, such as headache, disturbances of vision, or oedema, should put us on our guard. When

such symptoms appear the patient must be put on a milk diet with large quantities of sterilized water; hot baths should be employed, and the bowels kept active by catharsis and saline enemas. If there seems to be pressure on the ureters, the method of catheterization advocated by Dr. Kelly may be used. In the majority of cases this treatment will remove the unpleasant symptoms, but if there is no improvement then the induction of premature labor must be considered. The continuance of these symptoms threatens the life of the child by toxæmia, and, therefore, if the child is viable, labor should be brought on both for its sake and for that of the mother. If a convulsion does occur and the child is viable, labor should be at once induced. If the child is not viable, then there may be delay unless the mother's life becomes endangered. In post-partum eclampsia the treatment varies with the subject. If the patient is plethoric and vigorous, venesection is the best remedy; if anæmic and weak, veratrum accompanied by the transfusion of the salt solution is indicated.

Third Day—Thursday, May 7th.

Vaginal versus Abdominal Section for Small Tumors and Pus in the Pelvis.—DR. R. S. SUTTON, of Pittsburg, who opened the appointed discussion on this subject, said that the whole question hinges upon the disposition of the uterus in cases of bilateral purulent infection of the appendages. If the uterus is to be removed, the vaginal route should be selected, and if the uterus has become a pathological organ it should be removed in all cases. He accepts the statement of Jacobs, that seventy-five per cent. of all cases of pus in the tubes were due to gonorrhœa; he thought tuberculosis accounted for ten per cent., and cancer and other causes for fifteen per cent. Gonorrhœa first affects the vagina, then extends along the uterine canal and into the tubes. The tubercle bacillus will produce pus if lodged in the tubes. We may also have a pelvic cellulitis and abscess in the broad ligaments due to infection, starting in abrasions and travelling along the lymphatic system. If, therefore, the uterus is thus infected, we should remove it. When both ovaries are taken out the uterus has no further function, and it is liable to cause further trouble from hemorrhage, discharges, chronic poisoning, and its susceptibility to malignant disease. The question has been asked, Does it add to the danger of the operation? Judging from his own experience and that of his colleague, his opinion was that it does not. Therefore the vaginal route is to be chosen, because it gives absolute and perfect drainage, shortens the convalescence from a period of from twenty-one to twenty-eight days to seven or eight days, and settles the question of future trouble both as to infection and uterine disease. In the case of small fibroids Dührssen's operation of anterior colpotomy should be employed and only the tumor removed, saving the uterus and appendages. When the tumor is too large for this method then morcellation may be employed. This operation is better than abdominal section, for it leaves no external marks and the convalescence is shortened.

DR. W. E. B. DAVIS, of Birmingham, Ala., thought the choice of operation depends largely upon the individual; that the man who has done a great deal of successful work by the abdominal incision will be loathe to change, and *vice versa*.

DR. SUTTON rightly emphasized the fact that the choice of method depends largely upon the decision as to removal of the uterus. But he himself did not agree with the conclusions of the last speaker. In his opinion the uterus should be left in the great majority of cases. He believed that it did have some function, and he knew that women feel better if it is

not removed. He also doubted the statement that such a large percentage of cases of pus in the tubes was due to gonorrhœa; the puerperal state is responsible for a great many. Many writers have stated that their patients were cured when the uterus was left behind, and it is a reflection on them to say that no case was really cured unless the uterus was also removed. A slow convalescence, or even a second operation, is preferable to removal of the uterus unless absolutely diseased. It is doubtful if the uterus is so much affected by gonorrhœal pus as has been stated. The conservation of organs is in his opinion of great importance.

The objections urged to the abdominal operation, viz., hernia and the scar, are not well founded. If the operation is properly done, there will be no hernia and very little scar. The advantages are that one can see what he is doing, and in the Trendelenburg position every facility is offered for doing what is necessary.

DR. KELLY, of Baltimore, stated that in every case in which both tubes were diseased the uterus should be removed. The abdominal operation is the best. The operation is much more rapid than the vaginal and the chances of shock no greater. It also gives an opportunity for conservatism by allowing inspection. It is never advisable to remove the uterus for a fibroid as large as a lemon or even as large as a foetal head. He has removed large fibroids by making five or six incisions into the uterus. An abdominal drain is never needed. Abscess of the abdominal wall rarely occurs, and hernia never, if the wound has been properly closed. The mortality from the abdominal operation is no greater than from the vaginal. He considers the vaginal operation a bad one on account of the liability of frightful hemorrhage, the danger of injuring the bowel, prolapse of the bowel, and because it does not provide for the dense adhesions which sometimes occur. Neither does it provide for appendicular trouble, which complicates these cases in a considerable percentage.

DR. BOVEE, of Washington, said that he had been doing work by both methods, but he did not think it advisable in the majority of cases to remove the uterus with the appendages. Perhaps his experience is unique, but all of his patients who recovered from the operation got well with the uterus left behind. In many cases he curetted the uterus thoroughly before operating. He thought the abdominal method simpler than the vaginal. He believed that the tubercle bacilli came from the abdominal cavity, and infected the uterus later through the tubes. At the present time he employed drainage rarely. Fair-sized fibroids could be easily removed by anterior colpotomy, but if they were large he thought the abdominal route the better. In all cases where it was possible, he left a portion of one ovary.

DR. L. S. MCMURTRY said that the real point of discussion is whether the vaginal or abdominal route is to be preferred, and everything else was subsidiary. He wished to announce that the first object to be attained in pelvic surgery is the greatest preservation consistent with thorough surgical work. It is a crude idea that the easiest way is to get rid of an organ. It is a much higher idea to attempt to preserve it. The vaginal route and vaginal drainage are not new ideas. What must guide us are the results of a very large amount of work by both methods. He did not think that the statistics of expert operators should be taken as a guide. The French surgeons have become phenomenally skilful in the vaginal method, but they have never done very good work by the abdominal. Hysterectomy at present is being overdone, and the impression is abroad that the vaginal route must be chosen. In his opinion the uterus

should not be removed unless diseased. On the other hand, where five or six incisions are necessary to remove a tumor, he would not leave the uterus. That is the other extreme. Everything points to the advantages of the abdominal route, for the aid of positive sight is given. Moreover, the results of the abdominal operations covering a long period of time are before the profession and can hardly be improved upon.

DR. JOSEPH EASTMAN, of Indianapolis, thought the question of accurate diagnosis in these cases had been overlooked. It was very important; we must deal with facts and not fancies.

He was surprised that Dr. Kelly advocated the partial removal of the uterus in these cases, whether done from above or below. If it is diseased, the whole of it should be removed and nothing left to carry infection. The decision as to the method to be employed must depend on the history of each individual case. He agreed with Dr. Kelly that a diseased appendix is frequently associated with these cases of diseased tubes, probably in ten per cent. and possibly in twenty-five per cent. He was also fully in accord with Dr. McMurtry that everything possible should be left.

The vaginal route has some things to recommend it in individual cases, in which the uterus is diseased as well as the tubes. But he wished to utter an emphatic protest against patients going home as soon as the eighth day. He thought there is an analogy between the opening of the pelvis by either route, and much the same precautions should be used. There is no excuse for such extensive packing with gauze in the vaginal method as had been recommended. In many cases the wound could be closed as perfectly as in abdominal section, and that was the plan he had adopted with great success.

DR. E. E. MONTGOMERY, of Philadelphia, wished to say that the aim and object of all surgical procedures should be conservative; that nothing which has a function should be sacrificed. He claimed that the abdominal operation is a conservative one, since an opportunity is given to examine both sides. When both tubes are diseased he is in favor of removing the uterus. It has no functional value and may become the seat of disease. The infection involves the uterine mucosa and walls, and gives rise to hysteroneurosis. If the tubes are removed the condition of the patient will not be the same as if the ovaries were present and healthy, but by removing the uterus we take away the chances for many new symptoms. The change which the uterus undergoes after removal of both ovaries may cause compression of the nerve filaments in the uterus and consequent neurosis. Hemorrhages and purulent discharges are also frequent. In his opinion the time of both operations is about the same. The necessity for separating adhesions in the vaginal operation is not so great, on account of the perfect drainage. He thought that the danger of injuring the intestines and ureters is just about as great and occurs as frequently in the abdominal method, but there is more opportunity to repair the damage.

DR. I. S. STONE was surprised that attention had not been called to the selection of cases. Where the patient is very ill, suffering from sepsis, and cannot endure the shock of an abdominal operation, a simple incision through the vagina, as advocated by Dr. Noble, was the only thing to do. He thought there is less shock in the vaginal operation. He thought the time would never come when the abdominal operation for fibroids would be given up.

DR. HALL, of Cincinnati, thought that only a very small proportion of cases of double pyosalpinx requires the vaginal operation and the removal of the uterus. In his experience the hemorrhages, discharges,

etc., were readily cured. In fact, he has seen many patients get well without any treatment.

DR. CORDIER, of Kansas City, Mo., was surprised that no reference had been made to the difficulties of the vaginal operation. He had found that it is not so easy to do a vaginal operation as an abdominal. The difficulties are many. In a recent case an omental vessel was adherent, and it having been torn in the midst of the operation the bleeding could be controlled only by an abdominal section, though the patient had already been some time on the table. Drainage is not necessary by the abdominal method, we are told, but very necessary by the vaginal. Why is this? By the vaginal method it is impossible to discover adhesions. If the intestine is injured it is either not discovered, or if discovered cannot be repaired without an abdominal section. It is possible for a hernia to occur if the mesentery is long, and if patients should be examined in the upright position after a vaginal operation, doubtless many cases of hernia into the vagina would be discovered.

Intestinal Obstruction Following Laparotomy.—

DR. H. O. MARCY, of Boston, Mass., stated that he was led to present this very important subject to the section because seven cases occurred recently in his own practice, five of which were fatal, and he hoped to derive some information on the subject. On account of the short time at his disposal he was obliged to omit the description of his cases and also the consideration of the anatomy of the subject, which he had written out fully. In his opinion the obstruction always occurs in the small intestine near the seat of the operation, and most frequently quite near the junction of the small and large intestine. This is important to bear in mind in connection with the treatment. The important thing is the diagnosis, for the prognosis depends largely upon the early diagnosis. But this is extremely difficult, for there are no clear-cut, positive symptoms. There is a wide difference in the symptoms from those which indicate the usual acute intestinal obstruction. In none of his cases was the integrity of the intestine involved, and he was inclined to think that the operation had so lowered the vital forces that paralysis of the bowel took place, peristalsis ceased, and septic poisoning occurred through accumulation of the secretions of the bowel. The prominent symptoms in these cases are persistent vomiting, which is of much more significance when it comes on several hours after the operation and is not due to the anæsthetic; pain which might be local or general, and frequently was not severe. The temperature is not usually marked, but the pulse is rapid and there is a peculiar, anxious expression of countenance which is quite characteristic. In the treatment we are prohibited from using remedies by the mouth, since there is an accumulation of everything above the obstruction, and drugs will only aggravate the trouble. Enemata are of no use, as the obstruction is in the small intestine.

A careful examination of the intestine should be made at the site of the operation, then in the region of the appendix, and then of the omentum, and the obstruction will usually be found. If done early the difficulty can be corrected. In desperate cases an incision may be made in the abdomen, the first inflated coil of intestine seized, attached to the wound, and opened, establishing an artificial anus, and thus the patient be carried along until a thorough and radical operation can be performed. As a prevention of this complication he believes that careful suturing of every abrasion of the peritoneum and the covering of all stumps, etc., by peritoneum is of great value.

Puerperal Sepsis, Its Prophylaxis and Treatment was the title of a communication by DR. E. E. MONTGOMERY, of Philadelphia, Pa. He said this is

a fruitful subject for discussion on account of the mysterious way in which it frequently appears and the mortality which it causes. Opinions as to the etiology have been numerous and widely divergent, but he thought the best authorities are now agreed. There are two forms: One a putrid infection, due to decomposing material in the uterus, local, non-communicable, and yielding readily when the cause is removed; the other septic, due to special forms of micro-organisms coming from outside, strongly infectious and communicable. This latter form was the subject of his paper. The micro-organism in the vast majority of cases is the streptococcus, which is identical with the streptococcus of erysipelas. In some few cases the disease seems to be due to the staphylococcus. The entrance of these organisms is favored by wounds and abraded surfaces. The infection proceeds along the uterine canal through the tubes to the peritoneum and also by means of the lymphatics. These organisms always produce pus and septic poisoning. The symptoms will vary with the individual and the amount of infection. At times only local suppuration is produced; at others, points of suppuration appear at a distance from the seat of primary infection; in still other cases the system is so overwhelmed with the poison that there is no time for suppuration. The prophylaxis consists in absolute cleanliness on the part of the physician, nurse, and patient. When symptoms of infection appear, the first thing to determine is the nature of it. If the finger reveals the presence of decomposing material in the uterus, prompt removal and one or two washings will usually be sufficient. If, however, it is a case of microbial poisoning, more time and more active measures will be necessary. The system must be sustained by nutritious food and tonics, of which strychnine is the best, and the uterus must be kept thoroughly cleansed and drained. He also strongly advocated the use of the streptococcus antitoxin, as he has seen some excellent results follow from it. Curettage should rarely be done, but if at all, very early. Hysterectomy is rarely indicated, for, by the time so grave an operation can be considered, the infection has spread beyond the walls of the uterus, rendering its removal useless.

Puerperal Infection, its Pathology, Prevention, and Treatment.—DR. R. R. KIME, of Atlanta, Ga., presented a paper with this title. He accepted the same pathology of puerperal infection that has been given by Dr. Montgomery, viz., the putrid infection, or sapræmia, and the septic. It is possible, of course, to have a mixed infection. His rules for prevention are much the same, and consist in absolute cleanliness and the immediate closure of all tears in the genital canal. In the treatment he laid special emphasis upon drainage of the uterus by means of a tube kept constantly in position and washed out every six to twelve hours. He thought this much better than gauze drainage, and felt that he had saved the lives of many patients by its use. He also advocated the stimulation of the patient, the use of fresh air, and a large amount of nutritious food.

Gonorrhœa in the Puerperium.—DR. ALBERT H. BURR, of Chicago, said that puerperal infection is justly dreaded by all physicians, and when it does occur both the profession and laity are inclined to think that a blunder has been made by some one. But this is not always the case. The infection may have preceded the labor or even the pregnancy, and no one who has had much experience in obstetrics can fail to have been impressed with the fact that gonorrhœa is responsible for many cases of puerperal infection. He had come to feel a decided sense of insecurity in every case in which there was the slightest suspicion of gonorrhœa. He was able to present the

histories of six cases of this character, three of them fatal, in which he demonstrated positively the correctness of the diagnosis by the presence of the gonococcus in the pus cell. All were primiparæ, in good health, and every aseptic precaution had been taken. He brought this subject up both to show that puerperal infection may result from a cause entirely independent of any carelessness on the part of doctor or nurse, and also to make a plea for prophylaxis. Gonorrhœa is very prevalent, and young men marry at a time when they can communicate the disease to innocent young women and bring untold misery and even death to those whom they have chosen to love and protect. Frequently this is done through ignorance, and he thought every physician should lay down the law in every case coming under his observation and stand between the source of infection and those who might become its innocent victims.

Hysterectomy as an Accompaniment to Bilateral Removal of the Appendages.—DR. REUBEN PETERSON, of Grand Rapids, Mich., opened his paper by a discussion of the change of sentiment which, he said, had taken place in regard to the treatment of inflammatory diseases of the appendages during the past five years. Many operators have found that the patients from whom they had removed both ovaries and tubes for disease did not get well. The uterus formerly was thought to be the offending body and it was curetted and treated by various means, until in 1893 Dr. Polk, of New York, announced that in all cases of bilateral tubal disease the uterus should be removed at the same time, no matter what its condition. The pendulum has swung clear over, and this axiom has been accepted in many quarters as a universal law. Against this he wished to protest.

Have the pathological conditions found borne out the clinical phenomena? The mortality is no greater than when the tubes alone are removed; but the treatment must be based upon pathological grounds and the uterus should not be sacrificed unless it is so diseased that it cannot be cured. If it is not enough that it is diseased, it must be beyond help by other means. He agreed with the statement of a distinguished writer who said that many uteri have been removed which could have been saved. It is possible that the gonococci might penetrate below the mucous membrane into the deeper tissues of the uterus, though only one observer had ever found them, and he was willing to grant that twenty-five per cent. of cases of salpingitis were gonorrhœal; but he did not believe that every case of gonorrhœal infection of the uterus is incurable. If the disease is tuberculous in character he thought the uterus should be removed, as the nature of the disease makes it incurable. It is necessary to bear in mind that there are two classes of cases of bilateral disease of the appendages. The first variety is chronic, with large pus sacs and many adhesions and characterized by recurrent attacks of pain. Here the indications are to remove the uterus. In the other variety the tubes and ovaries are purulent or cheesy, the attack is acute, and the uterus is perhaps a little large, but freely movable. In these cases it is a grave question whether it is advisable to remove the uterus.

In conclusion he wished to emphasize the fact that there can be no universal law in these cases, that each must be studied by itself, and that the condition of the uterus at the time of the operation should be the guide as to its removal or not.

Vaginal Fixation.—Among two hundred and seven patients operated upon by Dr. Dührssen for vaginal fixation twenty have had children. Of these three, or fifteen per cent., have had difficult labor.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

EXHIBITION OF CASES—MAMMARY ABSCESSES—THE MIDWIVES QUESTION—THE LIVERPOOL LYING-IN HOSPITAL DEADLOCK—A JUDICIAL SCANDAL—SMALL-POX—THE LATE W. SQUARE, E. D. M'NICOLL, AND A. F. WOOD—THE PLAYFAIR CASE SETTLED.

LONDON, May 1, 1896.

AMONG the cases exhibited at the Clinical Society last Friday were two of deficient development, of which it would be interesting to study the results in the light of the new photography. One patient was a little boy of five years of age, in whom three ribs (eighth, ninth, and tenth) on left side were absent. The eleventh rib on this side was also smaller than on the opposite, though the twelfth was larger. The movements of the spleen and diaphragm were visible. The other was a lad in whom the deficiency was in the lower end of the tibia occurring after transverse fracture. There was marked curving outward, throwing the internal malleolus into prominence. The lower end of the fibula was hypertrophied and bony ridges were formed. The line of fracture was some distance from the epiphysis. A delicate-looking boy of three, with an enormous sacro-coccygeal tumor, was also shown. The tumor seemed to be a cyst with some solid matter round the base. The sacrum and coccyx could be felt over the tumor, which commenced between the rectum and coccyx. In contrast with this case was that of a woman, aged twenty-six, with spina bifida, the position of this being of course outside the sacrum. It was remarked that operations on these cases were always fatal before the antiseptic era. Since then some cases had been successfully operated on. It was also suggested that the mortality of the earlier cases was the result of operating at too early an age. A girl, aged fourteen, was shown as a marked example of pseudo-rickets. She had been under observation two years and submitted to the new photography, which had shown the exact state of the joints. She did not seem to have had rickets as a child, and the bony lesions were not accompanied by the usual sweating, restlessness, and painful sensations.

Sequels to cases previously exhibited were also shown, among them a lad, aged thirteen, with a curious defect of speech. It was suggested that such cases could be well recorded by the phonograph, and verbal descriptions are certainly of little use.

At the Medical Society meeting on Monday Mr. Shield read a lengthy paper on "Abscess of the Breast." He thought most of the cases were due to infection through sore nipples and were therefore preventable. When fully formed, he advocated thorough operation. He makes an incision through which he passes the finger to explore the whole cavity, and, having found the most dependent part, makes there a second incision. The abscess cavity is then evacuated and cleansed, and the original incision closed with horse-hair sutures, over which collodion is applied to prevent scarring as much as possible. Should a sinus form and prove intractable to scraping, he would excise a wedge of gland tissue, including the sinus and the surrounding dense fibrous tissue.

Mr. Wallis spoke of the tendency of these abscesses to form in the hourglass shape, and said in many cases it is only on squeezing the breast that the communication between the superficial and deeper collections of pus can be demonstrated. Other speakers pointed out the great success that had attended antiseptic preventive measures in various institutions, and

Sir James Crichton Browne, president, said he had often seen puerperal mania of an acute type associated with mammary abscess. This he thought might be due to traumatism or might be a part of a general septic process.

The midwives question is as hotly discussed as ever. The registration bill indeed has no chance of passing this year, for the government has obtained all the time at the disposal of members for its own measures. Nevertheless, the opponents of the bill are active, and rightly urge that efforts must not be relaxed to educate the public and the House of Commons on the danger of setting up uneducated women as a lower order of practitioners, and thus virtually repealing the medical acts. Still a few consultants are upholding at fashionable drawing-rooms a scheme condemned by the great majority of the profession. A nice ethical position this and advertising at a discount! They may have cause to repent.

The deadlock at the Lying-in Hospital at Liverpool continues. The board seems determined to place the matron midwife in full authority over all normal cases, and the members of the staff decline to withdraw their resignations until she is placed under the direction of the medical officers. They are supported by the Medical Society, and I hope for once we may see that no one will accept a position on the staff to enable the board to carry out such a proposal. The board must have a medical staff, but it would be degrading to the profession to subordinate the staff to the matron midwife.

In the last two numbers of the *Westminster Review*, Mr. H. H. L. Bellot, B.C.L., has traced the history of the oppression suffered by Dr. Anderson at the hands of colonial judges. It is well that the case should be thus once more brought before the reading public, and that in an organ of such weight as the *Westminster Review*, which was edited for so many years by a member of our profession, who gathered round it such a galaxy of eminent writers, including J. S. Mill, George Eliot, Lewis, Spencer, and a host of leaders of politics, literature, and art.

Your readers may remember the case of Dr. Anderson, for whom a British jury found a verdict with £500 damages against the colonial judges who had oppressed him, and even ruined him, out of personal malice. Yet judgment was entered for defendants on the ground that no action can lie against a judge for acts in his judicial capacity. The civil rights defence committee arose from this case, and they intend to carry it to the House of Lords. Meantime, the wrongs of Dr. Anderson remain unredressed. But Mr. Bellot takes up the great public question thus brought into prominence and passes all the decided cases in review in the two articles I have mentioned, which he entitles "A Judicial Scandal." From his statement it appears that the doctrine that no action lies against a judge, whether he acts within his jurisdiction or outside it, "is barely thirty years old, and is not only opposed to common sense and the plain meaning of words, but to the distinction between judicial and extra-judicial acts laid down by leading judges." It seems, too, that American law maintains the old rule so eloquently laid down by Senator Clinton in *Yates v. Lansing*, the result of which he said was to decide "whether ministers of justice may oppress with impunity! Whether the habeas corpus act shall any longer dispense its blessings, and whether the law shall bend to the judge, or the judge bend to the majesty of the law."

It is hoped that our highest court will pronounce in favor of this older doctrine and sweep away the more recent decisions that have permitted the disgraceful injustice to Dr. Anderson, who still remains without redress.

Small-pox is spreading in the country and attack-

ing towns nearer to London than Gloucester. That unhappy city has now had about fifteen hundred cases. There is some decline in the number attacked during the past week, and vaccination and revaccination are being carried out. Above twenty-five thousand of the inhabitants are said to have sought the protection of the operation. Among them is one of the leaders of the anti-vaccinationists, who says he did so in deference to others, but we may be sure he wanted to save his own skin, though some of his misguided followers professed to prefer the disease and caught it.

William Square, F.R.C.S., of Plymouth, died lately, aged fifty-two. He was for many years identified with the medical institutions of Plymouth, having been hospital surgeon, president of the Medical Society, and occupied other prominent posts in the town. He was also widely known in other localities. He was fond of travelling and botany and horticulture, an enthusiastic athlete, especially devoted to swimming and lately to cycling. A thorough surgeon and oculist, he had the confidence of his brethren and the esteem of his fellow-townsmen. He was an alumnus of the Baptist College, Regents Park, and of St. Bartholomew's Hospital.

Edward Day McNicoll, F.R.C.S. Edin., of Southport, also died lately, aged fifty-one, of sarcoma. He had a large practice at Southport, where he had lived for twenty-three years, and was honorary medical officer of the infirmary.

Andrew Fleming Wood, M.B., died at Edinburgh, of pneumonia, at the age of forty-eight. He was the superintendent of the Hospital for Infectious Diseases, a post in which a correspondent says he gained universal esteem. The streets were lined with crowds when the large and influential funeral procession passed.

The Playfair appeal case came on yesterday, but counsel stated that an arrangement had been made. The case was therefore withdrawn. The terms of the settlement were not stated in court.

OUR PARIS LETTER.

(From our Special Correspondent.)

HYPNOTISM—THE VOYANTE OF THE RUE DE PARADIS AND THE ANGEL GABRIEL—HYSTERIA AND SOMNAMBULISM—CHARCOT AND BERNHEIM—THE DIFFERENT STAGES OF HYPNOTISM, RULES FOR THE ADMINISTRATION OF—AN HYPNOTIC WAVE SWEEPS OVER PARIS—SEROPATHY IN ALCOHOLISM.

PARIS, May 1, 1896.

THE thirst for a knowledge of the "beyond," the influence of the mystery pervading not only death itself but what may come thereafter, is implanted in every human breast. It is for this reason that spiritism, hypnotism, and somnambulism are so deeply interesting to the laity as well as to the medical profession. To the former, because they are awed and mystified; to the latter, because they are not only able to study metaphysics more profoundly, but also have in them valuable therapeutic measures with which to treat, often successfully, certain forms of nervous disease. The spiritualistic and hypnotic fever has been raging in Paris for several months past, and a certain Mlle. Couédon, living with her parents in a modest home in the Rue de Paradis, has contributed in no small way to throwing the great city into its present psychological state. This modest young girl, about nineteen years of age, with her black hair and eyes, claims to be in communication with the angel Gabriel during the catalepto-somnambulist sleep into which she puts herself. Of course it is the angel Gabriel whom her

dupes wish to consult, and if he had need of money before Mlle. Couédon appeared upon the scene, he certainly does not need it now, unless Mlle. Couédon keeps it all for herself, which is probable. This *voyante*, as she is called, has been so overrun with clients that she can no longer be seen except by written appointment, and numbers among her callers the highest and wealthiest in the land. Only a few days ago Henry, Prince of Orleans, consulted her, and weak-minded persons believe that he will soon ascend the throne of France in fulfilment of her prophecy. Emile Zola was not enthusiastic about his visit to her, and thought that she said well only what she knew well. As might be expected, official notice was soon taken of this case by the Society of Psychical Science, which appointed a medical commission to examine Mlle. Couédon. The report has just been read before a large audience at the Hôtel des Sociétés Savantes. Dr. Hacks, the reporter-general for the commission, examined the *voyante* from both an anthropological and pathological point of view. Her general condition he found satisfactory. Is she hysteric? No, he affirms. Is she epileptic? She may have sudden absences, vertigo, but that is all. Dr. Hacks denies absolutely that the *voyante* has a double personality. As regards her mental condition, he adds, let us for the moment put an interrogation point. He concludes his report as follows: "If Mlle. Couédon is not insane for the instant, as I suppose, she is a pretender. Her attitude is one of defence, her ecstasy is only a feint; she is continually on her guard, and could not support the prick of a needle nor the burn of a hot iron." However, Dr. Hacks admits that there exists with Mlle. Couédon a mental state that diminishes her responsibility, and ends by declaring that she is a candidate for dementia.

Dr. Encausse, one of the examining commission, demurred, giving it as his opinion that Mlle. Couédon presented two conditions: the normal state and the second state. He considered her case one of the most complex problems and one of the most troublesome, and thought it better that the commission should avow its ignorance rather than formulate such categorical conclusions. Another commission of twelve members was then appointed to re-examine Mlle. Couédon, this time from a purely psychical standpoint.

Dr. Fleury, one of Charcot's favorite disciples and whose opinion is almost law in neuropathology, has no hesitation in pronouncing Mlle. Couédon a neuropath; while Dr. Seglas, physician at the Salpêtrière, affirms that she presents all the signs of a precise disease and one that has been minutely analyzed during the last few years—a typical hysteric degenerate, and submitted to all the suggestions flattering her delirium of grandeur, thinking herself the angel Gabriel.

It would, perhaps, be too much to say, in view of the diversity of opinion regarding this remarkable personage, the bulk of which seems to be that she is mentally unsound—it would, perhaps, be too much to say that if Mlle. Couédon is weak minded, she is certainly stronger than those who consult her, and the shower of gold that is falling about her is evidence of the gullability of the human race, even at the end of the nineteenth century.

We are here brought on to the old scientific ground of contention between the schools of Paris and of Nancy, into which it is impossible for us to enter. Both Charcot and Bernheim, the chiefs of the two schools, have divided hypnotism into different states or conditions, Bernheim into nine and Charcot into three. As they are essentially the same, we will give Charcot's division, as being more concise; also the rules for the application of hypnotism, as upon this point they really agree. The first is the lethargic state. It is obtained either by the fixation of an object or by pressing gently

upon the eyeballs through the lowered lids. The lethargy thus obtained is characterized by the appearance of a deep sleep, muscular relaxation, anæsthesia, often complete, with abolition of the intellectual life. In this state suggestions are impossible. There exists a muscular hyperexcitability and contractions are readily obtained by slight pressure or friction. The second is the cataleptic state. In order to make a subject pass from the first to the second state, it is sufficient to raise the eyelids. If only one eye is open that side only enters into catalepsy, the other remaining in lethargy. The cataleptic remains fixed in every attitude given to him or her; the muscular hyperexcitability has disappeared. In this stage suggestions can be produced in the muscular sense; for instance, if the hand of the subject is approached to the lips as if to send a kiss, the face becomes smiling; if the hands are joined together as if in prayer, the subject kneels. By a retrograde process it is possible to pass the subject back again from the cataleptic to the lethargic state by closing the eyelids. Finally, this state can be produced at once and directly, without the primary lethargic period, under the influence of nervous shock caused by an intense light or violent noise. The third is the somnambulistic state. This also can be produced primitively by fixation of the look or by different procedures. Lethargy or catalepsy can be transformed into somnambulism by exercising gentle or prolonged and repeated frictions on the vertex of subjects. This state is characterized by an habitual anæsthesia more or less decided, by a sensorial acuity, and above all, because the subject is essentially amenable to all suggestions, the neuro-muscular excitability no longer exists. This state can also by a retrograde process be transferred back to the cataleptic state by opening the eyes of the subject, or into lethargy by closing them and compressing mildly the eyeballs.

These three stages comprize what is called the grand hypnotism or the grand hypnotic neurosis.

In dealing with so dangerous a therapeutical measure as hypnotism—dangerous morally and physically in almost every respect—the physician, in order to safeguard his conscience and professional honor, ought to adhere strictly to the following rules:

1. Never put to sleep any patient without his or her formal consent or the consent of those having authority over them.
2. Never provoke hypnotic sleep except in presence of an authorized person—father, husband, brother, etc.—who guarantees the hypnotizer and the hypnotized.
3. Never give to the subject without consent other suggestions than those necessary for the cure. The physician should limit himself to therapeutic suggestion only.

Dr. Berillon, medical inspector of the public lunatic asylums and director of the *Revue de l'Hypnotisme*, has begun a course of lectures at the practical school of the Faculty of Medicine on the clinical applications, psychological and medico-legal, of hypnotism, and will continue them during the summer semester on Tuesdays and Saturdays.

The Société d'Hypnologie is always actively at work on the subject, and just now especially so. The next report is looked forward to with much interest. What with the increase in the use of hypnotism by the profession at large, the many books and pamphlets on somnambulism and clairvoyance, theatrical pieces representing the same, to say nothing of the daily newspapers and all kinds of séances in private houses among the laity and spiritualistic amateurs, the *jam satis est* has been reached. If these facts are coupled with the alarming increase in the number of cataleptics admitted into the hospitals, it will be seen how vast are the proportions of the hypnotic wave that is sweeping over Paris.

Another therapeutic method that is not likely to suffer for want of use is serotherapy.

Dr. Toulouse conceived the idea that the serum of an animal deeply alcoholized might have a happy action in the treatment of human alcoholism. Let us hope that his novel experiment may prove of some value in diminishing this ever-increasing evil.

Dr. Toulouse made two dogs absorb forty grams, or about one and one-third ounces, of ethylic alcohol every day for one week. After this he bled them and gathered their serum, which he employed in a case of acute alcoholic delirium, with tremor, profuse sweats, and violent hallucinations. Three times in twenty-four hours he injected twenty-four cubic centimetres (thirty cubic centimetres representing an ounce). The next day, eighteen hours after his first injection, the fever fell and the patient became calm and lucid.

The case, of course, is only an experiment, but as such highly successful, and if this treatment stands the test of time and general practice it will be a great improvement on the old method of the bromides, chloral, morphine, and champagne.

SHALL WE GIVE THE APPENDIX A REST?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The somewhat incisive and sarcastic reply of Dr. Morris to the communication of Dr. McCartney is in accordance with the well-known views of the latter gentleman and as keen as his scalpel. However, it may be that the article of Dr. McCartney may provoke some views from foemen worthy of Dr. Morris' steel. Many of us who have been fortunate enough to be so situated as to spend our time and money in sitting under the droppings of the Eastern sanctuary for a limited time and have seen the skill of Wyeth, Gers-ter, Meyer, McBurney, Dawbarn, and other of "the lights," when confronted by results in actual practice of intelligent and honest country practitioners and conservative city surgeons have been led to question seriously whether "the appendix should be removed as soon as the diagnosis of appendicitis is made," or, according to Dr. Hawley (?), whether it might not be better if every one should have the appendix removed. The idea has occurred to some of us that after a time the appendix might receive the same surgical rest that the ovaries are now receiving from conscientious men, or that it might lie down with the rectum, which now no longer retracts at the sound of Whitehead, or might eventually receive the treatment now accorded a tubercular knee-joint, which is now less frequently æsthetically carved and spiked. It is now, I believe, several years since Dr. Fenger, in an article which will bear perusal to-day, said: "In these days, when surgery or rather surgeons are claiming the treatment of appendicitis to the exclusion of internal medicine, it is well to remember that appendicitis is on the whole a benign affection, with a mortality of about nine per cent." (I quote entirely from memory.)

It is somewhat refreshing also to some of us, who after a moderate amount of success in operative procedures have adopted conservative views from the inevitable logic of the facts presented by observation of many of the severer types of the disease when patients refused operation, to read the following from Dr. N. Senn: "The removal of the appendix should be limited to those cases in which during the first attack symptoms arise which portend danger to life and relapsing appendicitis. Some cases of appendicitis yield to medical treatment, and in a large percentage of such cases [*italics mine*] the patients remain free from a second attack." What we desire to know, and from unbiased observers, is whether the latter assertion is true. It would seem to be in line with my experience, for I can

recall but one relapse in a large number of cases seen in the past five years; that was a rapidly fatal one occurring after an operation and was wilfully brought on by hard labor before convalescence was completed.

Dr. Emory S. Lamphear, now of St. Louis, formerly of Kansas City, told me one year ago that he had ceased to operate in the majority of cases of appendicitis; that he found patients would get well without, and he evidently has no such fear of "tuberculosis of the appendix, large enteroliths, strangulating adhesion bands, portal embolism," and other spectres that Dr. Morris fears. To those acquainted with Dr. Lamphear it is unnecessary to refer to his skill as an operator or to his judgment.

I never could understand how the indiscriminate operators in appendicitis could interpret the figures of Fitz Hektoen and others, who find that thirty-five per cent. of all bodies in the dead-room show traces of appendicitis. Certainly the type of the disease is different in New York City, the recuperative power less, or, what is more probable, only the worst cases seek or are sent to the surgeon—at least the observation of intelligent country observers like Dr. McArtney is more in accordance with the statements of Fitz Hektoen and others.

I hate to "lower the caste of this article" by reference to the fee. There is no doubt that those of us who are conscientious are all perfectly honest and that we all do plenty of charity work, the majority of us without the reward of signing ourselves professor to a diploma or even a mineral-water certificate. However, I cannot forbear to quote what has passed into comic history here and is a local slang medical phrase. It is the remark of a noted consultant to the attendant: "Will she stand a laparotomy?" which referred, not to the pathological condition, but to her financial standing.

As this is written away from home while awaiting a train, my references and statements are from memory.

J. H. GREENE, M.D.

DUBUQUE, IA., May 11, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 16, 1896:

	Cases.	Deaths.
Tuberculosis.....	298	135
Typhoid fever.....	8	1
Scarlet fever.....	98	12
Cerebro-spinal meningitis.....	3	6
Measles.....	368	23
Diphtheria.....	291	33
Small-pox.....	0	0

The Passing of Antitoxin.—The Paris correspondent of the *Cincinnati Lancet-Clinic* writes under the the above caption that it seems that the enthusiasm manifested last year for Behring's antitoxin serum has commenced to diminish. Official statistics published by Bertillon give thirty-three deaths as the enormous weekly mortality from diphtheria, figures that have never been attained during any preceding year before the discovery of this celebrated so-called specific. Like the rest of serious maladies to-day treated by serum therapy, it is necessary to recognize the fact that such medication no longer keeps the promises made in its name. Besides, Drs. Sevestra, Gaucher, and Legendre have been courageous enough to make

known to the Société Médicale des Hôpitaux the serious and frequent accidents to which the antidiphtheritic serum gives rise even when applied to very simple cases of angina. But all this does not discourage the Pasteur Institute and its purblind disciples.

TO HIS DELINQUENT PATIENT.

If I should die to-night—
And you should come to my cold corpse and say,
Weeping and heart-sick, o'er my lifeless clay;
If I should die to-night—
And you should come in deepest grief and woe,
And say, "Here's that \$10 that I owe,"
I might arise in my great white cravat
And say, "What's that?"

If I should die to-night—
And you should come beside my corpse to kneel,
Clasping my bier to show the grief you feel;
I say, if I should die to-night—
And you should come to me, and there and then
Just even *haint* 'bout paying me that ten,
I might arise a while—but I'd drop dead again.
—*Gross Medical College Bulletin.*

Alleged Safe Method of Inhaling Chloroform.—According to Dr. A. Guerin, of Paris, death from chloroform may be avoided if it is inhaled exclusively through the mouth. When death occurs from stoppage of the heart, the cardiac muscular fibres cease to contract under the influence of a reflex action exerted by the nasal nerves on the pneumogastric, stimulating the inhibitory power of the latter on the heart. He further shows that when a rabbit is subjected to tracheotomy, and then made to inhale chloroform directly through the trachea, the drug has no effect whatever on the heart. On the contrary, when chloroform is held before the nose of the rabbit, the heart immediately stops. The trachea being cut transversely, it is obvious that the chloroform inhaled by the nostrils cannot reach the heart through the bronchi. Dr. Guerin therefore assumes that the anæsthetic agent exerts its injurious action upon the movements of the heart through the intervention of the nasal nerves and the cardiac branches of the pneumogastric, the former acting reflexly on the latter. Dr. Guerin therefore advises that the nose of the patient should be held by the fingers until general anæsthesia is produced, when there can no longer be any reflex action of the nasal mucous membranes anæsthetized like the rest of the body.—*The General Practitioner.*

A Prison as a Health Resort.—It is the one aim and object of some people to find the most healthy spot to live in. The latest health resort *The Hospital* has heard extolled is Pentonville Prison where during the past year, among eleven thousand four hundred and ninety-five prisoners, there has only been one death. Whether the argument is most in favor of limited diet and plenty of work, or of the healthiness of the locality, or all three combined, it is not possible to state definitely.

Women Doctors in India.—From an official report of the National Association for Supplying Female Medical Aid to the Women of India we learn the following: In eleven years since its organization, under the name of the Lady Dufferin Fund, the number of women and girls annually relieved and cured has risen in 1895 to above a million (1,054,387), and in the last three years the number has doubled itself. The movement has a pathetic history. After suffering for years from native quacks, the Maharanee of Punnah, the diamond-deposit State of Central India, was cured by an English lady—a medical missionary. Her Highness wrote to Queen Victoria, inclosed the letter in a gold locket, put the jewel round the doctor's neck, and charged her not to take it off until she gave it into the Queen's hands. Her Majesty sent a

kind answer, and laid on the next new Viceroy, when dismissing him, the "special injunction" to launch a scheme for the improvement of the medical treatment of her Indian female subjects. With Irish impetuosity and Scotch thoroughness combined, Lady Dufferin organized the fund all over India, and in London also, for training native women doctors, as well as healing the suffering. The invested funds amount to £129,000 at par, and the income from all sources last calendar year was £115,545. With this a million of suffering women were cared for, in addition to the many who came under the ministrations of the medical missionaries, American as well as British. Were progress more rapid, especially among the high-caste ladies, who must be attended in the *zanana* and harem, there would not be women doctors enough. Lady Elgin, Lady Elliott, and other governors' wives have brought about the foundation of hostels for native women studying medicine, obstetrics, and nursing. The Hon. Mr. Woodburn, an experienced civil servant, declared at the annual meeting in Calcutta lately that "the rapidly growing and now enormous attendance at the Dufferin hospitals is the best possible evidence of the trust of the people in the treatment they receive there." As the general education of women in India rises, the number of female candidates for the higher grades of hospital assistants and assistant surgeons will increase, however slowly. It is sixty years since Dr. Duff induced some of his best students to learn to dissect the human body, and now the Indian Medical Service has many native members, while the cities of India are flooded with fully qualified native practitioners. The same will be true of the women half a century hence.

Cetrarin.—According to Kobert, cetrarin, the active principle of the lichen *cetraria islandica*, stimulates the peristaltic action of the stomach and the bowels, increases the number of the blood corpuscles in cases in which they have diminished in the course of disease, and is a general tonic for the nervous system. Cetrarin, therefore, is indicated in chlorotic, anæmic cases in which there is constipation and loss of appetite. Dose prescribed: one-eleventh gram.—*Progrès Médical*.

Physiology of the Primary Schools.—Physiolog-
 istry is to study about your bones, stomach, vertebrae. Occupations which are injurious to health are carbonic acid gas, which is impure blood. We have an upper and lower skin. The lower skin moves all the time and the upper moves when we do. The body is mostly composed of water and almost one-half avaricious tissue. The stomach is a small pear-shaped bone situated in the body. The gastric juice keeps the joints from creaking. The chyle flows up the middle of the backbone and reaches the heart, where it meets the oxygen and is purified. The salivary glands are used to salivate the body. In the stomach starch is changed to cane sugar, and cane sugar to sugar cane. The olfactory nerve enters the cavity of the orbit, and is developed into the special sense of hearing. The growth of the tooth begins in the back of the mouth and extends to the stomach.—MARK TWAIN, in *West Virginia Medical Journal*.

A Good Pavement.—With reference to the agitation as to a new pavement for Fifth Avenue we would call the attention of those in the city government who have charge of the matter to the experiments lately conducted abroad with cork to obtain a new and superior pavement. The pavement used in Vienna consists of granulated cork mixed with mineral asphalt and other cohesive substances, compressed into blocks of suitable size and form. Among the numerous advantages set forth in its behalf are cleanliness, noiselessness, durability, elasticity, freedom from slipper-

ness, whether wet or dry, and moderate cost. Unlike wood, too, it is non-absorbent, and consequently inodorous. It presents the minimum resistance to traction, and, being elastic under passing loads, does away with the vibration caused by heavy teaming. The blocks are embedded in tar, and rest upon a concrete base six inches thick. When taken up for examination they have exhibited, when compared with new ones, a reduced thickness by wear of less than one-eighth inch—this in the case of a section of a London street leading to the Great Eastern Railway station subjected to continuous heavy traffic, the blocks having been in use nearly two years.

Abnormality or Madness?—Perhaps it is too much to hope that the wit of man will ever be able to devise a strict criterion which shall mark off sanity from madness. Yet the fog in which we are involved as to the extent to which man is responsible for what he does is becoming denser every day. It is a misfortune that this question has chiefly arisen and been discussed in regard to grave and serious cases—cases of murder, in which the alternative of insanity has been death, for it can hardly be denied that in many such cases the plea of insanity would hardly have been invoked, and certainly would not have been listened to, but for the knowledge that a bald verdict of guilty involved an irrevocable sentence. Two very recent cases have shown on what very slight evidence of insanity, other than that derived from the crime itself, it is possible to escape the extreme penalty and it becomes a matter of much interest to inquire to what extent the doctrine of irresponsibility which is urged in murder cases is to be taken as applicable to the little crimes and peccadilloes met with in daily life. We all know that such a malady as kleptomania exists, yet how sceptical we are when a case occurs, and how the people grin with satisfaction when they find a magistrate refusing to listen to such a plea. Kleptomania, however, is none the less a fact, and if sudden impulse be admitted as an excuse at all we may well question whether it has not been the real cause of many crimes which nevertheless have received the punishment due to wilful malice. It is, however, in matters of ordinary conduct rather than of crime that the question of responsibility becomes of interest in our social relations. Clearly, so far as oddity can be taken as explaining and excusing crime, it should be admissible also as proof of that insanity the presumption of which is accepted as the crime's excuse. The doctrine is growing up that to be abnormal is to be irresponsible. But what a field of abnormality there is around us! Surely these odd people are not all insane! We have amongst us those who believe in the supernatural, and profess that in their comings in and goings out they are surrounded by spirits who influence them and guide them in their daily life. Are they mad, and, if not, how shall that man be excused, who, urged on by spirit voices in his ears, is driven with uncontrollable impulse to slay his neighbor? What, also, about immorality and defiance of custom; how far may man or woman outrage the social rules prevalent at the moment without risking the asylum? Every one laughs at "The Woman Who Did," and says she was cracked upon her one idea. But how about her imitators in the flesh? Are they also mad? Are socialists mad, or is it only that a rich socialist is crazy while a poor one is a clever fellow? Who, indeed, is mad—the idle tramp who wanders o'er the country the summer through, no doubt suffering many discomforts but still enjoying life, or the honest worker who slaves in a mill, and lives in a slum, and dies in the workhouse? Normal man is often but a mean fellow, and we must be careful how we accept mere abnormality of conduct as proof of irresponsibility.—*The Hospital*.

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Original Articles.

THE PROPAGATION, PRESERVATION, AND USE OF VACCINE VIRUS.¹

By FRANCIS C. MARTIN, M.D.,
BOSTON, MASS.

MR. PRESIDENT, LADIES, AND GENTLEMEN: During the twenty-five years that have elapsed since the introduction of true animal vaccination in this country in 1870, the many mooted points regarding it have been thoroughly disposed of by careful observation and experience, so that to-day we can fairly say that we have quite as exact a science in this as we can ever hope for in any branch of medicine. Many observations have been confirmed, many theories have been exploded, but the grand result that has been obtained is this—that all earnest students of the subject now agree that pure animal vaccine virus, transmitted uninterruptedly from one young bovine animal to another, is far superior to all other forms of vaccine. This is true both of the results in individual cases and of the protection afforded to large communities on the advent of an epidemic of small-pox. The large proportion of active practitioners to-day have had but little experience with any form of vaccine other than that taken directly from the animal, or perhaps a few removes from this through human subjects.

To understand clearly the present status of vaccine production, however, I hope that some of you to whom it may be an old story will pardon me if I glance briefly at the various sorts of vaccine that have been employed during the century whose completion we celebrate to-day.

First of all, we have the Jennerian vaccine, viz., the virus taken by Jenner and his contemporaries directly from animals in whom the disease occurred spontaneously, inserted into the arms of human subjects, and carried from arm to arm through a succession of infants down to the present time. This virus is still used in England to some extent, although in recent years, since the establishment of a government institution for propagating calf lymph and of a number of private establishments for the same purpose, it is rapidly going out. In America, this was the vaccine in general use prior to 1870, and when the infants vaccinated were carefully selected and healthy, it was superior to any other sort of virus employed before the systematic production of pure animal vaccine.

Secondly, in several countries there have been cases of cow-pox discovered at different dates during the last sixty years, from which virus was taken and propagated thereafter from arm to arm. This gave a vaccine nearer to the animal than the Jennerian lymph, but in a few years it became indistinguishable from the latter in the vesicles produced and other symptoms.

The great objection to these "stocks" of vaccine has always been that in the course of years their vigor has steadily deteriorated, producing less and

less constitutional effect and more and more short-lived vesicles. To counteract this in the case of the Jennerian lymph, more insertions were made in the arms of the patient, often as many as nine in each arm. Even now, from three to six insertions are customary with many European physicians. This is entirely unnecessary with animal virus. My custom is, to make two scarifications on the left arm or leg, but one typical vesicle is quite sufficient.

I will not weary you with a long dissertation on the dangers of a third form of vaccine, obtained from the variolation of kine, or the serious defects of retro-vaccination—that is, the vaccination of animals with humanized virus. These different forms of virus will always have great scientific interest to experimenters, but we have happily arrived at a stage of vaccine production where we can ignore them as having any important bearing on the practical part of the subject.

Not one of all these varied forms of virus can compare in practical value to-day with true animal vaccine. Perhaps this statement seems rather *ex cathedra*, but I have ample reason, begotten by many years of experience, for affirming its truth. Unfortunately, however, there is no time to enter upon a statement of it here.

True Animal Vaccination, as we now understand it, originated in this way: On March 28, 1866, a case of spontaneous cow-pox was discovered in a heifer thirty months old, at Beaugency, Department of Loire, France. From virus derived from inoculation from this animal, Professor Depaul, directeur de la vaccine, continued the propagation of pure animal vaccine by inoculation of one young heifer directly from another, at Paris, under the auspices of the Academy of Medicine. Various other cases of spontaneous cow-pox have been discovered from time to time, and with virus from such animals vaccination is now carried on in almost every country in Europe.

The Beaugency stock of virus produced by Professor Depaul was the one introduced into this country by my father, Dr. Henry A. Martin, in 1870. He wrote most indefatigably and used all his efforts unsparingly to secure the adoption of this new method of vaccination; but the results exceeded his most sanguine hopes. Within two years the profession had adopted the method enthusiastically and almost universally.

Since that time results have only strengthened the favorable reception accorded to true animal vaccination, and to-day physicians who use humanized virus, even of a few removes, are so rare as to be remarkable. I acknowledge, as regards these gentlemen, that animal vaccine, carried through one remove, viz., through a perfectly healthy child, is an excellent virus. But with every further remove comes greater and greater risk of some imperfection in the child, and so danger to the character of the virus. This danger is by no means so great as is popularly supposed, but it is real and demands consideration.

With ample opportunity to-day of securing pure animal vaccine, I can see no excuse for the use of long-continued humanized lymph. Any serious complaints against animal vaccination can be traced to improper methods of producing or keeping the virus,

¹ An address delivered before the General Session of the American Medical Association, at the Jenner Centennial Celebration, Atlanta, Ga., May 7, 1896.

but can never be fairly made against pure virus, produced honestly and scientifically, and in the best manner.

True Animal Vaccination is the inoculation of a young selected animal of the bovine species from an original spontaneous case of cow-pox, from this others, and so on, in continuous and endless series, as the source, and the only source, of virus for the protection of the human race against variolous disease. This is the definition given by Dr. Henry A. Martin in his report to this association in 1877, and I cannot improve upon it. It is in accordance with this definition that the Beaugency stock, brought here in 1870, has been continued constantly up to the present time. I am sure of one point, however, that was still in doubt during my father's life. There is no fetich or charm in any particular "stock" of virus, provided the original case of cow-pox is unquestionable, and provided, too, that the virus is propagated properly and on animals of the right age, continuously from the start. This last matter is of essential importance.

The Propagation of Animal Vaccine, as at present carried on, may be broadly divided into two varieties, viz., the European method, which now obtains very generally throughout Europe, and the American method, or that introduced here by my father and still practised with some modification by myself.

Various so-called "improvements" of the latter method have been devised by persons of more ingenuity than ingeniousness, which are doubtless "labor saving" and pecuniarily profitable, and which I must presently refer to, but only to warn you against them.

First, then, let us consider the European method. A young bovine animal, from six weeks to six months old, according to the ideas of the different institutions, is strapped upon its back with its legs distended, on a specially adapted table. The entire abdomen is then shaved and washed, and the operator takes a rather heavy instrument, shaped like a bleeding-lancet at the point and flattened at the sides, with which he makes a series of rows of line cuts, about one inch long and one and a half inches apart, through the cuticle, merely deep enough to draw a slight tinge of bloody serum. On the flat surface of the instrument are the crushed particles of the crust of a matured vesicle from another animal lying on an adjacent table. As the operator cuts with the point of the instrument, he turns the flat side to the cut, and quickly rubs in the bits of vesicle. This is done very rapidly, so that the entire abdomen is inoculated in a very short time. The calf is then released, and returned to the stable. On the maturity of the vesicles, which is about the fifth day afterward, the animal is replaced on the table, when we see, instead of the rounding vesicles to which we are accustomed here, a series of very narrow lines of inflammation, with vesicular edges. The belly is carefully washed, and the operator seizes enough of the loose abdominal skin with a special sort of curved lock forceps, to completely include the whole of the vesicular line. The entire vesicle is then scraped off with the edge and carefully preserved on the flat side of the vaccinating instrument. This crushed vesicle is immediately inserted into other animals and into the arms of patients. To preserve the virus for future use and to send out to physicians at a distance, a number of the vesicles scraped off as I have described are put in one mass in a sterilized agate mortar, and immediately mixed with absolutely pure glycerin and filled into tubular glass bottles. These are carefully corked, dipped into paraffin, and put away in a cool, dark place. They are kept thus for several weeks, and it is claimed that by this process all the extraneous micro-organisms present in the lymph are destroyed, while the activity of the virus is in no way deterio-

rated for a long time. After this period of purification, the contents of the bottles are thoroughly triturated with a little sterilized distilled water. This is done by means of a special triturating machine, of elaborate construction, which reduces the mass to a fine homogeneous emulsion. This is filtered and then put up in capillary tubes, "lymph squares," and vials. These are merely different forms of putting up the lymph, but the substance is the same in all of them. The use of ivory points in Europe has been almost entirely superseded by these tubes and "squares."

I will reserve any criticism of this process, gentlemen, until I have described to you the American method, which is as follows:

I take a young bovine animal, about eight or ten months old, selecting perfectly healthy, clear-skinned animals that are thoroughly weaned and can live entirely on hay and meal. The younger the calf the better, so long as it answers these requirements. I place the animal on its side on a special table, and have portions of the escutcheon and belly shaved and carefully washed. I then vaccinate in precisely the same way as in the human subject, by transverse scarifications, drawing a little blood-tinged serum, but making a scarified surface about two-thirds as large as the thumbnail and nearly circular. I use a square portion of the abdomen, anterior to the teats, and place the scarifications in rows of four or five, about two inches apart. My object is to produce a vesicle as nearly as possible to resemble the natural eruption of the disease. I vaccinate directly from another animal.

Up to this point, you observe the differences of procedure from those in Europe are rather of detail than of important essentials. But here comes in the radical difference of the two methods, which lies in the collection and preservation of the lymph. Having scarified the fresh animal, I turn to one on which the vesicles have matured, and selecting a typical vesicle, I carefully remove the crust *in toto* and throw it away. Lying under the crust is a thin layer of cheesy pus, perfectly innocuous perhaps, but still pus. This is carefully washed away, leaving a bare, raw surface. Thorough cleanliness is used in all these steps, but no antiseptics are employed, as they would simply destroy the virus. As a rule, I apply no pressure to the denuded surface but leave it severely alone, and at the end of several minutes small drops of a sticky, amber-colored fluid are seen oozing out all over the vesicle. These coalesce and constitute the fluid vaccine lymph, which I use to rub into my scarifications on the fresh animal. To secure lymph for future use and to send away, I have the ivory points dipped carefully by hand, one by one, in this same lymph, dried in rows upon shelves, and then immediately packed in small bundles covered with cotton and silk paper, and hermetically sealed up in gutta-percha tissue. These packages are shut up in air-tight glass jars, away from the light and packed in ice, and always sent out with a caution to keep the vaccine cold, dry, and dark. The best practice is to keep them in a corked vial in a dark refrigerator.

This, gentlemen, in brief, is my method of producing animal vaccine, and an experience of over twenty-five years with it has convinced a large portion of the profession of the country, as well as myself, that it is by far the best, most scientific, and most reliable method. Certainly it is the one best adapted for the climatic conditions of America. The essentials of dryness, darkness, and cold, which are requisite to keep the virus properly, are easily obtained here, where our climate is, in general, dry; and where the use of ice and refrigerators is so universal. In many parts of Europe, the damp climate and the extreme rarity of ice, makes a strong argument in favor of the

tubes, which are not so easily affected by climatic conditions.

Vaccine virus produced in the manner employed by myself secures typical vaccine vesicles, without any undue severity of symptoms, and affords perfect protection against variola. It is very important to bear in mind the fact that a very sore arm is no proof of proper vaccinal effect.

But it must be remembered that a very large percentage of the vaccine in America is produced by men who, under the guise of some "vaccine company" or "vaccine farm," look entirely to the commercial side of the matter, and, although utterly unheard of in the scientific world, are keenly alive to any method of making more money.

To these persons my method has these very serious objections, viz., that it takes constant care and skill, that it is expensive, and that the supply of virus from one animal is so limited. In other words, to supply a large number of vaccine points, a large number of calves must be employed.

Now, it has long been known that the greater the age of the animals vaccinated, the more marked and severe are the symptoms produced; and, further, it was found that by increasing the size of the vesicles a very much larger quantity of serum, "virus" by courtesy, could be obtained, although much thinner and more dilute.

From these facts the brilliant theory was evolved that an ideal virus could be obtained by using full-grown cattle, three or four years old, and making deep scarifications two inches square or larger. These scarifications in no wise resemble a vesicle, but make a large angry sore, and when ruptured an enormous quantity of thin serum is poured out.

But, argued these *savans*, by this means we can get a large amount of virus from one cow and the dilution of the lymph will be counteracted by the greater vigor obtained from the full-grown animals. This idea appealed with great force to the commercial mind, and in accordance with it millions of vaccine points have been produced. The method is labor-saving and cheap, but the theory is utterly wrong, the fact being, it is true, that the larger the animal used the more vigorous the vaccine germ and the more violent the effects on the human subject, but the change from a small vesicle to a large angry sore only increases the flow of inflammatory serum, tending in no way to lessen the vigor of the vaccine germ, but very much diluting the amount of these germs in the so-called virus. In other words, the amount of true virus is not increased, but it is obtained adulterated with a large amount of serum. The practical results frequently obtained from such virus are either very sore and troublesome arms or no vaccinal effect whatever.

Another labor-saving improvement which I must warn you against is the method of fixing the ivory points between two strips of rubber-covered wood, in rows of fifty to one hundred, so that they resemble a picket fence. The operator then ruptures the vesicle, dips a camel's-hair brush in it, and paints the pointed ends of the points over rapidly with the brush, leaving an almost invisible coating of vaccine on them. This can be done so rapidly that an ordinary day's work by the proper method is nominally accomplished in fifteen or twenty minutes. Some of the points prepared in this way will take. A great many will fail. There is no possible excuse for this method of charging the points, nor for the method of large scarifications on full-grown animals, except that they are "labor-saving" and "money-making." On all scientific grounds they are unqualifiedly bad and objectionable.

During the past year I have investigated the reasons for the preference in Europe for tubes rather than for points. From conversations with the authorities

there and a careful observation of their methods, I am convinced that the modern tube, prepared as I have described above, is much more reliable than the old-fashioned tube of clear virus taken directly from the vesicle.

Our method, however, of charging the ivory points is much more simple, economical, and reliable, and we certainly obtain a far purer virus at the start. The vesicle which they grind up and use is not the old-fashioned vaccine crust, with which many of you are familiar. That was the dried covering of the vesicle, which was allowed to remain undisturbed until it dropped off naturally at about the twentieth day. It was then cleaned thoroughly and scraped, and was perfectly dry and almost odorless. The European crust is taken at the height of the disease, when its reticulations and under surface abound with pus cells, and these are all included in the mass that is combined with the glycerin. I am not prepared to deny that this combination renders all the germs present, except the vaccine germ, inert and innocuous. I only say that, if true, it is an extraordinary fact, and that certainly the pure, clear virus that is collected on the points, after all the pus is removed, is a very much purer lymph, as it is taken from the animal.

The real reason, as it seems to me, for the adoption of these tubes in Europe lies in the difficulty of preserving the points in a moist climate and of obtaining ice with which to keep them. We have no such difficulties here, and with us the ivory point will long keep its supremacy as the best form of preserving and using vaccine.

I will only detain you, gentlemen, with a few words regarding the use of the vaccine points.

Every one of you has his favorite way of vaccinating. My way is to make two sets of scarifications about two inches apart. I cut with a dull bleeding-lancet about half a dozen short lines close together, just deeply enough through the skin to draw a tinge of serum and blood. These I cross with a similar set of cuts at right angles. I thoroughly dissolve the virus on the point with a little water, then wipe the cuts thoroughly, and immediately rub the virus into the cuts for about ten seconds with the flat side of the point. Then I expose the arm for one minute to the air. No plaster or subsequent dressing is necessary. The arm should be washed at bedtime. In three or four days the vesicle will begin to appear and will be at its height in about eight or nine days, after which it will decline. Unless the crust is broken there will be no severe symptoms with good virus, and indeed there should never be bad and sloughing arms if the patient is in any reasonably healthy condition at the time.

Antivaccinationists Getting Vaccinated.—Gloucester, in England, sixteen miles from Berkeley, where Jenner made his discovery of vaccination, has been visited with an epidemic of small-pox. The "antis" in the place have for years been vociferous in their opposition to vaccination, but when the outbreak of the disease began to assume alarming proportions, almost every one of them hastened to get vaccinated. Some of these had the honesty to confess that they had been in error, but the majority said nothing at all, being vaccinated quietly, some even going to towns at a distance from Gloucester in the hope that the fact of their apostasy from the holy cause of the antis might escape publicity. The editor of the paper which had led in the antivaccination crusade could not get away, so he published a card to the public, announcing that he had been "influentially urged" to get vaccinated, and hence he had sacrificed his "personal convictions" in the hope of contributing to "the public good." The rôle of martyr in a bad cause is evidently not to the liking of this little man.

THE VALUE OF FORCED ARTIFICIAL RESPIRATION (FELL METHOD) IN SAVING HUMAN LIFE IN CHLOROFORM, ETHER, AND NITROUS-OXIDE NARCOSIS, TOGETHER WITH THE ACCOUNT OF A REMARKABLE CASE IN WHICH IT WAS USED FOR FOUR DAYS AND THREE NIGHTS UPON A PHYSICIAN, RESULTING IN SAVING HIS LIFE.¹

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First Cases.—The first attempt I made to save life by forced artificial respiration was July 23, 1887, the subject a human being, and the operation resulted successfully. The laboratory apparatus used at that time merely demonstrated the value and safety of the principle which, previous to this and my following cases, had been universally condemned as not only unreliable but dangerous to use. The prevailing opinion at that time was that the air vesicles of the lungs would not resist forcible mechanical measures in artificial respiration. The medical world had accepted the views of the celebrated English physician, Marshall Hall, to "avoid the use of bellows or any forcing instrument" in his ready method in asphyxia. In this first case it was found that no lesion or interference with the pulmonary tissue had been produced, although the case came near being a failure through the laboratory apparatus used being unsuitable in its application to man. In my second case, a much more difficult one, I succeeded in saving my patient after breathing for him fourteen and one-half hours, which I could have accomplished only through the new apparatus which I had specially devised for use upon human beings. Since then, December 10, 1887, some one hundred² human lives, which would certainly have been sacrificed by the methods at the command of the profession at that time, have been saved through forced respiration. Most of these cases have been saved at my hands with few exceptions in the city of Buffalo, where I reside. It may be truthfully asserted that the manner in which I have utilized forced respiration is the only one in which it has been systematically demonstrated to be of value in saving human life.

Author's Method with Face Mask.—The introduction of the use of the face cup or mask has also overcome the prevalent idea that the epiglottis would fall and close the glottis in forced respiration. Many lives have been saved by it without necessitating the operation of tracheotomy, and its use has demonstrated that intubation is seldom needed, although its value must not be lost sight of in forced inspiration, as I intimated in my first writings upon the subject. My work has also demonstrated the uselessness of double-bellows and double-cylinder schemes, which had long been advanced and had failed as measures for artificial respiration. They will never be utilized in forced respiration when the same work can be more thoroughly and more easily applied and at less expense by the measures I have utilized.

Many believe forced respiration to be of value only in cases of opium narcosis, the field in which I first systematically utilized it.

This is far from the truth, as many cases have demonstrated, so that the broad assertion may be made without fear of contradiction that it will keep up the respiratory action in man better than any other method

of artificial respiration now known. These statements are all borne out by cases fully recorded by the author in various medical journals, and it may be stated that in all cases of asphyxia or superficial respiration from any cause in which artificial respiration may be needed, it is the most easily applied and most reliable method now known. One of the cases detailed to-night goes so far beyond the expectation of any one acquainted with the subject as almost to surpass belief. It is, however, so well authenticated as to do away with any question of doubt.

Cases of Chloroform and Ether Narcosis in which the Patients were Saved.—We will first look into a few cases, heretofore unreported to a medical body, which affect the everyday experience of the medical and dental practitioner. Within some months I was called in council to attempt the reduction of a strangulated hernia. The anæsthetic was chloroform. Thorough anæsthesia was produced slowly and carefully, but the method by taxis failed to reduce the hernia. Deeper narcosis was produced and the patient stopped breathing. I applied forced respiration by the face mask for five minutes and auto-respiration ensued.

The anæsthetic was used again, the respiration ceased the second time, and again the apparatus was used with similar results. Operation revealed an omental hernia which could not have been reduced by taxis. However, under the chloroform, what a weight of anxiety was lifted from our minds by the satisfactory working of the forced respiratory apparatus! I did not use the Sylvester method, because I had no faith in it as compared with my own method and wanted to take no chances, the method of forced respiration being much easier in application and more effective.

Another everyday case occurred in this city, in which ether was used as the anæsthetic—a case of a young lady being prepared for a surgical operation. The respiration ceased, the Sylvester method failed to establish auto-respiration, the patient was taken to the Fitch Accident Hospital, where the apparatus was used for about half an hour, and the patient's life was saved. Thus, in cases of chloroform and ether narcosis we do not require to merely present an opinion upon the efficacy of this method of artificial respiration over all others, but give you facts which, connected with the results of this work in the past, are worth a multitude of dissertations founded, as generally is the case, upon experimentation on animals. Right here I might say that I have not made progress by such methods, and it is an interesting fact, which a remarkable array of circumstances has brought about, that all of my experimentation in the saving of human life by forced respiration has been made upon living human beings. My first attempt to save life by this means, as stated, and in which I succeeded, was made upon a human being.

Value in Nitrous-Oxide Narcosis.—But let us relate the value of the method with that other most frequently resorted to anæsthetic used in dental operations, nitrous oxide, and note the results. Here in this city of Buffalo we can present contrast cases of a most interesting nature, through which the value of forced respiration is made to stand out with great clearness. There is no subterfuge under which you can dim its value. To it alone must be given full credit for the saving of these human lives, and these cases cannot be obscured by the petty jealousies of professional life. The results of my labor in this line may be dimmed temporarily, but will eventually shine all the brighter when its true magnitude comes clearly to the light of the fullest investigation.

Dr. Longnecker, of this city, a dental practitioner, had administered nitrous oxide thousands of times. About one year ago a young married lady was taking

¹ Read before the Buffalo Academy of Medicine, Buffalo, N. Y., March 10, 1896.

² See Proceedings of the New York State Medical Society; Medical News, Philadelphia; Journal of the American Medical Association; Archives of Pædiatrics; Paper before Pan-American Medical Congress, etc.

this anæsthetic at his hands in the presence of her husband. She ceased breathing. Sylvester's method of artificial respiration was resorted to. Dr. Marcel Hartwig, one of our most able Buffalo practitioners, a surgeon of experience and repute, was summoned, and with assistants worked faithfully to save the patient's life. Her heart kept on beating for fifty-five minutes, and yet death stepped in, when, as we will show, her life might have been saved had proper appliances been at hand. Dr. Hartwig stated to me that he did not think of my work or apparatus at the time, and he believed it would have saved her life. The following case would appear to justify this belief. I am indebted to Dr. F. W. Low, of this city, for the facts here stated:

"Report of Case of Nitrous-Oxide Narcosis Threatening to Result Fatally, Resuscitated by the Use of the Fell Forced-Respiration Apparatus. Occurred July 31, 1894.

"Patient, Mrs. G—; nationality, Irish; age, twenty-six years; occupation, trained nurse. Anæsthetized for extraction of right inferior *dens sapientie*. The gas was exhibited to the amount of six or seven gallons. No unusual pallor was noticed during inhalation. When the pupillary reflexes indicated complete anæsthesia, the tooth was extracted. The patient sat quietly in the operating-chair, apparently able to recommence respiration, and inasmuch as it is my habit to allow a moment to intervene after extraction before attempting to arouse one to consciousness, no alarm was felt at first. When I attempted to arouse her, however, it was found to be impossible. I then unhooked her corsets and cut all waistbands, and attempted to induce respiration by telescoping the short ribs and then suddenly letting go. Previously, during eighteen years' experience with nitrous oxide, this method had always resulted in the re-establishment of normal respiration. After several attempts of this character had proved unavailing, I dispatched my assistant for my neighbor, Dr. Charles S. Butler, who practised dentistry in the same building, and told her that after summoning him she should go to the nearest telephone and call the Fitch ambulance, with the request that the hospital surgeon should bring with him 'the Fell forced-artificial-respiration apparatus.'

"Dr. Butler came immediately to my assistance, but before he arrived I had opened the mouth and drawn the tongue well forward to open the air passages, and had again attempted several times to start respiration by telescoping the short ribs. Upon his arrival the patient was placed on her back on the floor, a pillow first being placed under her shoulders, and artificial respiration was attempted by the Sylvester method. Some slight amount of air must have been forced into the air passages, inasmuch as the patient did not become badly cyanosed, but still no voluntary respiratory effort could be induced, and Dr. Butler discovered that the radial pulse had become very indistinct. Applying his ear to the region of the heart, he reported its action as being both very feeble and irregular. I resorted immediately to a hypodermic injection of from fifteen to twenty minims of brandy in the arm. The heart's action was soon observed to be somewhat improved, but the patient appeared to become if anything more cyanosed, in spite of our efforts at artificial respiration.

"Upon arrival of the ambulance surgeon probably fifteen or twenty minutes had elapsed since the case had become alarming. The Fell apparatus was immediately brought into use, and hypodermic injections of fifteen minims of digitalis and one-thirtieth grain of strychnine were administered.

"I was not present when it was finally discovered that the patient could breathe for herself, but I judge that it must have been nearly or quite thirty minutes after the arrival of the ambulance surgeon.

"The patient was now removed to the hospital, where I visited her an hour later and found her convalescent. She was able to be about her duties in the afternoon of the same day, though feeling very much 'out of joint,' as she afterward told me, probably the result of my heroic effort before the arrival of the ambulance surgeon.

"I have recently learned that the patient reported in the above case had, during the early morning hours of the day of operation, resorted to hypodermic injections of morphine at different times, in all amounting to three-fourths of a grain. This was for the purpose of allaying the intense pain which she was suffering, not only in the offending tooth, but still more so in the regions of that side of her head.

"F. W. Low."

Will any one, I ask, question whether Dr. Longnecker's patient could have been saved in the face of Dr. Low's recital of his most important and interesting case? In the latter the previous administering of the morphine added difficulty to the work of the apparatus, but renders the result more important. Have we not now the right to ask who will be the next to let their patients die when they may be kept alive by the exercise of a little right-minded forethought? Thousands of physicians and dentists are as placed to-day ignorantly ready to take their chances in dealing with the lives of patients entrusted to them. It would seem from these cases and others similar in nature which might be reported, that forced respiration might prove almost a specific in such cases.

The Case of Dr. Henry J. Williams.—The patient in this case had been a student in the medical department of Niagara University, Buffalo, N. Y. He had passed the general examination of the faculty of the school and taken the regent's examination to enable him to practise medicine in the State. During the entire course of his studies he had been employed as night out-door collector in the work of the Buffalo Post-Office Department. He was overtaking his mind and body to a marked degree. During the last few months of his medical course he had resorted to tincture of nux vomica, twenty minims, three times daily. Owing to the inconvenience of carrying the liquid, he had resorted to strychnine, one-fortieth grain, three times daily per stomach. On the night of July 2, 1894, he had been without sleep and needed rest for five days and nights; in fact, was a thoroughly exhausted man.

About 1:30 A.M., July 3, 1894, under these conditions, he administered to himself hypodermically two one-fortieth-grain tablets of strychnine. He did not obtain the bracing-up effect desired so soon as he expected, and in a short time repeated the dose. He then took another one-fortieth, when the drug manifested its toxic effects in twitching of the muscles and tendency to opisthotonos. At this he became frightened and gave himself a hypodermic injection of one-fourth grain tablet of morphine and atropine as an antidote, and repeated the dose twice at short intervals, as the convulsions had continued to increase. He stated that he did not believe his life to be in danger at any time—did not think it necessary to call a physician. The truth is that he was dazed and stupid, and was fast losing control of his faculties. He subsequently stated that he had the dreamy recollection of repeatedly administering the morphine hypodermically until he became unconscious. There is thus no certain evidence of the amount of morphine and atropine administered. It was about 2 A.M. when the last drug was administered, and about seven o'clock next morning when his father discovered him on the floor of the bathroom, unconscious and cyanosed.

Dr. Archie Drake near by was summoned. He was

followed by Drs. Wesley C. Earl and Thomas Bagley. The latter on consultation administered hypodermically a dose of strychnine. Dr. Sydney A. Dunham next came upon the scene. He wisely proceeded to perform Sylvester's method of artificial respiration, which was beneficial in a degree, as it held the life of the patient until my arrival at 8:30 A.M.

First day, Tuesday, July 3, 1894. Condition of patient on my arrival: Unconscious, reflexes absent, cyanotic, pulse at wrist weak, with difficulty to be detected. An occasional gasping respiratory effort was made. With a hasty glance at these different features, I immediately applied forced respiration with the face mask. Whether it did any good or not, I felt that the case was so desperate as to warrant the operation of tracheotomy, which was immediately done. Hemorrhage persisted, so that it was 9 A.M. before the forced respiration was systematically under way.

In a short time the pulse improved at the wrist, but the cyanosis passed slowly away. At 11 A.M., after two hours of forced respiration, the patient opened his eyes and in a startled manner asked, "What is the matter?" and immediately relapsed into unconsciousness.

The desperate condition of the case being evidenced by the unusually slow response to the efforts being made, it was thought best to administer oxygen gas with the forced respiration. A supply was obtained and connected with the oxygen tube of the apparatus. It was used throughout the case, but it was found that the oxygen alone was not sufficient to retain the life of the patient.

During the whole of Tuesday afternoon and night, July 3, 1894, the first day and night, the apparatus was in continual operation.

Second day, Wednesday, July 4th, Independence day. I had arranged to visit my family and take part in the festivities away from the city, and at 11 A.M., with this object in view, I removed the tracheotomy tube from the neck, expecting that the auto-respirations would ensue and that with the aid of the oxygen gas continuously administered the patient would be enabled to exist without the aid of the respiration apparatus. Then, again, Dr. Williams had now been kept alive by these special artificial means for a longer period of time than had ever occurred previously in the history of forced respiration. We had been continuously at work with him for twenty-six hours. I left the patient in the hands of Dr. Earl Lothrop and Dr. R. R. Taylor, and nurse Mrs. Edmunds, and left for my office to take the boat for Crystal Beach. On arrival at my office I was summoned back with the unpleasant news that the oxygen supply had given out. I gave instructions to have the supply renewed, and hurried back to the patient. He was breathing with considerable exertion, but was somewhat relieved by the renewal of the oxygen supply, so that I made another attempt to get away. I had not reached my city office and residence before a telephone message was sent again, urging my immediate recall, with the admonition that the patient was breathing with great difficulty and had become cyanotic. On again reaching the patient I found that in addition he had relapsed considerably. I then gave up all hopes of having a vacation, and replaced the tracheotomy tube in the neck.

2 P.M., July 4th. I again renewed the forced respiration with varying proportions of oxygen gas, and kept it under way continuously until 9 A.M., July 5th, or the second long-continued period of forced respiration, viz., twenty-one hours.

Interesting Influence of Forced Respiration in Reducing Temperature.—At the beginning of this second long-continued respiratory effort the temperature in the mouth registered 104.5° F. At the close

it was 101° F., or a reduction of three and one-half degrees. Nothing in the line of antipyretic medication had been utilized, and the decrease in temperature had not taken place under the administration of the oxygen gas. Or, in other words, all agents utilized were of no avail without the mechanical respiration; it alone was the necessary factor in the life of the patient; and, owing to the perfectness of the method and its similarity in influence to physiological respiration, its tendency was toward the toning up of the system and the overcoming of the abnormal condition existing.

This speaks volumes for the perfect working of the simple apparatus and for the complete and instantaneous control the physician has over the character of the inspiration, he having it in his power to shorten or lengthen an inspiration or expiration, to change instantly from one to another, and thus to aid the auto-respiratory effort when attempted on the part of the patient. This is effected by the arrangement of the air-control valve, which is simple and yet does its work entirely at the option of the manipulator. Other methods recommended will not accomplish this so readily.

Third day. On the third day of the case, Thursday, July 5th, the question as to the probability of the patient ever being able to breathe for himself was becoming, indeed, a serious matter. It was with a view of giving him an opportunity to do so that the interval between 9 A.M. Thursday and 7:30 P.M. was devoted to auto-respiration. As the afternoon wore away, it became evident that a serious mistake had been made in not early renewing the forced respiration or in discontinuing it at all. The patient relapsed into unconsciousness where before a semi-conscious condition prevailed; the respiration became shallow, cyanosis set in, and the case appeared more hopeless than at any time previously, so that many of the doctors present ridiculed the idea of saving the patient. The pulse became weak, thread-like, and frequent, so that continued hypodermic treatment with brandy and caffeine and rectal alimentation became necessary to sustain the fagged-out system.

7:30 P.M., Thursday, July 5th. Forced respiration was again resorted to, as it had been conclusively proven in this, as in many other cases, to be the only agent which could with certainty be regarded as a life sustainer. I made up my mind to keep it under way until the end came, "be it what it might."

The result was marvellous, although improvement came slowly. The temperature, without other treatment than the forced respiration and oxygen with sustaining measures, came down from 104.25° to 100.8° F., the cyanosis passed away, and the pulse improved in force and lessened in rapidity just so long as we kept our breathing-apparatus under way.

Fourth day. Toward the middle of the afternoon of Friday, the fourth day and third night since my method was used, we again gave the patient an opportunity to attempt his own breathing. The apparatus was used for five minutes and then the patient was allowed two or three minutes at auto-respiration. This was kept up for a short period, as it was evident even at this late time that the respiratory centres were not in sufficiently vigorous condition to control and keep up auto-respiration. It was very fatiguing for the patient to make these efforts, and he would hail with satisfaction the relief afforded by the forced respiration; being perfectly conscious he could not with all his energy keep up auto-respirations.

After a time the working of the apparatus became unpleasant to the patient; the rushing of the air into the trachea appeared to bother him. The fact, however, began to dawn upon us that he was getting into condition to breathe for himself, and at ten o'clock on

the evening of Friday, July 6th, we gladly relinquished to Dr. Williams his undoubted right to do his own respiratory work.

The third and last continued period of forced respiration in this case began Thursday at 7:30 P.M. and terminated finally at 10 P.M. Friday, or twenty-six and one-half hours. The total time during which the apparatus was in constant use was nearly eighty hours.

The tracheotomy tube was removed from the neck, the wound closed antiseptically, and the patient made as comfortable as possible. For some time during the use of the apparatus nutrient enemata were used, the urine was drawn by catheterization, and food and medicine were administered by the mouth.

The following physicians, all engaged in regular practice, were present during the active continuance of the case. Many had not before witnessed a case of forced respiration, and all were interested in watching the progress in so unusually prolonged and valiant a fight for the life of a brother practitioner: Drs. Archie Drake, W. C. Earl, Thomas Bagley, Sydney A. Dunham, Barrick, Dwight G. Hubbard, Charles Albertson, Francis M. Rich, Benjamin Lothrop, Clinton A. Sage, George W. T. Lewis, Earl Lothrop, Taylor, Frederick Preiss, Kaiser, Hoffman, Walsh, Nash, John Cronin, ex-president of the New York State Medical Association, and others whose names I did not obtain; also Mr. Thomas Stoddart, of Stoddart Brothers, druggists, and Mrs. Edmunds, nurse. Members of the family and friends from the neighborhood assisted in working the bellows. To Dr. Earl Lothrop, Dr. Taylor, Mr. Stoddart, and Mrs. Edmunds I am particularly indebted, as they stood by and assisted, hour after hour and day after day, when it seemed a useless task. Hardly one of them thought it possible that the patient could recover or that the means adopted would prove so efficacious. The result was, indeed, an interesting revelation to the medical world.

As stated in the first part of this paper, the Fell method of forced respiration has saved many lives. That it has not saved more has been owing entirely to the difficulty of introducing new methods, to unjust and unreasonable conservatism in a progressive age, when old things are passing away and a new and better, based upon truer knowledge, are taking their place. The value of the method has never before received so severe a test as in the case of Dr. Williams. It offers possibilities never before contemplated in surgical procedures, such as the opening up of the thoracic cavities under conditions which we dare not consider without the possibility of systematic forced respiration, and in conditions of shock, in drowning, and in many other contingencies.

The longest time during which the method was used prior to this case was at the Continental Hotel, Buffalo, in my practice. The respirations were kept up continuously twenty-one and one-half hours and in all twenty-four, before the patient could breathe for himself.¹ He is now living in Pittsburg, Pa. Numerous cases have taken place in which the respirations have been under way for from eight to fourteen hours with favorable results, and in which the face mask was used instead of tracheotomy. Nothing like Dr. Williams' case had ever been reasonably contemplated as a possibility. That a human being, by the administering of poison accidentally or with a mistaken knowledge of its effects, could place himself in such condition that the respiratory centres could be inhibited for days in the performance of their functions, and that it might be possible to respire by mechanical methods in such a condition for days at a

time, would appear preposterous. All this has been accomplished in the case I have presented, and it may be cited as one in which verily "fact is stranger than fiction."

Further Application of the Method.—The inhibition of the respiratory centres in the case of Dr. Low's patient, in which it was of a comparatively temporary nature, and in that of Dr. Williams, in which for days their function was paralyzed, make the remarks of Dr. Horsley, of England, reported in the *Quarterly Medical Journal*, of special interest in connection with forced respiration. He calls attention to the fact that in cases of cerebral compression, such as arise, for instance, from cerebral hemorrhage, tumor, or depressed fracture, as well as from sudden and violent concussion, especially when applied to the region, death is due to failure of respiration.

From experiments on animals he determined that a use of pressure in the skull always causes slowing and diminution of the respiratory movement, and later arrest of the same; and, furthermore, after release and re-establishment of the pressure has been carried out once or twice, the respiration becomes periodic, exhibiting the characteristics of Cheyne-Stokes breathing, or simply becomes irregular in force or in rhythm. Both these effects may be due to direct pressure and secondary anæmia caused thereby.

The practical application is that under such conditions in many instances it is as important to perform forced respiration as if the case were that of a drowning man. Horsley sums up his communication with the statements that the respiratory centre is more sensitive to mechanical pressure and shocks than any of the lower vital nerve centres; that where death threatens from intracranial pressure artificial respiration should be performed and the skull opened freely; and that in cases of sudden shock artificial respiration should be instituted immediately and heat applied to the head frequently by migration. In fact, I believe that in many cases of brain surgery altogether too little attention is given to support by artificial respiration, and now that forced respiration can be carried out in these cases another important field in which to use it is opened up, in addition to many reported in my former papers. Had I the hospital service presenting the opportunities, I should long ago have demonstrated the practicability of these opinions.

Discussion.—In the discussion Dr. Henry L. Williams, whose life was saved, took an active and appreciative part. He gladly gives all the credit to Dr. Fell and Dr. Dunham, who most directly were responsible for his presence on earth.

Dr. Sydney A. Dunham said he would like to change the saying "While there is life there is hope" to "While there is hope there may be life"; i.e., if the hope is so persistent as it was on Dr. Fell's part, life may result where death would have taken place without it.

Dr. Herman E. Hayd commended Dr. Fell's persistency in demonstrating to the world the possibilities and practicabilities of forced respiration. Dr. Stockton stated that in the earlier days of Dr. Fell's work he did not appreciate its value. A number of cases of such a positive nature have, however, changed his mind, and he is now willing to concede the great value of the method. Dr. Stephen Y. Howell thought that Dr. Fell should now begin to reap the reward he is entitled to, and deserved commendation for his unwavering appreciation of the value of his work. Dr. Allen Y. Jones detailed a case in which the life of a patient was saved by Dr. Fell's method. Dr. Hayd suggested that the society call the attention of the United States government to the value of Dr. Fell's method as a life-saving appliance in cases of drowning. Dr. Henry R. Hopkins thought it might be done through the American Medical Association.

¹ Dr. Wm. P. Northup in *British Medical Journal*, September, 1894, reports a case which required twenty-five hours of forced respiration.

A VERY SIMPLE AND RELIABLE PLAN FOR BLADDER DRAINAGE, WITH AN ILLUSTRATION.

By ROBERT H. M. DAWBARN, M.D.,

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In the February *Annals of Surgery* appeared a description by Dr. Keen of a simplified form of drainage device, the original idea of which he attributed to Mr. Charles W. Cathcart, an Edinburgh surgeon, who published it in October, 1895.

In the interests of truth and in justice to American ingenuity, it seems but right to say that the distinguished surgeon, Dr. Keen, is for once in error. The principle of intermittent siphonage upon which the method depends was first demonstrated by Dr. Snow, an American dentist, of Buffalo, N. Y., very nearly a quarter of a century ago. It has been in use among dentists ever since then the world over, in the siphon instrument used by many of them to keep the mouth continually free from saliva during dental operations.

The extremely simple modification of this same tool, which some five years ago it occurred to me to apply to bladder work, and which I have repeatedly shown to classes ever since, I should not have thought of publishing, it being only a very old idea with a new application, had not Dr. Keen's simplified form of

Mr. Cathcart's drainage seemed to me not so simple as my own

modification of dentist's drainage.

By reference to the accompanying sketch, it will be seen that the essential parts are only a fountain syringe and several feet of additional small rubber tubing.

A is the clamp which comes with every fountain syringe. It has been removed from the end and snapped upon the side of the tube, so as almost to close it, permitting flow only drop by drop.

B is the joint between the two pieces of rubber tubing. That going to the bladder is preferably rather smaller in calibre than the other. The simplest way, if one has a glass, metal, or vulcanite T-tube, is to use that to make the connection. But if not, the joint is made as follows: Cut out a circle from the side of the exit tube from the bag. Sew the end of the other tube to the edges of this small hole. Make tight with rubber cement (made by dissolving gutta-percha tissue in chloroform to saturation). Strengthen by wrapping with narrow strips of rubber adhesive plaster.

C is a trap which is absolutely essential. It is not of the usual shape of the traps to which, under sinks, we are accustomed; but upon reflection it will be seen that it is still a trap, and made in the simplest way, so as to be self-retaining. Either as a knot (as in the sketch) or held in a circle by snapping on an elastic band, the exit tube is thus made into a small trap; and the smaller the better. A circle three inches across is large enough.

We must not permit additional traps, by bends in the exit tubing from the reservoir at any other point.

D is a small piece of glass tubing, say a couple of inches long. Now as to the working of this drainage

device: From the reservoir the water trickles down until the trap becomes filled. As soon as overfilled, it siphons off with a little rush. This in turn makes a partial vacuum above the trap and the urine in the bladder is drawn up to fill this vacuum. Thus a second siphon is created, the fluid running freely from the bladder until it is empty.

This process of intermittent siphonage repeats itself at regular intervals of any desired frequency. As a rule, if the flow from the reservoir be no faster than from one to two drops per second, this will suffice to prevent a bladder from overfilling. And at this rate of flow, it is not necessary to replenish the bag of the fountain syringe oftener than once in several hours.

It makes no difference in the working whether the bag be hung above the patient or lower. As a rule (though this is not essential), I run a large size of soft catheter to the bottom of the bladder through the suprapubic wound. This catheter, like a stomach-tube, should have two openings below; say a second eye cut opposite the original one. Thus, there cannot be obstruction from sucking in a fold of mucous membrane.

The catheter is used because its walls are thicker than those of ordinary rubber drainage tubing, and hence the catheter is less likely to become flattened if accidentally flexed sharply at the wound or elsewhere. Where it escapes from the bladder, pin its side with a safety pin to the dressings. Connect it with the siphon apparatus by a piece of glass tubing at *D*.

Should we wish to wash out the bladder, this is easily done without disturbing the wound. Take off the clamp, *A*, and pinch it on again tightly at *E*.

Now the contents of the fountain syringe will run freely into the bladder. Cease pinching at *E*, and the fluid will run as vigorously by siphonage out of the bladder and into the bucket below.

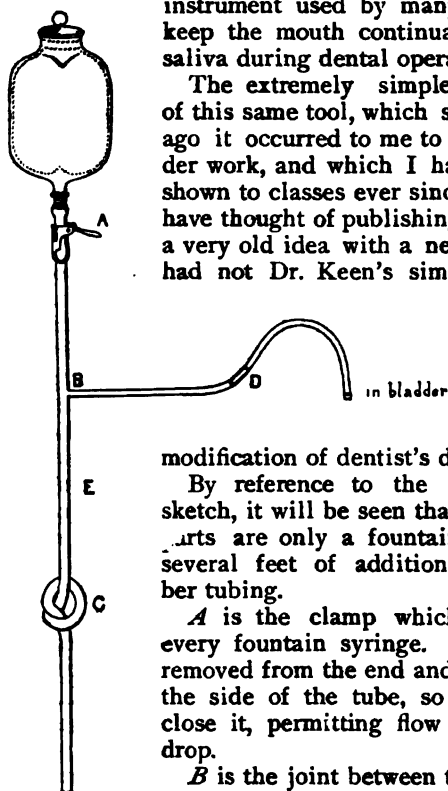
Sometimes it is desirable to know the exact amount and the appearance of urine drained away; also we may wish to analyze that urine undiluted by fluid from the reservoir.

To permit this, I insert in a break at any point in the tube leading to the bladder a wash bottle with its usual equipment of tight-fitting rubber stopper and two glass tubes.

In conclusion, it hardly seems necessary to discuss other methods of automatic suprapubic bladder drainage. As every surgeon knows to his annoyance, these are not reliable. But in the simple plan just described, if carried out as detailed, the profession will find something that can be depended upon. It ought, I think, to do away in great measure with the necessity for a double cystotomy—the lower or perineal of which is made for drainage purposes only.

A brief description of this device I published in the *Annals of Surgery* for April.

Philadelphia County Medical Society.—At the stated meeting of the Philadelphia County Medical Society on May 13th, Dr. Silas Updegrave read a paper on "The Necessity for the State to Demand the Adoption by the Colleges of a More Uniform Standard of Educational Requirement for the Degree of Doctor of Medicine." Dr. J. Solis-Cohen exhibited a tongue-depressor, by means of which the interior of the larynx and trachea can be inspected directly without the aid of a laryngoscopic mirror. By invitation of the directors Dr. B. Alexander Randall demonstrated by means of lantern views the "Surgical Anatomy and Pathology of the Mastoid."



BACTERIOLOGY OF THE NORMAL CONJUNCTIVA.¹

BY CHARLES J. FOOTE, M.D.,

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THE object of reporting the few bacteriological experiments which are recorded below will be better understood if they are taken in connection with and as supplementary to the paper of Dr. Wilson.

Our purpose in making the experiments was, if possible, to throw some light on the causes of suppuration after cataract extraction.

Our method of examination consisted in smearing over the surface of a slant tube of agar a particle of conjunctival secretion which had been removed with a sterilized cotton swab or a loop of platinum wire.

Agar was used as a culture medium, because we desired to study only those bacteria which grow at 37° C. After sowing the agar tubes they were kept in the incubator for several days at a temperature of 37° C. According to this method ninety-two eyes were examined, one tube culture being made from each eye. Of these ninety-two tubes, fifty-three showed one or more colonies of bacteria, while the rest of the tubes (thirty-nine) were sterile. By this I do not mean to imply that the conjunctivæ of thirty-nine eyes were sterile, but only that such small portion of the secretion as was removed by the platinum loop was sterile. In the fifty-three tubes containing bacteria, some eight or ten different kinds of bacteria were found. In twenty-two cases the staphylococcus epidermidis albus was present; in five cases pyogenes citreus; in one case pyogenes aureus; in one case the bacillus subtilis; in eight cases a large bacillus growing with small delicate translucent colonies on agar, kind not identified; in one case streptococcus pyogenes. The sources from which these bacteria infected the conjunctivæ may perhaps be named as follows in the order of importance:

1st. The edges of the lids and the mouths of the Meibomian glands.

2d. Uncleanly hands.

3d. The air.

4th. Infected nasal fossæ.

In the case of the normal conjunctiva the last is probably not an important source of infection, since the current of secretion is constantly downward into the nose. Bach, after injecting cultures of bacteria into the nasal fossæ, was unable to find that they ever made their way into the conjunctival sac.

Of the many kinds of bacteria (twenty-six species) which have been found in the normal conjunctiva, only three have been proved to be pathogenic to man. These are the staphylococcus pyogenes aureus, the staphylococcus albus, and the streptococcus pyogenes. It is obvious that the mere presence of even these in the normal conjunctiva does no harm. A bouillon culture of the staphylococcus aureus has been dropped into the conjunctival sac of man without producing inflammation (Bach), and even in injured eyes these bacteria often seem to do no harm, as may be seen from some later experiments in which the staphylococcus aureus was found in considerable numbers in the dressings of eyes which had been operated on for cataract and yet no suppuration occurred after the operation. But in spite of these facts it is well to remember that a purulent infiltration of the cornea and panophthalmitis result when the staphylococcus aureus is inoculated upon the surface of the cornea of a rabbit by scratching it with an infected needle; and also that after paracentesis of the cornea of a rabbit with an instrument infected with the staphylococcus

aureus, panophthalmitis develops in thirty hours. The same result occurs also at the end of seventy-two hours even with the staphylococcus albus. Moreover, in man the staphylococcus aureus and albus seem to play an important part in many disastrous processes occurring in the eye. Thus, the aureus seems to be a very important if not the sole factor in many cases of panophthalmitis and phlyctenular conjunctivitis.

These two series of facts illustrating the harmfulness and harmlessness of the staphylococcus aureus and albus can be harmonized only by referring them to a varying vitality of tissues in different patients or to a varying virulence of the bacteria.

Next an attempt was made to determine whether age influenced the kind and number of bacteria in the conjunctiva. For this purpose the eyes of twenty old people, ten children, and forty-six young adults were examined. Thirty-three per cent. of the tubes from young adults were sterile; thirty per cent. of the tubes from old people were sterile; fifty per cent. of the tubes from children were sterile. The percentage of sterile tubes from adults and old people was about the same, while there seemed to be somewhat less infection in children's eyes.

Cultures were also made from the conjunctiva as soon as possible after rising in the morning and again at evening. The eyes of eighteen persons were examined in the morning soon after rising and the same eyes were examined again at night. In this way it was found that of the morning tubes only two were sterile, while of the night tubes nine were sterile. It would seem probable, then, that the natural cleansing of the eye by the lachrymal secretion is more efficient during waking hours. An attempt was then made to sterilize the eyes of six patients. The process of sterilization consisted merely in washing the eye, in three cases with boric acid (one drachm to one ounce), and in three other cases with bichloride of mercury, 1 to 5,000.

After cleansing, the eyes were bandaged with sterilized cotton for twenty-four hours. The bandages were then taken off and cultures made from the conjunctivæ.

Of the three eyes washed with boric acid, all tubes showed colonies which were nearly all of the staphylococcus albus. Of the tubes obtained from those eyes washed with bichloride, one was sterile and the other two infected. The colonies present in these cases were also of the staphylococcus albus. Thus, in an attempt to sterilize the conjunctivæ in six cases, only one case proved successful.

Inasmuch as a certain proportion of tubes remain sterile after inoculation from the normal conjunctiva without sterilization, it seems doubtful whether the attempted sterilization was of any value at all. Bach's results were somewhat more favorable than mine, he rendering sixteen cases sterile out of forty-two attempts. Washing the conjunctiva cannot be depended on as a means of sterilization. A boric-acid washing probably has no more value than washing with sterilized salt solution. The process is merely a mechanical cleansing, and not a sterilization with a germicidal fluid. Inasmuch as the orifices of the Meibomian glands and the edges of the lids are fruitful sources of infection to the conjunctivæ, these especially should receive a cleansing either mechanical or germicidal before an operation.

Dressings over the eye furnish the necessary heat and moisture for bacterial growth. To determine how far an aseptic dressing placed over the eye affords a good breeding-place for bacteria, twenty dressings were examined. Nine of these came from eyes that had been operated on and eleven from eyes that had not been operated on, but had been merely bandaged with sterilized dressings for twenty-four hours. All

¹ Read before the section on ophthalmology of the New York Academy of Medicine, October 21, 1895.

of these dressings contained large numbers of bacteria. Those in the dressings from the operated eyes differed little in respect to the number and kind of bacteria from those in the non-operated eyes. The staphylococcus albus was present in thirteen dressings in large numbers, and in four of the dressings the aureus was also found in considerable numbers; yet in none of the operated eyes was there any suppuration after the operation. The aureus was present in three of the bandages from operated eyes and in one of the bandages from non-operated eyes.

Aseptic dressings should be applied only where the wound or area of application is aseptic. Antiseptic dressings would seem better to use over the eyes, as the dressings are applied to an infected area.

Incidentally, while making these examinations, cultures were also made from six cases of phlyctenular conjunctivitis, three cases of catarrhal conjunctivitis, and four cases of ulcerative keratitis. Three tubes from the cases of phlyctenular conjunctivitis were sterile, possibly because the cases were in the later stages of the disease. The three remaining tubes gave pure cultures of the staphylococcus aureus.

Of the cases of catarrhal conjunctivitis, one showed a few bacilli of a kind not identified, one was sterile, and one gave a culture of Fraenkel's diplococcus.

Of the four cases of ulcerative keratitis, tubes from three were sterile. Cultures of the staphylococcus albus developed in the remaining one.

BACTERIA AND OPHTHALMIC SURGERY.¹

By F. M. WILSON, M.D.,

BRIDGEPORT, CONN.

THE relation of bacteria to operative eye work is a question which none of us can avoid. Not only are bacteria in the air, but facts and theories about them are "in the air" also, and this question is too practical to be ignored.

The introduction of bacterial theories into surgical practice more than twenty years ago found ophthalmic surgeons standing upon the vantage ground of successful operative work, a position not favorable for the acceptance of new theories of any sort. In addition to this, the early antibacterial measures were of so irritating a nature as to practically exclude them from ophthalmic surgery. So that ophthalmic surgeons have a valid excuse for being somewhat slow to adopt the measures which proved of such signal advantage in general surgery.

The investigations which concern us to-night have during the past twenty years been going on along three lines, which overlap each other but are in the main separate:

First, along the line of laboratory work.

Second, along the line of practical surgical work, not ophthalmic.

Third, along the line of practical surgical work upon the eye.

The rise and growth of the bacteriological laboratory is, without any doubt, the most potent and far-reaching influence which modern medicine and surgery have felt, and though "micro-organisms and their place in nature" is a field of which the extent even is unknown, yet so much has been done that the record is one of almost uninterrupted progress. No recent year has passed without definite, positive additions to our knowledge of bacteria and their habits, due directly to laboratory work.

One little corner of this field belongs to ophthalmology, and though it was not one of the earliest to be

cultivated, the work has been varied and extensive. Gonorrhœal conjunctivitis, acute catarrhal conjunctivitis, trachoma, phlyctenular conjunctivitis, phlyctenular keratitis, serpentine ulcer, many forms of superficial keratitis (unclassified), destructive ulceration of a cornea, hypopyon pus, foreign bodies in the globe, sympathetic inflammations, have all been the subjects of laboratory experiments with reference to bacteria; and while we may not agree with all the theories which have been evolved, the large number of recorded facts cannot but have a permanent influence upon future opinion. It is, however, the quiet and not the inflamed eye with which we are principally concerned in operative work. This also has been studied with reference to bacteria. The skin of the lid is found to be about like skin elsewhere, *i.e.*, the staphylococcus epidermidis albus of Welch is constantly present, with other cocci and bacilli in greater or less abundance, especially in the folds. The eyebrows and eyelashes are "catch alls," as hair always is. Dr. Foote has gone a step further to-night, and demonstrated the almost constant presence of this albus in the normal conjunctival sac—a fact in direct line with the experiments of Welch upon the skin. There is, then, no dearth of bacteria. The albus we have always with us, and the citreus and aureus are present in a respectable minority of cases. Bacilli in considerable variety are not infrequent. There is a notable absence of streptococci.

Inoculations of pure cultures of these bacteria into the eyes of animals are among the most important of the laboratory experiments. The aureus has been more frequently used than any other species, and the production of suppuration is uniform by all observers; so far as I know there is not a dissenting voice, though Leber and others have also proved that suppuration can be produced without bacteria. Intensely interesting also are the laboratory experiments upon the eyes of animals illustrating chemotaxis.

From the laboratory evidence, then, we have to accept as facts in ophthalmology:

1st. That the bacteria are present in great numbers and considerable variety.

2d. That the aureus at least can produce suppuration of the globe.

3d. That suppuration can be produced without bacteria, notably by the metals mercury and copper.

Turning now to the second line of work, and principally that of general surgery, no one who did not see with his own eyes what for want of a better name may be called the "old surgery," can ever appreciate to its fullest extent the change which has taken place. To call it "revolutionary" is to use a word we have heard so often that it has lost some of its force; to attempt even a meagre description of it would take us too far afield. But that bacterial theories have borne the most varied, ample, and practical fruit in general surgery is beyond the shadow of a doubt; also that, notwithstanding the many and contradictory changes in methods of dealing with bacteria, the evidence that bacteria cause most of the suppuration in the world has been steadily increasing since the first day that Lister broached the theory.

Turning now to our own special field of work, let us frankly ask this question: What have bacterial theories and what have methods of dealing with bacteria done for ophthalmic surgery? Let us see.

Plastic operations about the eye involving the use of large flaps, either with or without a pedicle, are undoubtedly much more successful now than formerly, and I think no one will deny that this increased success is due in large measure to the more vigorous exclusion of bacteria from the field of operation. Plastic operations of less extent, like those for some of the milder forms of ectropion and entropion, usually heal

¹ Read before the section on ophthalmology of the New York Academy of Medicine, October 21, 1895.

kindly whether antibacterial measures are used or not, and even if a stitch abscess forms it does not usually interfere with the success of the operation. Ragged holes in the lids made by scoop operations for chalazia usually heal more quickly than is desirable. Serious infection of a tenotomy wound is and always has been a very exceptional thing. Stitch abscess occurs much less frequently in the conjunctiva than in the skin. The operators of twenty years ago were as much surprised to have suppuration follow iridectomy as we are to-day. And, lastly, the average percentage of loss after cataract extraction is practically the same now as before the introduction of antibacterial measures, viz., about six per cent. This last statement is based upon the results of twenty thousand extractions, ten thousand cases before 1879 and ten thousand cases since that time, and is, of course, the most important item of the list. But if we had only the first table, that of Dr. Noyes, published in 1879, with its average loss of about six per cent, it would hardly be straining a point, standing at this distance with our present knowledge of bacteria and their habits, to infer that the cataract wound is one not especially liable to become infected with bacteria; and if, after sixteen years of greater or less effort in imitating the antibacterial measures of the general surgeon, another table, that of Dr. H. S. Miles,¹ shows the average loss to be still about six per cent., the demonstration seems fairly complete that, so far as actual loss of eyes is concerned, nothing of a revolutionary nature has been accomplished by all our efforts to exterminate bacteria.²

If, then, I have interpreted it aright, the evidence from the laboratory is uniform and overwhelming, not only of the presence of bacteria but also of their power to produce serious suppuration if they are put inside the eyeball or even into the tissues of the eyeball. But we must lay great stress upon that "if," for, with the exception of the gonococcus and the bacillus of Weeks, the unbroken conjunctiva seems very tolerant of the commoner varieties of bacteria. In direct line is the evidence of practical results in many forms of surgery; in fact, the laboratory and general surgery have joined hands, each supplementing the work of the other. But when we reach ophthalmic surgery there is a sudden falling off in the clinical evidence of practical results. Indeed, if one wished to be extreme, it might be said that the evidence of practical results is very slight.

Hence, if we approach this question from what may be called the "laboratory and general surgery" side alone, it is simply impossible not to believe in the great necessity of antibacterial measures. On the other hand, if we approach it from the side of clinical ophthalmology alone, ophthalmic operations are and have been for many years so successful with simply ordinary cleanliness as to furnish no loud demand for something better or that ordinary cleanliness be pushed to that greater cleanliness which we call asepsis.

Assuming, then, that very little has been accomplished for cataract surgery by antibacterial measures, what theoretical explanation can be offered, first and foremost, that the operation was so successful before we knew that the bacteria were there? The strongest force which works against the injurious influences of bacteria upon the eye is probably the natural and not the artificial one, and the natural protec-

tion is probably due to a combination of conditions rather than to any one thing. The risks from hands and instruments are, of course, less than in most of the operations of general surgery. Just why the bacteria of this field of operation do not oftener reach and infect the corneal wound is, with our present knowledge, entirely a matter of speculation. The mechanical conditions surrounding the cataract wound are unique. So long as the wound remains open a gentle stream of aqueous humor flows out, and whatever goes in must swim against the stream; and after the wound is closed, if there is any current of tears it is away from the wound if the suction is upward. Chemically, the influence of both aqueous humor and tears, if not proved to be decidedly adverse, is at least not specially favorable to the growth of bacteria.

A second reason why more has not been accomplished is the difficulty and danger of using the more efficient of the antibacterial measures about the field of operation. Sterilization of the hands and instruments, though not so necessary, can of course be done as thoroughly by the ophthalmic as by the general surgeon. But sterilization of the field of operation in cataract extraction is a practical impossibility. The skin of the lids offers many obstacles to the removal of bacteria from the loose folds. The eyebrows and eyelashes simply cannot be rendered sterile. The deeper recesses of the conjunctival sac can neither be scrubbed nor is it safe to use the stronger of the antiseptic solutions. The solutions used in ophthalmic surgery, while by the laboratory tests they may be within the area of killing power, are never very far within it, the experiments always being to find the weakest solution that will kill. And after all has been done and the dressings are on, the lachrymal passages still communicate with the nose.

From information furnished by Dr. Foote and others, it is my own belief that the following experiment can be repeated indefinitely with the same result: Cleanse the lids and conjunctival sac of a normal eye by any method known to ophthalmic surgery; use the most rigid precautions with hands, dressings, etc.; bind up the eye for forty-eight hours, and when the dressings are removed inoculate tubes of agar from the dressings, from the outside surface of the lids, from the eyelashes and eyebrows, and from the conjunctival sac. Place these tubes in an incubator at the temperature of the body. The staphylococcus epidermidis albus will grow so often as to make it the rule. The citreus and aureus will grow in a considerable number of cases, and occasionally bacilli will be found. In this connection it may also be stated that in general surgery so many bacteria have been found in wounds that heal kindly, that the word "aseptic" has lost its original exact meaning of entire absence of bacteria and has come to mean only that enough of them have been excluded so that the remainder do not interfere with the healing.

In conclusion, thanks to the laboratory, we are in a much more intelligent position in regard to what used to be called dirt. We have become partially acquainted with bacteria and their power to interfere with the healing of wounds. We know that accidental inoculation from the hands or instruments is very likely to produce the same results as intentional inoculation. From the laboratory standpoint it seems impossible to sterilize the field of operation. From the purely clinical standpoint of cataract surgery it seems impossible as yet to demonstrate any great change in operative results due to the introduction of antibacterial measures.

The Bubonic Plague is reported to have broken out afresh in Hong-Kong.

¹ This table was presented at the annual meeting of the American Ophthalmological Society in July last.

² It may be noted incidentally that there are not many operations in which so large an amount of clinical material is available as evidence, and also, as there are so many small collections of cases in Dr. Noyes' table (one hundred and ten items against thirty in Dr. Miles' table), it is, therefore, all the more remarkable that this average percentage of loss should be practically the same in both.

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ANTI-CIGARETTE LEAGUES.

MUCH has been written for and against the cigarette, but it is really in itself an innocuous little cylinder, admitting that any form of smoking tobacco is harmless. It has often been asserted that the tobacco used in cigarettes is adulterated with opium and other noxious drugs, but this is very improbable as regards the cheaper sorts, for obvious reasons. It has been said that the smoke of the burning paper is injurious to the mucous membrane of the air passages, but many professional singers and not a few laryngologists smoke cigarettes habitually without experiencing any deleterious effects. The truth of the matter is that a given amount of tobacco smoked in a cigarette probably works no more harm than does the same amount in a pipe or cigar. The evil of the cigarette is that it affords a short smoke, and it is often lighted and wholly or partly consumed at odd and frequent moments when there would not be time to smoke a cigar. In this way it offers a temptation and the opportunity for immoderate indulgence in tobacco. If its use were confined to adults, there would be no necessity for any crusade against it, and our duty as physicians would be fulfilled in warning against overindulgence in tobacco as well as in alcohol or ice cream or any other substance which may be injurious to the mass when taken in excess or to certain individuals when taken at all, and in emphasizing the fact that cigarette smoking often leads to such overindulgence.

The evil lies, however, in the abuse (for here all use is abuse) of the cigarette by boys. In the ante-cigarette days it was rare to see a juvenile smoker under sixteen or eighteen years, but now the veriest mites learn to smoke as soon as they do to swear, and are equally proud of and equally addicted to both vices. There is no dispute concerning the injurious effects of tobacco upon the growing child, and the only difference of opinion is as to the best means of repressing the cigarette evil. In various States legislative enactments have been tried, some of the laws merely forbidding the sale of tobacco or cigarettes to minors, others prohibiting entirely the manufacture and sale of cigarettes. We question, however, the practical working of laws of this kind, and believe that much surer results can be obtained by working through persuasion and example upon the boys themselves. In a number of cities "Anticigarette

Leagues" have been organized among the boys in the public and parish schools, and, according to the testimony of both parents and teachers, they have already been the means of accomplishing an incalculable amount of good. A well-informed writer in one of the daily papers some time ago stated that the spread of the cigarette habit among boys had been so distinctly arrested by means of these leagues that there was every reason to hope continued effort would eventually succeed in stamping out the vice altogether. "In many of the schools," he said, "the entire atmosphere has definitely improved. Boys are more attentive to work, are in better health, and are fighting for a better and more rugged young manhood. Organization among themselves with a definite purpose in view has developed an educational value. Within the leagues athletic and literary circles have been formed, and a great force in elementary education availed of—the drawing forth of the best that there is in the boys through one good common impulse, by means of a sentiment created and maintained by the boys themselves."

The members of the league wear badges which remain the property of the particular school league issuing them until each member leaves school in good standing, when, having earned it, he retains his badge as his own property. If he proves recreant to the cause, his decoration is stripped from him, and must be won back by consistent observance of his obligation. These badges are prized as a Frenchman prizes the button of the Legion of Honor, and the possession of one is a very strong force in keeping the boy true to his promise. The leagues are now established in nearly all the grammar schools in this city, and in many of the schools in the cities and towns throughout the country. The same plan is being developed in England with every prospect of success.

Every one appreciates the power of association in keeping a boy or a man true to his ideals. It is far more potent than restrictive legislation, which has often even an opposite tendency among the weak or the obstinate. The establishment of these leagues promises well for the physique of future generations, and they should be encouraged by all who have the mental and physical well-being of the young at heart.

THE BACTERIOLOGY OF DIPHTHERIA.

AT this late day it is scarcely necessary to defend the doctrine of the specificity of diphtheria and of the dependence of the disease upon the Klebs-Loeffler bacillus; but a recent investigation by Kossel¹ is so conclusive that it may be worth while here to quote the results in order to remove any element of doubt that may yet remain in the minds of unprejudiced persons. In a study of the throat and membrane in two hundred and fifty-nine cases presenting clinical appearances of pharyngeal diphtheria, this observer found diphtheria bacilli in two hundred and forty-three—ninety-four per cent. The sixteen in which the bacilli were not found proved on closer investi-

¹ Charité Annalen, Band 20; cited in the Centralblatt für innere Medizin, 1896, No. 17, p. 428.

gation not to correspond in their clinical course with true diphtheria, and were free from such sequelæ as paralysis, while albuminuria was uncommon among them. These cases further were unattended with fatality, while in the cases in which diphtheria bacilli were present the mortality was twenty-one per cent. (prior to the period of serum therapy forty-two per cent., afterward fourteen per cent.). The diphtheroid affections, which are usually dependent upon streptococci, may present appearances in the pharynx closely resembling those of true diphtheria, and even the larynx may be involved, with slight stenosis; bronchopneumonia is a frequent complication. Failure to detect diphtheria bacilli in a case otherwise typical, cannot, however, be accepted as evidence of absence of the bacilli; for instance, they may be found subsequently in the pus of a complicating condition, such as inflammation of the middle ear. The conclusion must therefore be reached that there is no true diphtheria without diphtheria bacilli, and that bacteriologic examination is the only means of diagnosing this affection from others resembling it.

THE NOISES OF NEW YORK'S STREETS.

NEW YORK is unquestionably in many ways a most desirable place of residence. Years of persistent effort on the part of the health board have resulted in an expulsion of many smells and a banishing of many odors. The streets are beginning to grow clean, although the department having this matter in charge has much yet to learn about the right way of removing garbage, and the proper combining of sprinkling and sweeping so that neither shall remain a menace to the health of the pedestrian or to the happiness of the wheelman.

Far advanced as we are in many matters of comfort, New York is very far behind most European cities in all that pertains to quiet and peace.

If it is true that as a nation we are not more nervous than Europeans, it is no fault of those who regulate the amount of noise to which town dwellers must submit. Every large city must of necessity have its loud and discordant noises, but being unavoidable, we become accustomed to them, and, although the effect upon the system may in time prove injurious, it would appear that the abuse of the tympanum by the unusual and unnecessary noises produces a more immediate and direct result. This is especially true of the noises which occur at times when the system needs repose, and hence applies with double force to that ever-present proportion of the population—the sick. A man in perfect health may go for a long time undisturbed by the piercing street cries, the dinging of loud and harsh-toned traction-car bells, the squeaking of unoiled machinery, and the rattling of vehicles over uneven pavements. Let him once join that great company of the city's sick and lie with nerves on end and listen. Now he cannot escape the street vender with his inevitable hoarseness, nor the false notes of the scissor grinder's *cornet à piston*. When he was upon his feet he could hurry on in the hope that the next

block would be less disturbed. Now he must wait for each succeeding bleat or blast until the regulation number of thirty to the block have been given. Then he must lie and wonder what the next man's yell will be like, and when it comes he finds it more strange and more difficult to bear, and still from the sound he cannot make out whether it be "potted plants" or "bananas, all ripe."

According to the statistics kept by the street-vender license bureau, only one man has applied for a permit so far this season who was not the victim of a severe chronic laryngitis. This one is recorded as having only an aggravated cleft palate. Some of those who are being rendered deaf by the discordant cries may receive satisfaction from the thought that six weeks in the business is the average time for a boy to lose his voice entirely.

While the abatement of the noise nuisance rests in a great measure with the dwellers in the different localities themselves, invalids in institutions must be guarded in their rights to a certain amount of quiet by the community at large. Comparatively few disturbing cries, for example, are now heard in those blocks bordering upon Fifth Avenue, for the reason that in mutual self-protection the occupants of houses refuse to encourage street venders by the purchase of their wares. There would seem to exist no valid reason why citizens living upon any given streets should not enter into compact not to deal with these peace disturbers, and then demand from the authorities that such disturbers be excluded. This would have especial force as applied to quarters in which hospitals are situated. For the comfort of invalids and nervous individuals generally in their homes, there should be restrictions placed upon the hours during which street cries could be engaged in. Then the sufferer could better bear them, knowing that his hour of rest would come.

THE SECOND PAN-AMERICAN MEDICAL CONGRESS.

WE have received from the international executive committee for the United States a notice, printed in another column, of the second Pan-American Medical Congress, which is to be held in Mexico City during the third week of November. It is to be regretted that this announcement is made so late, for the summer is not a favorable time for original investigations or for the necessary research preliminary to the preparation of scientific papers. However, there will be a month of cool weather in this latitude before the date set for the meeting, and this is ample time for one who already knows his subject to write an article that will do credit to American medicine. But doubtless many have long been working in anticipation of this meeting and are even now prepared to assist in its deliberations. There are others again, and we trust many, who will derive pleasure and profit from attendance at the congress although they have no scientific contributions to present. Listeners form as necessary a part of an assemblage of this kind as do speakers, and we can pay no greater compliment to our Mexican brethren

ren than to go in numbers to hear what they have to tell us.

Mexico is an attractive city, the climate of which at all times and especially during the month which has been selected for this meeting is most delightful, and no one who is able to accept the invitation of its citizens will ever regret having done so. As a matter of courtesy, also, there ought to be a generous participation in the congress by physicians of the United States. Many representatives from all the Latin-American republics were present in Washington three years ago, and we owe it to our Mexican confrères, whose interest in the first congress was especially marked, to give a most cordial support to the meeting in their capital. The Mexican government is manifesting a warm interest in the congress, and the success of the meeting, so far as it depends upon the local profession, is already assured.

News of the Week.

Statistics of Diphtheria was the title of a paper read before the New York Academy of Medicine, May 21st, by Dr. C. G. Coakley, who was followed by Dr. Joseph E. Winters, with "Clinical Observations on Antitoxin Treatment of Diphtheria and Report of Personal Investigations of Treatment in the Principal Fever Hospitals in Europe during the Summer of 1895." Dr. Winters held that antitoxin treatment had not decreased the mortality; that in many cases it had produced fatal results which would not otherwise have occurred; and that statistics as to cures were faulty in view of the fact that a large proportion of cases of so-called diphtheria were treated on a bacteriological rather than a clinical basis. Dr. Winter's paper will appear in the *MEDICAL RECORD* soon. The hour was too late to hear from those who believe in the antitoxin treatment, but they are to have an opportunity to reply at a special meeting, date to be announced by the president.

Examination for Marine Hospital Service.—There will be held at Washington, D. C., on June 15, 1896, a competitive examination of candidates for appointment to the position of assistant surgeon in the United States Marine Hospital Service. Candidates are required to be not less than twenty-one years of age and no appointment is made of any candidate over thirty years of age. They must be graduates of a reputable medical college, and furnish testimonials as to character. Successful candidates, having made the required grade, are appointed in order of merit as vacancies arise during the succeeding year. There is at present one vacancy. A successful candidate, when recommended for appointment, is commissioned by the President of the United States as an assistant surgeon. After four years of service and a second examination he is entitled to promotion to the grade of passed assistant surgeon; and to the rank of surgeon, according to priority, on the occurrence of vacancies in that grade. The salary of an assistant surgeon is

\$1,600 per annum, together with furnished quarters, light, and fuel; that of a passed assistant surgeon \$1,800 per annum; and that of surgeon \$2,500 per annum. In addition to the above salaries, after five years of service, an additional compensation of ten per cent. of the annual salary for each five years of service is allowed medical officers above the rank of assistant surgeons, the maximum rate, however, not to exceed forty per cent. When an officer is on duty at a station where there are no quarters furnished by the government, commutation of quarters is allowed at the rate of \$30 per month for an assistant surgeon, \$40 for a passed assistant surgeon, and \$50 for a surgeon. The successful candidates, after receiving appointments, are usually ordered to one of the larger stations for training in their duties. Full information may be obtained by addressing the surgeon-general of the Marine Hospital Service, Washington, D. C.

Paris Academy of Medicine.—Dr. Wardelle Stiles, of Washington, has been elected corresponding member.

Wanted—A Healthy Stool Pigeon.—A Paris journal contains a "want ad." for a robust and distinguished individual to act the part of cured patient and pass the office hours in a physician's waiting-room.

The Supreme Court Sustains the Boston Board of Health.—On April 28th an Italian violinist was found by the Boston board of health to be fiddling in restaurants and other public places, before he had ceased desquamating from an attack of scarlet fever. He was taken to the City Hospital by order of the board of health, there to be confined until he could be allowed his liberty without being a menace to others. A petition was brought before the Supreme Court for a writ of habeas corpus for his release, but was promptly denied by Judge Allen. He will not be allowed to have his "corpus" at large in public places until it is freed from the contagious portions of its outer integument. It is reported that the court, in referring the petition, remarked that a case of this character never ought to have been brought before it, a fact which, it is to be hoped, will discourage counsel who may in future think of presenting cases which are so obviously at variance with common sense and public health.—*Boston Medical and Surgical Journal*.

Malpractice Suit Dismissed.—The suit against Dr. Mollenhauer, of this city, has been dismissed on the recommendation of the district attorney. He was brought into unfortunate notoriety by the death of a pretty waiter girl, Mary Shannon, whom he attended for peritonitis after some one else had performed an abortion.

A Lemon Pessary.—At a meeting of the Lyons (France) Medical Society a lemon was shown which a woman had employed as a pessary for prolapse of the womb. The woman had been in the habit of utilizing this fruit for this purpose for many years, alleging that she preferred it to every kind of pessary.

A Meeting of Sanitarians will be held in Chicago on June 10th.

The Ontario Medical Association will hold its sixteenth annual meeting in Windsor on June 3d and 4th.

The Woman's Medical College of Pennsylvania.—At the forty-fourth annual commencement of the Woman's Medical College of Pennsylvania, held on May 6th, the degree of doctor of medicine was conferred upon twenty-three graduates. Dr. Henry Leffmann, professor of chemistry and toxicology, delivered the valedictory address.

New Hospital at Sharon, Pa.—The Sharon-Sharpsville Hospital was formally dedicated on May 5th by Governor Hastings, who on behalf of the directors changed the name to that of the C. H. Buhl Hospital.

The British Association for the Advancement of Science, which meets this year in Liverpool under the presidency of Sir Joseph Lister, will meet in 1897 in Toronto under the presidency of Dr. Edward Frankland. It was thought that the Prince of Wales would consent to accept the presidency and would attend the meeting, visiting this country also, but he has refused the honor, so the association has had to fall back upon a president who knows something of science.

The Wisconsin State Medical Society will hold its fiftieth annual meeting in Madison on June 3-5, 1896. As previously announced, the entire session will be devoted to the discussion of topics relating to preventive medicine and hygiene.

Dr. J. Forster, of Amsterdam, has been called to the chair of physiological chemistry at Heidelberg, made vacant by the death of Hoppe-Seyler.

The Jenner Centenary.—The memory of Jenner has received but little honor in this centennial year of his discovery of the efficacy of vaccination. The American Medical Association, so it was announced long ago, was to do many things in honor of this great man. A few weeks before the Atlanta meeting it was stated, apparently officially, that an entire day would be devoted to the celebration of the centenary, but the official programme distributed to the members at the time of the meeting contained not a word of Jenner nor mention of those who had promised to take part in the celebration. When the subject was brought up in general session the association flatly refused to give up a day to it, though it gave up the greater part of a day to a barbecue. Finally it was agreed that those who had prepared addresses could deliver them, if time permitted, after the general session. And so the great man was honored by sufferance, but it can hardly be said by co-operation, of the American Medical Association. In England the centenary of vaccination is marked by a destructive epidemic of small-pox in a town only a few miles from the spot where Jenner's investigations were carried out. In Russia, where the celebration was to have been much more elaborate than the proposed ceremonies in this country, the Tsar is being crowned; so Jenner is to wait until October. We have not heard in how far the good intentions of the Germans and Japanese to honor the English discoverer have been realized, but we trust better than those of the Americans and Russians.

The Medical Society of Virginia will hold its twenty-seventh annual meeting at Rockbridge Alum Springs on September 8-10, 1896, instead of at Danville as was previously announced.

The Medical College of Ohio has become the medical department of the University of Cincinnati, though still retaining its old name.

Dr. John W. Williams, recently appointed associate professor of obstetrics at the Johns Hopkins University, is said by the *Maryland Medical Journal* to be the only native Baltimorean among the professors of that university.

Dr. Frances Rae, of Oshawa, Ontario, died in that town on May 8th. He was graduated from Toronto University in 1865. He left a widow and five children.

Professor Ehrlich has been appointed director of the new State institute in Berlin for the testing of therapeutic serum and of the laboratory attached thereto.

Professor Behring has been elected an honorary member of the Imperial Medical Society of Constantinople, of the Imperial Medical Society of Wilna, and of the Royal Italian Society of Hygiene.

Obituary Notes.—**DR. J. B. RAYNES**, of Lebanon, N. H., was drowned on May 22d by the upsetting of his canoe in a squall on Attuan Lake, Me.—**DR. CARL PENNINGTON FROST**, dean of the Dartmouth Medical College and professor of the science and practice of medicine, died May 23d at Hanover, N. H., of heart disease. He received the degree of A.B. from Dartmouth in 1852, was graduated from Dartmouth Medical College in 1857, and received the degree of M.D. from New York Medical College in 1859.—**DR. EDGAR H. STEERS**, of Philadelphia, died at Atlantic City on May 17th at the age of thirty-four years. Dr. Steers was born in Maryland, where he received his early education. He was graduated from the University of Pennsylvania in 1884 and became a resident physician in the Philadelphia Hospital, where he served for a year, resigning to take charge of the practice of Dr. T. S. Bartram. A year ago he was compelled to withdraw from professional work on account of ill health.—**DR. SAMUEL B. IRWIN** died suddenly at Manahawkin, N. J., on May 19th, at the age of seventy-four years.

The Waters of Jordan have lost their reputation for healing. Archduke Karl Ludwig of Austria, brother of the emperor, died in Vienna a few days ago, and it is said that the illness which caused his death was ascribed by his physicians to his drinking of the waters of the River Jordan, which he did as a matter of religious devotion upon the occasion of his recent pilgrimage to Palestine. The water of the Jordan resembles that of the Potomac in its tendency to cause diarrhoea in those who drink of it for the first time, and in the case of the archduke it was found impossible to arrest the bowel complaint so produced.

The Second Pan-American Medical Congress.—

The international executive committee for the United States has issued the following announcement: The committee on organization of the second Pan-American Medical Congress has elected Dr. Manuel Carmona y Valle, *President*, Dr. Rafael Lavista, *Vice-President*, and Dr. Eduardo Licéaga, *Secretary*, and has announced November 16, 17, 18, 19, 1896, as the date of the meeting to be held in the City of Mexico. The most cordial invitation is extended to the medical profession of the United States to attend and participate in the meeting. Titles of papers to be read should be sent at the earliest practicable date to Dr. Eduardo Licéaga, Calle de San Andres num. 4, Ciudad de México, Mexico. The date selected is in the midst of the delightful midwinter season, when the climate of Mexico is the most attractive to the northern visitor. The occasion should stimulate the medical profession of the United States to a most cordial reciprocation of the generous patronage accorded the Washington meeting of the congress by our Mexican confrères. It should be remembered that the United States is the largest and in many regards the most important of the American countries, and that as a consequence more is expected of it than of any other occidental nation. In no particular is this more true than in the maintenance of position in the realm of scientific medicine on the western hemisphere. It is, therefore, simply essential that in this congress—the most important of all medical congresses in its exclusive, yet broad, American significance—the best thought and the best work of the American profession shall be conspicuous in the proceedings. The zeal and enthusiasm of the Mexican profession and the active interest of the Mexican government are co-operating to make the second Pan-American Medical Congress attractive, important, and memorable. Those who contemplate attending should send their names and addresses at as early a date as possible to Dr. Charles A. L. Reed, St. Leger Place, Cincinnati, that the committee in Mexico may be advised of the probable attendance.

Prof. Germain Sée, of Paris, died in that city on May 12th. He was born seventy-eight years ago, and was graduated in medicine from the University of Paris in 1846. Six years later he was appointed physician to the hospitals, and later succeeded Trousseau in the chair of therapeutics of the Faculté de Médecine. He was elected a member of the Academy of Medicine of Paris in 1869, and was appointed a commander of the Legion of Honor in 1880. Dr. Sée was an original investigator and a voluminous writer.

Carrying Babies on Bicycles.—The officers of the Illinois Humane Society have announced that they will prosecute persons who take young children or infants on the front of their bicycles and ride with them in the streets or on the roads.

The Health of New Brunswick.—At a meeting of the New Brunswick, N. J., board of health, on May 14th, the following reorganization was effected: *President*, Dr. H. R. Baldwin; *Secretary*, Dr. A. V.

N. Baldwin; *Treasurer*, H. B. Willis; *Inspector*, Dr. A. V. N. Baldwin; *Counsel*, H. B. Willis; *Chemist*, Fred. B. Kilmer. In his annual report Inspector Baldwin stated that there had been reported during the year just closed twenty-four cases of scarlet fever, thirty-nine cases of diphtheria, thirty-six cases of typhoid fever, and five hundred and eighty-nine cases of measles.

Typhoid Antitoxin.—Antitoxin serum for the treatment of typhoid fever is to be prepared on a large scale at the laboratory of the Army Medical School at Netley, and the value of the remedy is to be tested in the British army.

New Clothes for the Insane.—The appellate division of the Supreme Court of New York has decided in favor of the Manhattan State Hospital in the controversy with the board of charities in regard to the rule requiring that all insane patients should be fitted out with new clothing before being admitted to the hospital.

The Association of Military Surgeons was in session in Philadelphia last week. At the session on Thursday, May 14th, the following officers were elected: *President*, Medical Director A. L. Gihon, U. S. N., New York; *First Vice-President*, Brig.-Gen. E. J. Forster, M. V. M.; *Second Vice-President*, Maj. John Van R. Hoff, U. S. A., New York; *Secretary*, Maj. Hermann Burgin, N. G. P.; *Treasurer*, Capt. James J. Erwin, O. N. G., Cleveland. Columbus, O., was selected as the next place of meeting.

Dr. John S. Billings has received the honorary degree of doctor of medicine from the University of Budapest on the occasion of its millennial celebration.

The Newark, N. J., Board of Health has been reorganized, Dr. H. C. H. Herold being elected president.

Cold in Pneumonia.—Dr. Thomas J. Mays, 1839 Spruce Street, Philadelphia, requests the publication of the following: "My two collective reports already published on ice-cold applications in acute pneumonia give a record of one hundred and ninety-five cases so treated, with seven deaths, or a mortality rate of 3.58 per cent. Being desirous of making as full a report as possible on this subject, I take the liberty of asking those who have tested this measure to kindly give me the result of their experience. Full credit will be given to each correspondent in the report which I hope to publish. Blanks for the report of cases will be furnished by me on application."

Dr. Charles A. L. Reed, of Cincinnati, has been selected by the European committee on organization of the International Periodical Congress of Gynecology and Obstetrics as honorary president of the meeting of that body, to be held in the city of Geneva, Switzerland, the first week in September of this year.

Dr. C. H. Tebault, of Tennessee, has been appointed Surgeon-General of the United Confederate Veterans, to fill the vacancy caused by the death of Dr. Joseph Jones, of New Orleans.

The Beaven Rake Memorial.—Subscriptions to the memorial to the late Dr. Rake, of Trinidad, have been collected to the amount of about \$400. Of this sum \$250 have been given to Dr. Rake's widow, the balance being expended for a bronze tablet to be placed in the entrance hall of the museum of Guy's Hospital.

Malarial Hæmatobia.—Mr. Laurie, residency surgeon at Hyderabad, is a pronounced opponent of the parasitic theory of malaria, denying the specificity of Laveran's malarial organisms. He announces now in a telegram to *The Lancet* that he has discovered these identical bodies in ordinary pus cells.

The Third International Congress of Psychology will meet in Munich from August 4th to August 7th inclusive. The titles of one hundred and thirty-two papers are announced already, several of them being by English and American writers. The general secretary is Dr. Freiherr von Schrenck-Notzing, Max Josephstrasse, Munich.

Dr. Playfair has had enough of the law, and has compromised his case with Mrs. Kitson, paying her some \$50,000, including costs, instead of the \$60,000 which was the amount of the judgment. The appeal has therefore been withdrawn.

The Cholera in Egypt shows no signs of decreasing. It has recently appeared at Tourah, where is located a prison camp containing over twelve hundred convicts. There was one death there on the 18th and fifteen one week later. The mortality rate is much higher than in most epidemics of cholera, the deaths averaging nearly ninety per cent. of the seizures. There were eighty-three deaths in four of the principal towns on Sunday last.

Venereal Disease in the British Indian Army.—There is a genuine epidemic of venereal disease among the garrison troops in India, the number of admissions to the hospital for that cause having been five hundred and eleven per one thousand. Sixty-three per cent. of the entire garrison of seventy thousand men is reported by the Sanitary Commission to have been infected, and over three thousand men daily were ineffective from that cause.

The Practitioner celebrates the Jenner centenary by issuing a "vaccination number," almost the entire number for May being devoted to historical notes on Jenner and to articles relating to vaccine and the results of vaccination. The frontispiece is an excellent reproduction of one of the Jenner portraits.

The National Association of Railway Surgeons.—At the ninth annual meeting of this association, held at St. Louis the last week in April, the following officers were elected: *President*, Dr. Frank J. Lutz, St. Louis; *Secretary*, Dr. Cassius D. Westcott, Chicago; *Treasurer*, Dr. E. R. Lewis, Kansas City, Mo.

The Late Dr. J. West Roosevelt.—The medical board of the Roosevelt Hospital has heard, with painful surprise and profound sorrow, of the sudden death of Dr. J. West Roosevelt. One of the youngest members of the attending staff, he had the hope and the

promise of a long, useful, and brilliant career. Dr. Roosevelt's buoyant spirit, alert intelligence, and professional acquirements, united to his keen sense of humor and manly character, made him always a welcome presence and a valued counsellor in the wards and in the deliberations of this board. We desire to put on record our high appreciation of his professional merits and his engaging personal qualities. Identified as he was by name as well as by an earnest sympathy and active co-operation with the work of this hospital, Dr. Roosevelt's untimely death must be deplored as a serious bereavement by the managers and by his colleagues in the medical board.

The Twelfth International Medical Congress.—We have received from Professor Erismann a copy of the regulations of the Moscow Congress, containing the new amendments relating to the questions of language and of the division into sections. The following are the sections into which the work of the congress will be divided: 1, Anatomy, including anthropology and normal embryology and histology; 2, physiology, including medical chemistry; 3, general pathology and pathological anatomy; 4a, general therapeutics, including hydrotherapy, climatotherapy, etc.; 4b, pharmacology; 4c, pharmacognosy and pharmacy; 5, internal diseases; 6, pædiatrics; 7, nervous and mental diseases; 8, dermatology and venereal diseases; 9, surgery; 9a, odontology; 10, military medicine; 11, ophthalmology; 12a, otology; 12b, laryngology and rhinology; 13, obstetrics and gynecology; 14, hygiene, including sanitary statistics, social medicine, epidemiology, epizootology, and technical sanitary science. In a note it is stated that supplementary sections will be organized in case of necessity. The regulations as to language have also been modified, French being retained as the sole official language of the congress in all its international relations, but the use of English, as well as of French, German, and Russian, being permissible in the sections. Addresses in the general sessions may be delivered in any European language.

Dr. A. Jacobi, of this city, has been directed by the central committee of the congress to form an executive committee for America, to be composed of representative medical men from different sections.

A New Hospital in Passaic.—Subscriptions are being solicited in Passaic, N. J., with a view of establishing a hospital there, and thus far about two-thirds of the desired sum of \$25,000 has been obtained. The lot on which the hospital will be built is in an elevated portion of the city, and is about two hundred by four hundred feet in area.

Coroner's Physicians.—Dr. H. W. Cattell and Dr. Thomas J. Morton have been appointed physicians to the coroner of Philadelphia, vice Dr. H. L. Sidebotham, resigned, and Dr. W. K. Mattern, deceased.

Wistar Institute of the University of Pennsylvania.—Through the generosity of Gen. Isaac J. Wistar a number of new buildings will be added to the Wistar Institute of Anatomy and Biology, which was founded in 1892 for the preservation of the Wistar and Horner museums and for the promotion of study and

advanced research in anatomy and biology. The most important of the new buildings will adjoin the present one, and will be used chiefly for the accommodation of the large number of specimens that have been contributed to the Wistar and Horner collections during the past three or four years. A second building is designed to furnish heat and light to the institute. When the institute was established General Wistar endowed it sufficiently to provide for beginning the advanced and original work for which it was intended. Every facility will now be provided for the work of original investigators under the supervision of a competent director and skilled assistants. The course is intended for post-graduate and advanced students and not to supersede such elementary instruction of under-graduate students as pertains to the ordinary curriculum of the university. The grading of the ground previous to the erection of the new buildings has already been begun, and it is expected that the work will be completed by the beginning of the fall term.

College of Physicians of Philadelphia.—At the stated meeting of the College of Physicians of Philadelphia on May 6th, the vice-president, Dr. John Ashhurst, Jr., in the chair, Dr. Alfred Stengel related a case of gonorrhœal endocarditis in which organisms morphologically resembling gonococci were found after death in the valvular lesions complicating an attack of gonorrhœa in a young woman. Cultivation experiments proved unsuccessful. Dr. J. P. Crozer Griffith exhibited a heart with perforated septum ventriculorum from a child dead at the age of four years of an attack of pneumonia. The condition had been recognized during life, though unassociated with cyanosis. Dr. F. A. Packard reported a case presenting congenital deficiency of both inter-auricular and inter-ventricular septa, which had existed for forty-five years without giving rise to noteworthy symptoms. Dr. John B. Shober described "An Unusual Thoracic Aneurism" occurring in a young colored woman, and involving either the ascending or the transverse portion of the arch of the aorta. He exhibited photographs and plaster casts showing the successive changes in the external swelling, especially the reduction in size that followed anti-syphilitic medication. Dr. J. Hendrie Lloyd reported a case of tumor of the cerebellum, in which during life forced movements took place toward the side on which the growth was situated. He also exhibited a specimen and photographs of the patient. In the discussion the subject of surgical interference in similar cases was not spoken of with any degree of hopefulness, although it was pointed out that the intensity of the headache could be materially relieved by trephining. Dr. Weir Mitchell emphasized the variability of the knee jerks in cases of cerebellar tumor. Dr. Thomas S. K. Morton, on behalf of himself and Dr. John H. Musser, related briefly a case of carcinoma of the descending colon, in which excision of the neoplasm was practised and anastomosis effected by means of the Murphy button, with maintained recovery of the patient. Dr. J. Solis-Cohen exhibited the Kirstein autoscope, which,

on depressing the tongue and drawing the epiglottis forward, permits of direct inspection of the interior of the larynx and trachea without the aid of a laryngoscopic mirror. He also exhibited a tongue depressor which he has employed for upward of twenty years, and with which he has found he can accomplish almost the same results as with the autoscope.

A most interesting and instructive meeting of the surgical section of the college was held on April 8th, under the chairmanship of Dr. J. William White. Dr. Thomas S. K. Morton related the case of an infant nine months old, from whom he had removed a large angioma of the chest wall almost bloodlessly by means of first introducing a series of deep interlocking ligatures, and after the excision of the mass ligating the divided vessels individually. He also exhibited a large portion of a fibula removed in a case of nephritis on account of partial necrosis; and also a specimen of obliterating appendicitis, obtained from a man who had suffered from attacks resembling gastralgia in conjunction with pain in the left iliac fossa. He further showed an immensely enlarged carcinomatous breast successfully removed by the method of Halsted. Dr. Edward Martin exhibited a woman in whom he had repaired an ununited fracture of the humerus, by means of metallic plates secured to the fragments of bone with ordinary carpenters' screws. He also showed casts illustrating the result secured by means of the chiselling operation in a case of deformity of the nose from fracture. Dr. J. William White and Dr. C. L. Leonard exhibited lantern slides prepared by Dr. A. W. Goodspeed, illustrating the practical application of skiagraphy to surgery. A number of the patients also were shown. Among the cases detailed were the following: Ununited fracture of both bones of the forearm, showing wire sutures in position; ununited fracture of both bones of the forearm, showing union between the proximal extremity of the ulna and the distal extremity of the radius; ankylosis of the elbow after fracture of the humerus and dislocation of both bones of the forearm backward; partial ankylosis at the elbow-joint after old fracture, with partial loss of flexion and extension and pronation and supination; excision of the head of the radius for forward luxation; curvature of the radius due to arrested development of the ulna at its distal epiphysis; diastasis of the distal epiphysis of the humerus, resulting from a fall upon the hand; diastasis of the proximal epiphysis of the humerus, with overlapping of the fragments and union in faulty position; the result obtained in excision of the knee; foreign bodies in the arm; bullet in the forearm. Dr. Goodspeed exhibited also a number of slides illustrating various portions of the normal skeleton. Finally, Dr. T. S. K. Morton exhibited slides showing the normal foot and also the conditions present in the affection known as metatarsalgia or Morton's disease of the foot.

The Blood in Malaria.—A telegram from India received in London a few days ago states that three important observations have just been reported by Dr. Lawrie with reference to the microscopic examination of the blood in malaria: (1) One of his students, who

has been getting fever every two or three months, has had his blood examined every day. Since the last attack up to yesterday Laveran's bodies were entirely absent from the blood. After yesterday's examination he had fever and ague, and to-day the blood contains them in abundance. (2) The characteristic swarming movements of Laveran's bodies, already detected by Dr. Lawrie in normal leucocytes, have now been found in aseptic pus cells, and these are known to be also leucocytes. These facts prove that Laveran's bodies are the effect, not the cause, of malaria, and establish their close relationship to the white blood cells. (3) Dr. Lawrie has shown that aseptic pus swarms with the same small cells and granules found in the liver and spleen of frogs, in normal leucocytes, and in Laveran's bodies, and these are not micrococci. Cocci have automatic movements, but the granules and small cells of aseptic pus have only the swarming movements seen in leucocytes and Laveran's bodies, which movements are produced by intra- and extra-cellular circulation.—*Medical Times and Hospital Gazette*, May 9, 1896.

Antitoxin Treatment of Diphtheria in Glasgow.

—In the May number of the *Glasgow Medical Journal* Dr. Ernest L. Marsh publishes some tables showing the influence of orrhoterapy in diphtheria. The cases admitted to the City of Glasgow Fever Hospital during 1895 numbered 179, and of these 137 were treated by antitoxin, the remaining 42 being either mild infections (38 cases) or profound toxæmias (4 cases) moribund on admission. The fatal cases numbered 25, giving on the admissions a percentage of 14 deaths. In the five years previous to 1895 the cases of diphtheria had never given a less percentage than 35.5 deaths in any one year. Of the 179 patients in 1895 tracheotomy was needed in 29, and of these 10 died, giving a mortality of 34.5 per cent. Dr. Marsh contrasts this low death rate with the high mortality of the tracheotomy cases in previous years—viz., 76.2 per cent. (42 cases) in 1893 and 86.9 per cent. (23 cases) in 1894.

Pennsylvania Training-School for Feeble-Minded Children.

—Splendid work is being done by the Pennsylvania Training-School for Feeble-Minded Children at Elwyn, near Media, Delaware County, Pa., where nine hundred and eighty-two children are under observation and care. The institution is a private one, being maintained primarily by voluntary contributions, although it receives additional support from the State, to an extent inadequate, however, to meet the demands upon its resources from those unable to pay and in need of just such care, discipline, and instruction as the school can and does most excellently give. Attention is paid to both intellectual and manual training, and not a little of the work about the place is done by pupils. Within the last six months a good deal has been accomplished by means of instruction in articulation. From the forty-third annual report just submitted to the members of the State legislature, to the State Board of Public Charities, and to the contributors, it appears that of two hundred and one applications made during the year eighty-five were

rejected—the majority from failure to meet the requirements, many of the applicants not being residents of the State. A considerable number could not be accepted because of lack of accommodations. It appears that of nearly nine thousand idiots in the State of Pennsylvania, almost a thousand are cared for at the school at Elwyn.

The Bayonne, N. J., Board of Health has re-elected Mayor Seymour to the presidency for a second term of one year.

The American Gynecological Society held its twenty-first annual meeting in this city during the past week under the presidency of Prof. W. T. Lusk. The sessions were well attended and the papers presented were of high merit. A full report of the proceedings will appear later. The social programme comprised luncheon at the Holland House by the entertainment committees and in the Metropolitan Club by the New York Obstetrical Society; also receptions at the residences of Professor Lusk and Professor Polk respectively, and a banquet at Sherry's. Dr. James R. Chadwick, of Boston, was elected president, an honor worthily bestowed.

Berliner Aerzte-Correspondenz is the name of a new German bi-monthly publication devoted more particularly to the business interests of the medical profession.

The Maine Medical Association.—The forty-fourth annual meeting of this association will be held in Portland, Me., Wednesday, Thursday, and Friday, June 3, 4, and 5, 1896. The officers of the association are: *President*, Dr. L. W. Pendleton, Portland; *First Vice-President*, Dr. D. A. Robinson, Bangor; *Second Vice-President*, Dr. C. E. Williams, Auburn; *Treasurer*, Dr. August S. Thayer, Portland; *Recording Secretary*, Dr. Charles D. Smith, Portland; *Corresponding Secretary*, Dr. W. T. Goodale, Saco.

Medical Students in Germany.—According to the latest edition of the *Universitäts-Kalender* the number of medical students in the several German-speaking universities in the winter semester 1895-96 was as follows: Vienna, 1,727; Munich, 1,466; Berlin, 1,258; Würzburg, 788; Leipzig, 699; Graz, 636; Erlangen, 472; Freiburg, 380; Greifswald, 351; Breslau, 316; Strassburg, 312; Zurich, 309; Bonn, 270; Kiel, 264; Halle, 252; Marburg, 226; Göttingen, 225; Königsberg, 223; Jena, 207; Tübingen, 206; Heidelberg, 201; Giessen, 154; Rostock, 98.

The Iowa Anti-cigarette Law is being circumvented by some manufacturers who make a cigarette covered with a light tobacco wrapper instead of paper, which makes it not a cigarette in the meaning of the Iowa statute.

Dr. Charles F. Leach, a medical missionary, formerly a practising physician in this city, was murdered with his wife and infant son on May 5th. He was working as a missionary at Fsax, near Tunis, and was meeting with most gratifying success. It is thought that religious fanaticism inspired the Mohammedans to assassinate him.

Dr. George Peters, of Toronto, has succeeded the late **Dr. Laughlin McFarlane** on the staff of the Toronto General Hospital and as professor of clinical surgery at Toronto University.

Fees for Insurance Examinations.—At the annual meeting of the Florida Medical Association, held in Sanford, April 7, 1896, the following resolution was adopted and the secretary authorized to send a copy to every medical man in the State, and to the insurance companies:

"Resolved, That it is the sense of this association, in convention assembled, that we most emphatically protest against the reduction of examination fees for life insurance as proposed by the several insurance companies, and that we insist that so long as said insurance companies require the high and necessary standards of examination as have been in force, we refuse (and so advise all physicians in Florida) to make such examinations for less than the usual fees that have heretofore been paid."

Hamline University, of Minneapolis, on April 8th graduated its first class since incorporating the Minneapolis College of Physicians and Surgeons as its medical department. The class numbered twelve.

In **Illinois** there are over one thousand towns without a resident physician. At least such is the statement going the rounds of our exchanges. The towns must be very minute.

Reviews and Notices.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by **THOMAS L. STEDMAN, M.D.**, New York City. In Twenty Volumes. Volume V. "Diseases of the Skin." New York: William Wood and Company. 1896.

THE appearance at the present time of Vol. V. would naturally lead to the inference that one-quarter of the proposed series has been completed. Such is, however, not the fact, since Vol. VI. has already been distributed out of its regular order.

The test of a book's utility and fulness is often to be found in referring to the index. Instead of adding, as is usually done at the end of a review, "the volume is finished with a full index," the reviewer, in the present instance, has made use of the index to test the fulness of the book. With very few exceptions every cutaneous disorder looked for, however rare, was found entered under at least one of its designations, and, turning to the pages referred to, an account of the affection was to be found, though sometimes, to be sure, given in a brief manner. Throughout the entire book one cannot avoid the impression that what he is reading is thoroughly modern. One well versed not only in the books of the day but also in current journal literature will be surprised to note how certain subjects are treated, in advance even of the times. Still this is what one might naturally expect from a work having the scope and title of the series to which this volume belongs.

There are many dermatological puzzles still unsolved and one man's guess ought to be as good as another's, or, as the Irishman would say, even better. Many of the views here advanced concerning moot points in etiology or pathology would seem to have been inspired by modern progress in bacteriological and other branches of scientific research. The guessing is not so uniformly like that in the last skin book one has read. Certain things have to be said in much the same way as previous authors have said them, but new works need not of necessity be constructed from the torn-out pages of those previously written by other men. The volume before us shows little evidence of unnecessary cribbing. Indeed, the standing of the eleven contributors is such that if it were thought best to incorporate previous writings in this

volume almost any one of the authors could have drawn upon his own former work.

Dr. Brocq, of Paris, has furnished the chapter on the papular affections including the lichen group and pityriasis rubra pilaris. This will be a portion of the book in which most American dermatologists will be interested, since these particular diseases must be acknowledged to present many points which are still open to final decision, and here as well as in France their discussion has often been warmly engaged in. Especial stress is laid upon what the author calls lichenification, a condition associated with many pruriginous states and to be diagnosed from lichen rubra planus, etc.

Dr. Whitehouse, of New York, has been given two subjects, both of considerable extent: the erythematous affections and the bullous affections. Both have been treated with evidences of careful research.

Parasitic diseases have been exhaustively and most interestingly discussed by **Dr. Bulkley**, also of New York. Numerous surprises are here in store for him who has not booked up on this branch for the past ten years. The chapter includes the most recent investigations.

Dr. Crocker, of London, has written in his characteristic and pleasing style upon the squamous affections and also a chapter on the phlegmonous and ulcerative diseases.

Dr. Montgomery, of San Francisco, has had charge of the portion which treats of the hair and nail diseases, of which he has made a very readable chapter, and for those who wish to pursue the subjects further there are fifty-three bibliographical references.

Dr. Van Hariingen, of Philadelphia, is responsible for all that is said upon diseases of the sebaceous and sweat glands. The various acne forms have been considered in a very systematic manner, and many formulæ and prescriptions are scattered through the text.

Dr. Bowen, of Boston, has well acquitted himself of the task of telling in a concise manner all there is to be told about benign neoplasms.

Dr. Leloir, of Lille, France, has presented a most interesting and rather long chapter upon the dermato-neuroses. Probably no one is better qualified than this distinguished specialist to treat upon the various, and at times complicated questions which arise in connection with this important branch of dermatology. Many excellent therapeutic suggestions are here made.

Dr. Kaposi, of Vienna, has become sufficiently identified with that rare and striking disease, Xeroderma pigmentosum, to have it sometimes called Kaposi's disease. It is therefore most appropriate that the editor has secured the services of this distinguished teacher in the preparation of a short chapter relating to it. A number of histological illustrations add to its interest.

Dr. Hyde, of Chicago, has had the difficult task of confining within less than a hundred pages all that one should know about eczema and dermatitis. It is probably always better to know less than to know "so dashed much that isn't so," as **Josh Billings** put it. **Dr. Hyde** has acted on this theory in leaving out much that has been taught in previous years about eczema.

Beginning as we did with the index, it is only right that we bring to a close what we have to say with a word about the introductory chapter.

Dr. Allen, of New York, has succeeded in so condensing the knowledge now possessed as to the skin's histological structure that it is all told upon twenty pages, inclusive of six good-sized woodcuts. The writer states that "no attempt has been made to make this chapter exhaustive." In compensation there is a rather full bibliographical list.

It would be an injustice to stop here and not say a word of commendation for the editor. His work has been done with evident care and intelligence. To secure accurate and at the same time elegant translation of the writings of foreign contributors and to make sure of the orthography of the many new dermatological terms is a task which deserves a word of praise when it is so well done as in the present instance, to say nothing of laying out the plan of campaign and choosing wisely the executive staff. There are a few slight typographical errors. Upon page 469 occurs the sentence, "since she weaned her last child." The typo must have changed the position of the "c" after the proofsheets were in.

As a whole the volume compares very favorably with those that have gone before, and dermatologists will have no cause to regret the manner in which their branch is presented in the "Twentieth Century Practice of Medicine."

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

SECTION ON DISEASES OF CHILDREN.

First Day—Tuesday, May 5th.

THE CHAIRMAN, DR. A. C. COTTON, of Chicago, delivered the opening address, taking as his subject

Has the Milk Laboratory Come to Stay?—The marked advances which have of late years been made in the preparation of infant food had guided him, he said, in the selection of a topic. He first passed rapidly in review the prevailing opinions in regard to feeding by artificial means which have from time to time governed physicians in the selection of infant food.

Whatever has been the accepted method for the given time, the echo has always come from the past, "I told you so." If it is thought best to treat the milk chemically, the echo says, "I added lime water years ago." If the fermented products, kumyss or matzoon, find favor, the echo from the past says, "I advised buttermilk" or some fermented preparation years ago. When sterilization is in vogue, the echo cries, "Did I not boil it years ago?"

A new impetus has been given to discussion of the subject by the establishment of milk laboratories, mainly through the efforts in this country of Dr. Rotch in Boston, and so clearly do they fill the indications for accurate scientific feeding that they must be considered as standing in the same relation to the physician in matters of diet as the well-equipped and well-managed pharmacy does in matter of therapeutics. The milk laboratory, then, the speaker concludes, fills a pressing need and has undoubtedly come to stay.

The next paper was read by DR. C. G. SLAGLE, of Minneapolis, upon

Diagnosis in Diseases of Children.—Pædiatrics can never become a strict specialty, since he who attempts to adopt it as such must be a diagnostician in all departments. He must be a practitioner in every branch, and something more. It is the "something more" upon which he would invite discussion. Diagnosis is the most difficult problem. It is the culmination of all we can learn, and is the real practical test of every man's knowledge and skill. Some few, and only a few, possess a natural tact for diagnosis. System in examination is often lacking. Some unskilled in the art claim that exact diagnosis is no longer necessary, but this is a fallacy. In infants and children it is especially important that not only accurate but early diagnosis be made. Especially important is this in contagious diseases. The speaker thought that a man who could diagnosticate correctly four-fifths of his cases was a fairly good diagnostician. Physical signs in the chest do not afford the same aid in the child that they do in the adult. Forty years ago pædiatrics had little standing as a specialty. There was but one American text-book. Much of the credit for the rapid advance made in recent years the speaker thought due to the efforts of Jacobi, who had done so much to elevate the specialty. Many American authors were highly complimented on the work they had done in this field.

DR. LARRABEE said that too much attention could not be paid to diagnosis in the education of young men. The value of this study is greatly enhanced by close attention to diathesis. We have, each one of us, a weak point somewhere by inheritance. These weak points must be watched for and brought to bear upon the diagnosis of disease. Stress was laid upon the necessity for examination of the nude outstretched body. Inspection often reveals a minute symptom

which will point the way. Physiognomy, he thought, should be studied and the facies closely read.

DR. MOODY, of Louisville, said the absence of the aids found in the adult offer obstructions which can be overcome only by tact and patience. We can tell much by inspection of the child's expression. Examination of the chest sounds, especially during sleep, he found more satisfactory than auscultation in the adult. The thinness of the chest tissues secures an advantage over examinations of adults.

The next paper was by DR. LARRABEE, of Louisville, upon

Pædiatric Therapeutics as Proven by Experience.

—It is well at times to examine our weapons, powder, and ammunition. We must not degenerate into selectors of therapeutic proprietary remedies. Prescribe single and simple remedies with a correct knowledge of their elimination from the body and of the organs exercised in such elimination. Small and frequently repeated doses were advocated in infantile therapeutics. Numerous instances of such successful medication were quoted from the speaker's practice. Polypharmacy results in compound incompatibilities. One ought not to carry an emergency case filled with compounds which depend upon the knowledge and skill of the pharmacist for their preparation. Antiseptics for intestinal use were then taken up, and pure guaiacol was highly spoken of for certain conditions. Nascent phenic acid, as now obtainable in this country, made after the Debat formula, has long been used by the speaker and is highly thought of. "We can never go back to astringents for infantile diarrhœas. In typhoid fever hydrotherapy was advocated. Milk, as such, should never be given alone, but in gill doses mixed with lime water. Buttermilk, when obtained fresh, is to be preferred. Antitoxin serum treatment has in his hands been the means of saving life, but he has also seen deaths result from its use. In speaking of emetics, while turpeth mineral was advocated, it was thought that antimony and syrup of ipecac should be banished from infantile therapeutics. Water is too often overlooked as an external means of treatment in the exanthematous and other states. Water is the only expectorant in bronchitis and pneumonia which the speaker ever gives.

DR. SLAGLE agreed that antimony and syrups should be abandoned, but he found turpeth mineral too irritating, except possibly in membranous croup, as a last resort. He prefers sulphate of aluminium and powdered ipecac.

DR. TULEY thought local treatment should not be abandoned when we use antitoxin. Stomach washing should supplement emetics.

DR. LOVE, of St. Louis, said that too little stress was laid upon the importance of the subject of infantile therapeutics. If he could choose but two remedies, he would name water and calomel. The hydropath, who was looked upon with disfavor in the past, has taught us much of the value of water. Lavage should not be ignored. The adult can overdrink and expel the water of his own volition, but the child's stomach must be washed.

Turpeth mineral is an excellent emetic in laryngitic stenosis. Opium should be withdrawn from the list of useful drugs. Syrups should be ruled out entirely. Conservatism is most of all necessary at the bedside of the baby. Antitoxin must be applied early. Most cases reported are in reality those of follicular tonsillitis.

DR. KLEBS, late of Munich, spoke briefly, but reserved most of his remarks for the general discussion upon the antitoxin question.

DR. LARRABEE said that when a non-absorbable emetic was necessary, turpeth mineral was the best one to use, partly because of the small dose required.

Alcohol should be omitted from infantile therapeutics, because depression must of necessity follow. Feeding or food stimulation is much better.

DR. COTTON said the subjects of the papers read touched every practitioner closely and opened up a wide field for discussion.

DR. ELMER LEE, of Chicago, read a paper entitled **The Fallacy of the Claims Made for Antitoxin as a Treatment for Diphtheria.**—The history of the origin and the clinical use of antitoxin was briefly entered into, and reference was made to the discovery in 1884 by Pasteur of the hydrophobia treatment, from which it was shown that the improvement in the percentage of death due to the treatment consisted not in a better understanding of the process, but in the greater dilution of the Pasteur lymph. It was shown that an analogous condition has been the experience of clinicians with reference to the use of antitoxin. The stronger the antitoxin, the greater the danger. The explanation given concerning the reason for the early use of antitoxin is entirely dependent upon the relative strength of the patient to withstand the assault upon the system made by the introduction of extraneous poisonous matter. Diphtheria is classified by the author into true clinical diphtheria and diphtheria of the bacteriologic laboratory, a distinction which did not exist previous to the present stage of bacteriology. The first class is diagnosticated by the clinician at the bedside, while the second depends chiefly upon the findings of the culture tubes within the laboratory. The bacteriologist affirms that the throat manifestations are paramount in importance, contrary to the experience of clinical observations. Systemic poisoning, owing to lowered vitality, are essential factors in the causation of diphtheria. The special pathologic change in the fauces is considered by the author to be of secondary importance. The use of antitoxin as a curative agent is empirical rather than scientific, owing to the utter impossibility of measuring the exact chemic action which takes place within the blood. It is seriously questioned whether it is possible to successfully neutralize a toxæmia by the introduction of a foreign substance which has no natural place in the human economy. The proposition agrees with the supposed effect based upon the theory of *contraria contrariis curantur*, but is utterly inconsistent with natural physiologic reasoning. The difficulty of determining the exact value of a therapeutic agent makes it next to impossible to put absolute reliance in statistical tables furnished by the sponsors of antitoxin treatment. If the cases were all of similar character, and the treatment could be classified by control experiments, the conclusions would approach reliability. As it is, it must ever remain largely a question of personal experience and faith as to the value of the curative influence of special drugs and preparations. Very much is done to increase the belief in the efficacy of antitoxin by the modern secular press, the family of the patient frequently requesting and almost demanding that antitoxin should be used, the position of the physician being dependent upon the impressions made by the inaccurate statements of newspapers. The value of the treatment is thus prejudiced in its favor, which sometimes throws a shadow across a conservative judgment as to the true effects. Undoubtedly fatal results have occurred, but in each instance some special plea has saved the treatment from condemnation. The use of antitoxin, therefore, goes on, owing to the seductive claims which were published at the outset and which the profession has not had the experience necessary nor the courage to correct.

The careful records of the Willard Parker Hospital furnish sufficient evidence upon which to base a fair judgment as to the value of antitoxin. It is shown from this hospital that the claims of the foreign path-

ologic investigators have failed of being substantiated. When all the facts, based upon a cooler judgment, are taken into consideration, the clinical experience of the whole profession renders it necessary to proceed further in the use of antitoxin with caution. It is true that diphtheria when treated by antitoxin has appeared to be favorably influenced, but the claim that it is a reliable and safe treatment is far from being established. A little time is still required in which to enable the profession to sift the facts and determine the place of antitoxin in therapeutics. Already the chief promoters who favor antitoxin for the cure of diphtheria are rapidly receding from the position that antitoxin is also a preventive of the disease. It is almost certain that the ensuing year will witness a return to former methods of treating diphtheria, judging from the straws which show the way the wind blows.

The next paper was by DR. JOSEPH W. STICKLER, of Orange, N. J., entitled

An Experience with Antitoxin with Instructive Results.—The writer first related a clinical case in which the serum was used in increasing laryngeal stenosis, membrane being demonstrable by the laryngoscope and the depression making rapid progress. Recovery began at once and was complete at the end of a week. In Case II. the Klebs-Loeffler bacillus was demonstrated. The depression was great, the system was profoundly poisoned, and the patient died twenty-four hours later. This case showed the futility of using the serum when the economy is profoundly affected. It is only indicated in a case similar to the first.

A paper was read by DR. LOUIS FISCHER on **Some Practical Points on the Effects of Antitoxin and Intubation, with Especial Reference to Infant Feeding in Malignant Diphtheria.**—In making the injection, those parts of the body should be selected where there is no danger of injecting air into a large vein. Intubation should be made use of to avoid asphyxiation in severe stenosis. It is imperative to overcome dangerous symptoms, such as high temperature, as quickly as possible, but antipyretics should not be given. Enemata and water should be used and remedies given hypodermatically as much as possible. In malignant cases the respiration may reach as many as a hundred per minute. Its fall indicates an important improvement, just as does the disappearance of albumin from the urine.

In the discussion of these two papers PROF. EDWARD KLEBS, of Zurich, spoke first. He said Dr. Lee took the view that the bacilli were not surely proven to be the cause of diphtheria. He thought we must at the present day admit, even from clinical experience alone, that the disease is an infectious one. It is true that the bacilli are often found in the throats of healthy persons, but it is probable that in such persons they are exercising only their non-poisonous effects, as is observed in very many other organisms. Children often are taken sick just after catching cold. In such cases the organism has been previously present, but exerts no deleterious effect until the process of catching cold causes some change in the tissues of the body which permits the previously innocent bacilli to develop. He had lost a child of his own in such a way. Dr. Stickler's cases, giving one favorable and one negative effect, are in keeping with the history of all remedial measures. Our results are not uniformly successful by any measures. The speaker advocated fair play in the antitoxin controversy. We must first consider the experimental foundation for the whole question. There is an anti-poisonous effect from these substances—this we must admit. The experimental observations must be admitted and accepted as they relate to man. The preventive influ-

ence must not be confused. We have better ground for saying that preventive injections cannot have a good influence than for saying that they have, since these substances are found to be good culture media. Antitoxin has no immunizing power, so far as the speaker is aware. Statistics always have elements of error connected with them. In the past year there has been a very great diminution in the death rate. This must be taken into consideration. The danger alluded to by Dr. Lee requires carefully prepared statistics. Evidently children have been killed by injections. This imposes so great a responsibility upon the physician who uses the method that the question requires much discussion. It is a bad plan to inject in the region of the chest—in the subclavicular region, for example, where the veins are large and form a plexus. Then, too, it is not well to inject so near the centres of respiration. The gluteal is a much better region. The vessels are smaller and the injection can be made directly into the muscle. The shock of the injection alone might be responsible for the sudden deaths in some cases in which no air is found to have been injected into the veins. The cause of death must reside in the poisonous substances which exist in the fluid, but how do they come to reside there? He believes that the poison gets accidentally into a single bottle in the process of filling. An occasional bottle may be spoiled; this often happens in bacteriological work, as every one knows.

We conclude then that we can never be sure. Personally, he would always inject a guinea-pig before using a new bottle on a child. He strongly advised giving up preventive injections. He admired the bacteriological management here in this country, with the board of health examinations made gratis. In Europe the authorities refuse to do this, on the ground that it is too expensive. He thought without flattery that the Americans were in this respect more liberal. Some antiseptic should be added to antitoxin which does not itself coagulate albumin, but which will prevent any other organism from growing in it. He spoke of a new antiseptic, chinisol, much stronger than carbolic acid and existing as a very soluble powder, which he thought might be employed. He had found it very efficacious as an external antiseptic in eczema, etc. He intended proposing it to those interested in antitoxin preparation.

DR. E. CASSELBERRY, of Chicago, said intubation had been in his hands very unsatisfactory in stenosis. Patients coming to the stage of operation during the past year have been saved by the use of antitoxin. Indeed the latter has resulted in a saving of patients extending to so high a figure as seventy-five per cent. The swelling associated with the presence of membrane subsides within twenty-four hours. The bronchopneumonia does not so frequently supervene. In laryngeal diphtheria antitoxin has been a decided aid. He does not advise it as a preventive measure. The clinical is equal to the bacteriological test. Records show that deleterious results come mostly from its use in health. We should wait until a reasonable diagnosis of the presence of diphtheria can be made before using antitoxin.

DR. LARABEE said there was no longer a germ theory, but a germ fact. It is only during germ activity that we have disease. It is surprising that we have thought of immunizing against a disease which does not immunize against itself. Antitoxins, if properly prepared, should arrest the disease in its progress. He has seen four children die who would not have died had they not used antitoxin. On the other hand, he had seen twelve patients recover from stenosis under its use who would have died without it. The fatality in reported cases of sudden death by injection of air cannot be explained. He has observed a sudden

and inexplicable anuria in such cases. That heterogeneous toxins or ptomains are present, he thought was shown by the rashes often produced. Ocular inspection should cause us to exclude turbid-appearing serum. Septic matter should be removed from the throat, as it is when the antitoxin is not used. The blood can be fortified against destruction as in former days by the muriate-of-iron tincture given internally, and it should be applied to the throat externally.

DR. W. B. PARKS, of Atlanta, said that most of the diphtheria in Atlanta is follicular tonsillitis and patients get well without antitoxin.

DR. ROSENTHAL, of Philadelphia, said the latest report by Dr. Billings, of New York, shows that after antitoxin is used the blood is not altered. Individually, he has never seen abscess or other bad effect. His injections are made with the utmost antiseptic care in the interscapular spaces, sealing the puncture with iodoform collodion. He believed that antitoxin possesses great powers, but against the Klebs-Loeffler bacillus alone. If there is compound or mixed infection, then we must use other remedies, and the tincture of the chloride of iron is the best drug he knows of. Since using antitoxin he can remove the intubation tube much sooner than formerly. Bacteriologic investigations have their necessity, but bacteriology is not everything.

DR. ROSS, of Kohamo, Ind., said he never had seen, out of about fifty injections, any local signs of irritation and only once an erythema. Not a patient of his was lost, nor was a patient lost in his city in about two hundred cases, while those on whom it was not used furnished a number of deaths.

DR. GRAY, of Connecticut, said that in Bridgeport he has seen about seventy patients treated; twenty-eight of his own, out of which number only one died. Better results were obtained from initial doses of one or two thousand units than from the small doses of a few cubic centimetres. Recovery was rapid in all the cases, excepting the one resulting fatally.

DR. TOMLINSON, of Michigan, said it was very gratifying to him that, having defended the treatment at last year's meeting, so much could now be said in its favor. Even if antitoxin has killed a few, it has cured thousands, and he would give it up on this account no sooner than he would discard cocaine because death has resulted from its use.

DR. BELL, of Atlanta, spoke of the use of antitoxin in the New York Infant Asylum as showing conclusively during his time of service that an antitoxic effect was produced. These children stand comparative large doses of iron. He believed in using antitoxin for its immunizing effects when the bacilli were found in the throat.

DR. GARRISON, of Illinois, said two-thirds of the population in her town had had antitoxin injections made for supposed diphtheria, but the bacillus was never to be found and there were no deaths.

DR. BAKER spoke of his experience at the Willard Parker, where he observed one hundred and fifty cases, but he saw no results which could not have been obtained without antitoxin. He thought two years more would be required before we can speak finally as to the value of antitoxin.

DR. WILSON, of Ohio, spoke of a severe epidemic in which he lost his cases until he began using antitoxin. Then a series of sixty cases recovered. Those who refused to use antitoxin in his town were the ones who lost most of the patients that succumbed.

DR. KUTE, of Pennsylvania, said he believes that a true attack of diphtheria does immunize; hence the argument which has been used is fallacious.

DR. KLEBS said we have different forms of immunity. Recurrences in diphtheria do take place, but not so often as in pneumonia. We cannot compare

different infectious diseases with each other. Many of the children in a family in which diphtheria exists may show bacilli in the nose or throat, and without any injection may never become diphtheritic. These bacilli may be highly infectious to others, but do no harm to the child showing their presence.

DR. ELMER LEE in closing said that the position taken in his paper is a correct one. The treatment by serum is not based upon scientific principles. His own weak point was that in criticising antitoxin he could offer no substitute.

A letter was read from DR. JOSEPH WINTERS, of New York, in which the increased number of reported cases of diphtheria was commented upon as due to the present methods of diagnosis. Dr. Winters stated in this letter that he could find no value in the antitoxin treatment.

A vote of thanks was extended to Dr. Klebs for his valuable contribution to the meeting's interest.

Infantile Scorbutus was the title of a paper read by DR. ALBERT H. BURR, of Chicago. This disease is assuming greater importance by reason of its increasing frequency. This is partly due to the ingenuity of man in devising sterilizers and proprietary foods. A case was reported in a thirteen-months-old child, brought for treatment for a supposed spinal trouble. After six weeks' treatment the child was in a worse condition than before. Emaciation was progressive, and the prognosis of fatal issue from marasmus was made. Purpuric spots had appeared upon the shoulders and other parts, some of which suppurated. There was pain upon manipulation. Mellin's food had been the exclusive diet from birth. The child weighed thirteen and a half pounds, and could not move its head from the pillow. Food was changed to raw cow's milk, orange juice, and scraped beef, etc., and among other medicines protonuclein in one-grain doses was administered. After a week the gums were no longer spongy, and there was an increase of one pound in weight. A soft-boiled egg was then added to the dietary. Cure was manifest at the end of six weeks. The chief points were swellings of the femur and scapula and suppuration of the purpuric spots. Every child should have natural food. The nearest approach to mother's is modified cow's milk. No continuous administration of any prepared milk or commercial food should be allowed to the exclusion of fresh or raw elements. We must be ever on the lookout for scorbutic malnutrition in artificially fed infants. Prompt relief will save many such cases.

DR. W. A. DIXON, of Ripley, O., read the following:

Observations in Cases of Epilepsy Following Injuries to the Head in Infancy, Childhood, and Early Youth.—A large percentage of cases, he said, may be traceable to injuries in early life. The speaker is personally familiar with the history of numerous cases from the date of injury to the appearance of epilepsy. There was in these cases no other known cause. Cases were cited from practice. Case I. was trephined over the seat of injury and a cystic tumor as large as a medium-sized orange was disclosed and removed. After this the epileptic seizures ceased. In a number of other cases the epilepsy came on ten or more years after injury. These patients either continue to have attacks or have died from the effects. Some cases are probably caused by injury at childbirth from the forceps pressure. Parents should be instructed to avoid head accidents to their children so far as possible.

DR. W. J. BELL, of Atlanta, showed

Casts of the Trunks of Twins, aged fifteen months, the offspring of a negro hunchbacked woman, in whom there was marked rachitic chest deformity. Both children died from some lung trouble within

forty-eight hours of each other. They both presented identical deformity with anterior bulging of the chest walls. In discussion the question was asked if it was now admitted that such a condition as congenital rachitis existed. The question was answered in the affirmative.

The next paper was one

On the Use of the Stomach and Rectal Tubes in Children, read by Dr. W. J. Bell, of Atlanta. The writer advocated the use of the stomach tube in infantile fermentative changes in the alimentary canal and described his manner of washing out the stomach and bowel. Food is only given an hour later. The rectal tube is much more generally useful. Marked fall in temperature often follows irrigation of the colon. Placing the child on its left side, thus lowering the head and trunk offers an excellent method of treating persistent dysentery and gastro-enteritis.

Treatment of Infantile Spinal Paralysis was a paper next read by DR. MAYER, of Chicago. It consisted largely of histories and was not presented *in extenso*. He divides the cases into those of moderate and those of great severity, the latter including those in which the patient is unable to walk. Treatment is preferably by the faradic current, if contraction of the paralyzed muscles can be secured by it; otherwise the galvanic is given in as strong a current as possible. Stress was laid on the necessity for long-continued treatment.

In the discussion of these papers together, DR. MANLEY, of New York, took up the subject of meddling midwifery, and thought the expert should make a proper diagnosis early and avoid injurious effects of forceps, etc., which might and often did do damage to the head, and which might in after-life occasion epilepsy. Operation should be performed if depression of bone can be made out distinctly. The paper was also discussed by Drs. WORK, DIXON, and MOWRY.

The Evolution of Girls was the subject of a paper by DR. HARRIET E. GARRISON, of Dixon, Ill. The question of evolution scarcely enters into the present discussion, she said, so far as it relates to descent from angels or ascent from the lower forms of animal life. Nerve force must be stored up by the mother before she brings her child into the world. The animal functions have their nerve supply in the posterior portion of the brain. The brain must have room to grow, and not be compressed by faulty position of the infant during its period of development. The position usually forced upon children is faulty. They should be encouraged to assume ever-changing attitudes and positions in lying, and should be allowed to creep and toss about to bring the muscles into play. Too much propping up with pillows and encouraging girl babies to sit up and to walk early are wrong. Later in life the bad effects of too much erect sitting in school, etc., should be counteracted by rest in the horizontal position with the hips raised. All forms of out-of-door exercise in which boys engage should be afforded to girls, including military tactics.

DR. SLAGLE deprecated the tendency to too great refinement in the girl's education and development at the expense of the nerves. He advocated the bicycle in moderation.

DR. SMALL, of Pittsburg, said that in bicycle-riding for girls the handle bar should be always two inches higher than the seat. This prevents stooping and helps expand the chest.

DR. HIBERGER, of Washington, prescribed the wheel and found the menses less difficult in those who rode.

DR. COTTON was sceptical about the possibility of development of the anterior lobes of the brain by encouraging creeping and the prone position.

DR. SMALL, of Pittsburg, read a paper upon **Retention in the Newly Born**, reporting the histories of three cases. The first case related to the plugging of the female urethra with inspissated mucus. During the first seventy-five hours of life there was no act of urination. The passage of a probe resulted in a gush of urine and no further treatment was required. A child's catheter corresponding to No. 9 of the French scale was shown. It was six and a quarter inches in length, with a slight curve near the beak. Instrument-makers' catalogues in this country make no mention of such a child's catheter. The literature of retention in infants is very scanty. It is said that retention from inspissated mucus is not very uncommon. How long we should wait before using a catheter in such cases, is the question which the writer wished discussed.

DR. SLAGLE said he never catheterized a female child and rarely a male. Unless there is obstruction it is usually unnecessary, as mild means will answer.

DR. WORK has seen retention in only three instances, out of a large obstetric experience. If the bowels have moved, especially if several times, we may well wait till the next day. An occlusion by the secretions is usually the only thing to overcome and this can be done by a curved blunt probe.

DR. BYERS thought the condition described must be very rare. It is usually relieved by itself.

DR. GRAHAM said he had rarely seen retention. Prolonged labor may produce temporary paresis. He saw no necessity for the curve in the catheter presented. It should not be an angle. A simple silver probe ought to be sufficient.

DR. CUNNINGHAM reported a case in which no urine had been passed. An imperforate meatus was found. The child was therefore circumcised. In the night there were convulsions. Hot poultices were used, as it was thought best not to pass a probe and there was no evidence of bladder distention. Convulsions occurred every half-hour. A catheter was now passed and the urine withdrawn, and no convulsive seizures followed.

DR. ALLEN, of New York, thought the mere contact of the metallic probe might, by reflex action, cause bladder contraction and produce the desired result without passing the instrument into the bladder. In this connection he related an instance of congenital occlusion of the greater portion of the penile urethra. The day after birth he had operated by perineal section, relieving the bladder of its accumulated urine, and had then bored through from this perineal wound and secured an opening to the meatus, which was kept open by means of a piece of soft catheter of small calibre till the wall was healed. The perineal wound healed promptly and well and urine was passed through the new urethra. About a month later alarming symptoms set in, attended with pronounced jaundice, and the child died. On autopsy, bladder and kidney changes were found. The question was asked whether such a case had come within the experience of any one present. There was no response.

DR. MANLEY, of New York, said that such instances as those in the paper would be found described by Boyer, and also in Monod and Terillon's work. The causes of retention are usually stenosis of the meatus of the prepuce and stenosis of the meatus urinarius proper. It occurs quite frequently, contrary to the general opinion as expressed by those who had spoken. The urethral tissue in infants is very delicate and contains no muscular fibre, while the bladder contains three times as much as the adult bladder. Since in the infant there is no space of Retzius, aspiration through the abdominal wall is very dangerous for the peritoneum. The straining due to stenosis in boy infants accounts for the relatively great frequency of inguinal hernia in the male.

DR. COTTON spoke of the catheter as a means of differential diagnosis between retention and suppression.

DR. SMALL in closing spoke of the ease with which the catheter he presented entered the urethra.

DR. MANLEY, of New York, read a paper upon the **Fractures in the Shafts of Bone in Children**.—We must remember that the shafts of the bone in infants are composed of comparatively soft tissue. No constitutional disease in the infant predisposes to fracture during the stage of growth and development. It is not sufficiently emphasized in text-books that in infant fracture, when there is shortening, it is only at times due to overriding. Children grow more rapidly when on the back. This growth continues in the well limb, but stops in the injured limb. In compound fracture more progress has been made than in the simple. Muscular relaxation was formerly considered a *sine qua non* to success. A tight splint should not be put on at once, on account of the delicacy of the tissues. The limbs should be put in a comfortable position and topics applied until circulation has been re-established. The vascular is the first question to interest us. After twenty-four hours, muscular spasm has passed off and great force is not required. Better results will be obtained from treatment without splints. Some of the simplest fractures are compound. An artery may be injured in simple fracture so that the extremity dies. No matter how bad the compound fracture, the idea of amputation should never be entertained. The object should be to save the limb first and set it afterward. He spoke of a case of periosteal reproduction after severe injury producing compound fracture and loss of the whole shaft of the tibia in a boy. We have in the child two forces as against one in the adult, the natural growth from both ends of the shaft coming to our aid.

DR. ELLA BURNS, of Alabama, inquired as to the possibility of subsequent growth taking place in the shortened limb, making it in time as long as the other.

DR. MANLEY could not state if this ever took place. He thinks plaster of Paris has been the cause of numerous deformities.

DR. WORK thought the paper replete with conservatism, which he believed all should practise, more especially in children. He used binders'-board splints almost exclusively. Put on wet, they help to keep down the inflammation.

DR. SLAGLE thought the theory of growth being suspended would explain some mysterious cases of shortening.

DR. COTTON said no absolute rule can be devised to fit surgical procedures. If we want the primary union mentioned, we must have coaptation as well as the comfortable position on a pillow the speaker had advised.

A Conservative View on Antitoxin, a paper by Dr. Love, was read by title.

SECTION ON DERMATOLOGY AND SYPHILOGRAPHY.

DR. L. DUNCAN BULKLEY, OF NEW YORK, CHAIRMAN.

Chronic Ringworm of the Scalp was the subject of a discussion opened by DR. L. D. BULKLEY, of New York. He said this disease belongs especially to childhood. In his private practice there is only two and a half per cent. of affected patients over thirteen years of age, and the same ratio holds good for public practice. Many of those affected go for years unrecognized and untreated, endangering all children with whom they associate. Children certified to have been cured are found on careful examination to show

abundant evidence of the disease. Its recognition is not always an easy matter. The typical case exhibits one or more bald patches of a more or less leaden color, with stubbed hairs over the surface, but in cases which have lasted any length of time a simple tonsure may be found. The disease is often masked by the growth of hair over the patch, hiding a few broken stumps. Few cases can be thoroughly cured in a short time, and from three to six months is an average time of treatment. The subject of treatment is a large one and could but barely be touched upon, he said, in this opening of the discussion. It will often tax the ingenuity of the physician to the utmost. Time is a very essential element. Reports of rapid cure are to be accepted with caution and the element of faulty diagnosis not overlooked. It is now generally accepted that cases exhibiting the microsporon variety of fungus are more likely to be rebellious than those showing only the megalosporon.

The next paper was presented by DR. HENRY A. PULSFORD, of South Orange, N. J., entitled

Experience in the Treatment of Ringworm of the Scalp in the New York Skin and Cancer Hospital.

—The paper was based upon seventy-five cases treated and constantly under observation. Only twenty were discharged cured. Unna has reported cures in two or three weeks' time, but few if any others have seen similar brilliant results. Wickham has cured only from forty to sixty per cent. in the course of fifteen months. We must be sceptical of results reported when the methods of determining the cure are not definitely given. Wickham's suggestion is to cut the hair and leave undisturbed for a week, cutting again and leaving undisturbed for two weeks, and finally examining after a second two weeks and only then putting the case down as a cure. The best cure for ringworm is puberty. It is self-limited. The writer doubts the efficacy of epilating the healthy hairs on the margin of the patch. It may aid in distributing the disease to neighboring parts. Indiscriminate epilation is of no avail. In the series reported the average duration was five and a half months. In those cured the treatment lasted seven and a half months. In six patients a vigorous treatment was carried out for periods varying from thirteen to seventeen months without wholly eradicating the disease. In addition to repeated hair-cutting and epilation, parasitocides were employed, such as bichloride, carbolic acid, and iodine, various plasters, collodion and gelatin paint to exclude the air, croton oil and other irritants to set up inflammation in the follicles. The bichloride in particular was thoroughly tested in strong solution as introduced by Bazin forty years ago. Strengths of from one-half to two per cent. have been used, but never continued long enough to work a cure. Naphthalin in twenty-per-cent. ointment has given encouraging results, two cases being cured after five and a half weeks. Two cures resulted from veratrine, from eight to thirty grains to the ounce. In some cases treated by chrysophanic acid there was no improvement whatever. One case was cured in nine weeks. It does not seem to reach far enough into the follicles, and is powerless against the deeply situated fungus. Preparations of mercury have proven the most efficacious of those used. Under any drug we must corroborate Wickham's dictum that the treatment cannot practically be reduced to less than eight months.

Treatment of Scalp Ringworm in Institutions was the title of a paper next read by DR. CHARLES W. ALLEN, of New York, in which the great difficulties of securing proper co-operation of managing-boards was pointed out, especially in isolating the cases and in taking the measures necessary to a speedy stamping out of epidemics. The use of "clippers" in asylums and other children's institutions was deprecated, because it was found that while these instruments are

capable of being cleansed, the disinfection is not so easily accomplished as is the case with shears, and in point of fact diseased and healthy heads are indiscriminately operated upon in many institutions without the necessary precautions, thus rapidly spreading the disease. Epilation, to be of any use and to make sure of its doing no harm, should be employed only in the variety showing distinct circumscribed patches of limited number, and should be carried out only by trained assistants possessed of tact and intelligence. Cutting the hair close at weekly intervals over the entire scalp of boys and girls alike he had found the most practical. It was advisable that graded wards be established in all institutions in which epidemics occur, so that the cases apparently cured may at once be placed by themselves away from the cases still surely infectious, and transferred from these after an interval to still another intermediary ward before being finally sent back among the well children. Several epidemics in different children's institutions were drawn upon for the cases observed, and the deductions reached from their observation and treatment noted. In the last series of ninety cases in an infant asylum, after trying the usual forms of mercurial and other parasiticide remedies, a large number were treated with chrysarobin in collodion, which gave excellent results and applied in this combination lessened the dangers and disadvantages of the staining and inflaming qualities of the drug. It was thought, too, that the collodion acted favorably by shutting out the air, since the fungus has been demonstrated to grow in a much more flourishing manner when an abundant supply of atmospheric air is supplied. Though not so necessary as when the ointment is employed, the writer advocated the use of a caoutchouc cap fitting snugly the forehead, if not the entire scalp. Unna's suggestion to raise only the back of the cap when new ointment is applied, while a good point, is not so necessary when the collodion is used. The matter of paramount importance is to make sure a patient is well in fact, and not only so in surface appearance, before being discharged. Another and more important thing for institution authorities is to practise painstaking scrutiny of the scalp as a prerequisite to admission of new cases having to mingle with the mass of inmates. It is much wiser and better financially, if in no other way, for an institution to prevent epidemics than to cure them, or, as some do, by their short-sighted methods, to cause them. The reported quick cures of chronic scalp ringworm are for the most part fallacious.

Several months of patient and painstaking attention are usually necessary. The speaker had, however, seen during epidemics instances of rings presenting pink borders develop upon the scalp of blond babies, occasionally implicating the skin of the forehead and the scalp region equally, which were cured within a very brief period by applications of iodine or chrysarobin.

Discussion.—DR. WOLFF, of Atlanta, said he had had extensive experience in institutions, and agreed with Dr. Allen's conclusions concerning the necessity for isolation. The plan of treatment found most satisfactory is to avoid epilation and to rub in twice a day the following:

R Chrysarobin	5
Salicylic acid	2
Ichthyol	5
Vaseline	88

This must be persisted in for several weeks and followed by

R Powdered zinc oxide	6
Precipitated sulphur	4
Silicated earth	2
Benzoated lard	28

until the irritation has subsided. With this he has obtained fairly good results, but has never obtained such results as Unna has claimed, his own cases extending to eleven months, and a few persisting for two years. He agreed that there is great difficulty in inducing the management of institutions to see the necessity of proper isolation.

DR. HUTCHINS, of Atlanta, said he has used pyrogalllic acid, three per cent. in collodion, in crural trichophytosis, or eczema marginatum, reducing this to two per cent. if necessary. This he has found curative in a very short time. Kerosene with from one to four grains of bichloride to the ounce, changing to ichthyol and salicylic acid, from ten to fifteen grains to one drachm of zinc ointment or benzoated lard, cured a single case within three months.

DR. SCHWARTZ said that he has found mercurial ointment too astringent. Pyrogalllic acid is open to the same objection. Formaldehyde he has found peculiarly penetrating, and thinks it may have a parasiticide action, since it is used as a germicide. He thinks epilation of the margin of the patch may increase the chances of spread.

DR. RAVOGLI said that he has seen much ringworm in institutions and cases in the hospital sent from children's institutions. He has given up the newer remedies for the plan of treatment advocated by Hebra, using the modified Wilkinson ointment twice daily. This is followed by a two-per-cent. alcoholic solution of carbolic acid frequently applied. Microscopic examination is made two weeks after seeming cure, and he has never had recurrence in the cases described.

DR. BRAYTON, of Indianapolis, said that he has used Boetger's paste, made with milk of lime from freshly slacked lime, through which a stream of sulphuretted hydrogen gas is passed for one or two hours, or till saturation is reached, when it becomes green. This is now sulphhydrate of calcium, CaH_2S_2 , and is a perfect depilatory. In one case this paste was applied to the scalp, causing deep depilation, eating off the hairs considerably below the surface. No notice is found of this paste except in Vol. I. of Watt's "Chemistry Dictionary."

DR. GILCHRIST spoke of experiments made upon the growths which demonstrated how various simple substances, such as soap, destroyed the spores so they would not grow. He had himself demonstrated that the fungus grows in cultivation both upon the surface and deeper in the media, but deeper in the appearance changed. Clinically the appearance in colored children is that of seborrhœa sicca rather than of trichophytosis, showing the value of the microscope. In colored children the curly hair does not break off so much or show so much when broken off. Chronic ringworm is very common in colored children and in the family it is very difficult to properly treat. The deep penetration into the lower layers of the epidermis explains the difficulty of cure as much as the penetration into the follicles.

DR. BULKLEY said clippers should be boiled every time after use in soda solution and dried in the oven. Then they are no more dangerous than the shears. He has thought he has seen shaving spread the disease. In shampooing with green soap he adds bichloride in the proportion of from two to four grains to one ounce.

DR. HUTCHINS thought the bichloride may become changed by the alkalinity of the soap, producing a chemical decomposition. Concerning Boetger's paste, he said that in using it we are applying a strong and penetrating parasiticide and hence it should be better than shaving. He agrees with Dr. Allen's statements regarding the soil. He habitually puts his patients under rigid dietetic and general treatment. Until puberty we have much difficulty in curing the disease

permanently, unless the greatest care is taken to change the soil.

DR. GILCHRIST said it is interesting to note that in tinea sycosis there are two distinct forms—one going along the surface and not attacking the follicles. He has seen within a year at least fifteen such cases.

DR. BULKLEY said it was well that all children entering institutions should be examined for scaly patches, since broken hair shafts may be absent.

DR. WILLIAM L. ALLEN, of Davenport, Ia., said he had seen much ringworm recently in an institution. He has used a one and a half per cent. solution of bichloride combined with biniodide of mercury. After a year's treatment out of eighty cases only six remained uncured. New cases coming in all the time kept up a continual census of about eighty. In the third year there were found out of this number eight cases which had been of the original number. The rest were new cases. The scalps were now washed with green soap and a bichloride solution, thirty grains to the ounce, was applied with caution. In some instances this proved terribly escharotic, but in others there was no irritation by it. One death was attributed to mercurial poisoning, however. The institution has five hundred inmates, ranging from two to sixteen years of age. At present there are about forty-six cases of ringworm, all doing well. Only newly admitted cases now receive the strong mercurial solution. New children coming into the institution often get the disease in an average time of six weeks from admission. Half these children are girls, and none of them has previously had the disease.

DR. C. W. ALLEN asked if clippers were used, and if the girls had the hair cut. The speaker said the girls do not have the hair cut except when coming in with the disease.

DR. WOLFF said his cases are all boys, although all the children, boys and girls, have the hair cut—he thought with clippers, but he was not sure of this.

DR. SCHWARZ said the exchange of caps was accountable for much of the spread. Gifts of second-hand articles of headwear are sometimes made to children's charity institutions. These should not be made use of before they have been thoroughly sterilized.

Special Dermatitis from Crab Bites was the title of a paper read by DR. GILCHRIST, of Baltimore, based upon one hundred and fifty-six observations made at the Johns Hopkins University. The condition occurs in those whose occupations force them to handle live crabs. A slight abrasion of the skin is first noticed, usually upon the finger, from which the patch starts and travels up and down the fingers and spreads out over the palm and back of the hand. The margin becomes raised, red, and is particularly well defined. There is no pain on pressure, and it never goes on to suppuration. There is acute inflammation of the corium and thickening of the epidermis. Scratches from the crab shell as well as the bite will occasion the affection. A ferment is supposed to be the cause, since all culture experiments are negative and microscopic examinations show an absence of micro-organisms. Treatment is carried out by means of bichloride soakings and carbolic injection, or the application of the German salicylic cutaneous plaster of about twenty-five per cent. strength. The latter is found to offer the best method of treatment, one application of the plaster usually sufficing. Plain adhesive plaster was tried in some instances and found efficacious.

In discussing this paper DR. ALLEN, of New York, suggested that the same condition probably exists in these cases which has been described by Rosenbach under the name of erysipeloid. The speaker has seen this same creeping erythema involving the fingers and hand, in fishermen among others. His most recent case was

in a woman who had been engaged in preparing lobster and fish shortly before the attack. He has obtained excellent results from ichthyol solutions and ichthyol in collodion.

DR. BULKLEY, of New York, agreed with the last speaker that the cases probably all belong together. He has seen the same condition result from handling meat. It is in no sense erysipelas.

DR. GILCHRIST said he has been unable to find any reference to the condition he described in any of the text-books on dermatology. The cases have become so frequent at the out-door department of the hospital that all now made the diagnosis of crab dermatitis at a glance. He thought it worthy of a distinctive designation, but had no doubt Dr. Allen is correct in classifying it with the condition already described in Germany.

A Case of Acute Circumscribed Œdema of Gouty Origin was reported by DR. BERNARD WOLFF, of Atlanta, Ga. Œdema of the acute circumscribed variety must not be confounded with that of menstrual, malarial, and arthritic origin, as Quincke has pointed out. As to causation, it cannot be differentiated from these three types. Osler says the disease may be hereditary. Alimentary irritants have been given as the cause in some instances. There is a close affinity to urticaria. There would seem to be a greatly increased permeability of the vessel walls. Spasm of the muscular coats of the veins, a theory advanced by Unna, is not accepted by Quincke in explanation of urticaria, the giant form of which this disease closely resembles. If gout be regarded as a toxæmia, why cannot such a condition so lower the vitality of the vessel walls in a reflex manner as to diminish their power of resistance to the passage through them of the elements of the circulating fluid? Or, again, may not the toxic principle, having itself passed into the tissues, attract to it a special exudate? A case is reported of a lady of fifty-six, of good family history, but for fifteen years the subject of gout, the last joints of the fingers being distorted by gouty deposits. Six years ago, while sitting at an open window, the patient suddenly experienced a stiffness and rigidity of the left half of the upper lip, accompanied by tingling and numbness. There was no extension of the swelling. Coincidentally the joints became red and painful. After a few hours the attack disappeared, but recurred at intervals of four or five months for two years. The œdema was of board-like hardness. The attacks are now less frequent. The similarity of cause in both affections and the attacks being synchronous made the writer believe that there was a relationship.

Further Observation on Urticaria was the title of a paper read by DR. T. C. GILCHRIST, of Baltimore, Md. The author referred to his statement at the last meeting of the association that he had excised portions of wheals produced artificially at exact periods of time, viz., two, five, eight, ten, fifteen, twenty-five, forty, and sixty minutes, and the results showed the complete pathology of the urticaria wheal. After fifteen minutes a complete picture of acute inflammation of the skin was presented by the sections. There were extensive emigration of polynuclear leucocytes, marked exudation of serum, small quantities of fibrin, particularly in the neighborhood of the blood-vessels, pronounced dilatation of the lymphatics, and an increase in the number of lymphoid cells. The epidermis was practically normal. The present paper contained observations on three additional cases of urticaria factitia and the examination of spontaneous wheals, together with the application of improved technique. "Mastzellen" were stained after a slight modification of Unna's method and they were found to be apparently increased in numbers. In these further cases the results were the same, viz., acute in-

flammation of the skin. Other points noticed were nuclear fragmentation of the polynuclear leucocytes and in one case even of the fixed connective-tissue cells, a point to which the speaker's attention was called by Dr. Welch, of the Johns Hopkins University. On account of the evidence of this nuclear fragmentation presented by Dr. Welch the author thought, and this idea was again suggested to him, that some powerful irritant, probably a toxin, was set free from the blood-vessels upon producing the wheal, demonstrating a toxæmic condition of the blood. The presence of indican in the urine in large quantities in some of the cases examined might possibly point to the chemical nature of this toxin. After due consideration the author thinks this theory explains all the phenomena of all varieties of urticaria. Dermatologists who have examined urticaria pathologically have generally agreed with the belief in the inflammatory nature of the wheal. The author brought forward the fact that in these wheals we are able to study the early stages of inflammation in man, which heretofore has never been done. It was found that the polynuclear leucocytes were observed first in the vessels in two minutes; in five minutes the emigration of these cells was first noted; in eight minutes there was beginning disintegration of these cells; in fifteen minutes there was an increase in number of lymphoid cells and apparently of "mastzellen."

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 7, 1896.

DR. EGBERT H. GRANDIN, VICE-PRESIDENT, IN THE CHAIR.

The Polyarthritides of Scarlet Fever.—DR. HENRY W. BERG read a paper on this subject. He stated that the acute infectious diseases are quite universally supposed to leave as a specific sequel of their occurrence a predisposition to the subsequent development of chronic osteitis, both of tuberculous and non-tuberculous character. How much truth there is in this assumption is doubtful, for two reasons: First, the more or less direct connection in point of time between the occurrence of the earliest joint manifestation and the infectious disease does not prove a specific etiological connection between the two maladies. Second, the universality of the occurrence of acute infectious disease is such that very few persons affected by chronic joint disease can fail to recall being the subjects of measles, scarlet fever, or mumps at some time previous to the development of the joint manifestations. The speaker said he had accordingly been extremely sceptical as to the etiological connection between chronic joint disease and the acute infectious diseases, and this feeling of doubt had led him to observe and study with especial interest a series of joint complications occurring in the course of scarlet fever. Joint affections are more frequent in this disease than in any other of the acute infectious diseases.

Dr. Berg then briefly reported six cases of polyarthritides complicating scarlet fever seen during his service of two months at the Willard Parker Hospital in the summer of 1895. In all of these cases more than one joint was affected, and in most of them the arthritis affected the joints of both sides of the body. In several of the cases the smaller joints, those toward the periphery of the extremities, such as the joints of the hand and foot, wrist, elbow, and knee, were affected. Five of the cases ended in almost perfect recovery, while one was discharged with two suppurating joints. The speaker expressed the opinion that the occurrence of polyarthritides as a complication of scarlet fever does not render the prognosis of the lat-

ter any worse *per se*, so far as regards danger to life. This is in contradiction to the view held by many writers that polyarthritis occurs only in scarlet fever patients who are extremely apt to die. In all the cases that have come under his observation during the past two years the patients made a fairly good recovery. Disability of a more or less chronic character occurred in some of the joints affected, but even this yielded to appropriate treatment.

Dr. Berg mentioned four varieties of polyarthritis occurring as a complication of scarlet fever or other acute infectious disease: 1. Cases in which there is a simple inflammation of the joint structures without effusion of serum and with little swelling. 2. Cases in which the clinical symptoms are chiefly those of synovitis. The other structures of the joint are in an acute inflammatory condition, but this gradually subsides as the swelling and effusion disappear. 3. There is a group of cases in which the arthritis consists of a simple or (later) a purulent synovitis, accompanied by or terminating in osteitis, with or without necrosis of the affected joint ends of the bones. 4. Cases in which there is from the very beginning a suppurative polyarthritis, with purulent inflammation of even the shafts of the bones and rapid destruction of all the joint structures.

As to the bacteriological cause of this complication, the opinions of the different authorities do not agree. It appears highly probable, however, that the polyarthritis is not produced by the specific germ of the scarlet fever, but is the result of mixed infection. It is easy to understand where the absorption of the streptococci and other germs helping to produce this infection occurs. It is evidently in the throat, and chiefly in the nose and pharynx.

The time of the occurrence of arthritis as a complication of scarlet fever, that is to say, the stage of the disease in which it occurs, is almost uniformly during the period of desquamation or later. All the patients observed suffered from a greater or less degree of nephritis. In most of the cases the latter preceded the joint lesions. Many writers have considered these joint complications of scarlet fever as identical with rheumatism; indeed the complication is frequently termed scarlatinal rheumatism. Clinically, the affection certainly resembles rheumatism in some respects. In both conditions many joints are apt to be affected; in both the amount of inflammation varies from a vague feeling of soreness to an intense inflammation of the joints. But, on the other hand, there are many points of difference. Rheumatism may affect the larger joints, such as the hip, as frequently as the smaller, while in this complication the largest joints are immune; in acute articular rheumatism the inflammation seldom goes further than rheumatic synovitis, while in scarlatinous polyarthritis the inflammation may affect all the joint structures and much more frequently terminates in purulent arthritis and necrosis of the joint ends of the bones. While rheumatism is a primary disease, these joint complications are evidently secondary septic manifestations. The frequency with which rheumatism is complicated by endocarditis and pericarditis is well known; in the cases of polyarthritis coming under the speaker's observation, not a single one gave any clinical symptoms of a lesion of the heart. Furthermore, in none of the cases was there any sign of inflammation of any of the serous membranes, excepting those of the joints. Lastly, not a single one of the cases was benefited to any appreciable extent by the use of salicylic acid and its compounds. On the contrary, the arthritis of scarlet fever is not in any way modified by this class of drugs. These considerations lead him to express his adherence to the view that the polyarthritis of scarlet fever is not a rheumatic manifestation and that

there is nothing in common in the complications, prognosis, and therapeutics of the two conditions.

Prognosis.—By far the largest proportion of cases of polyarthritis complicating scarlet fever are of the first or second variety, which terminate in recovery. The fourth variety, in which the arthritic process is from its inception a purulent one, accompanied by a general condition of septicæmia, is almost uniformly fatal. The prognosis of the third class is more interesting; in these cases there is general arthritis, involving all of the structures of the joint, with or without the formation of pus, and these cases may terminate in recovery or in chronic joint disease.

Treatment.—Remembering the causation of this complication, much can be done from a prophylactic standpoint. It is logical to suppose that any form of treatment which will diminish the number of germs in the throats of scarlet-fever patients will diminish the danger of mixed infection and thus prevent complications. Scarlet-fever throats should be irrigated, whether true diphtheria be present or not. For this purpose, corrosive sublimate solution (1 to 4,000) can be used with the fountain syringe three times daily, or oftener if required. As to the active therapeutics of a medicinal nature, the indications are to allay pain and specifically to influence the disease. To relieve the pain we can use phenacetin, opium, and other narcotics and anodynes. Ice bags applied to the inflamed joints are of much benefit in relieving pain and reducing the severity of the inflammation. The most rational remedy which can be expected in this disease will be the use of the antistreptococcus serum, or streptococcus antitoxin. In many instances, however, the treatment of these complications demand more of surgery than of medicine. While mild cases will pass off readily with rest, counter-irritation to the joint, and symptomatic treatment, cases of the second and third varieties will require careful surgical management. In cases of the second class, so sensitive are these joints that the slightest movement produces agony, and it is often necessary to devise an appropriate splint which will give the joint absolute rest. This splint should be applied in the position most comfortable to the patient, and should be modified to suit the modified position of the limb. If fibrous ankylosis occurs, passive motion is indicated. Breaking up of the adhesions under an anæsthetic is not advisable. A serous effusion in these cases should not be disturbed by aspiration or incision, however long it persists. It is almost invariably reabsorbed and the joint recovers absolutely. Where we suspect pus the suspicion should be verified by the aspirator, and when found the joint should be incised, washed out, and drained. The early detection of pus in such a joint and immediate incision will generally prevent the occurrence of a chronic osteitis or perhaps total destruction of the joint.

DR. NEWTON M. SHAFFER said that this subject has interested him for many years, and his experience has taught him that while the acute infectious diseases of childhood may be complicated by acute joint lesions, he has never seen a case in which chronic tuberculous joint disease resulted. He was inclined to agree with the statement made by Dr. Berg, that there is no etiological relationship between these acute joint lesions and rheumatism. Dr. Shaffer said he wished to call attention to another phase of this subject, namely, the effect of an attack of scarlet fever or other acute infectious disease upon a tuberculous joint lesion in some instances. The improvement following such an attack is sometimes almost magical. He has seen a number of cases of tuberculous joint disease of long standing in which rapid improvement followed the onset of an acute infectious disease, and cases have been reported in which complete recovery took place.

DR. JOHN W. BRANNAN said that in several particulars his observations in connection with this subject did not agree with those of Dr. Berg. About eight years ago he saw a young man with a well-marked mitral insufficiency, who, while he had never had rheumatism, gave a history of scarlet fever. Since then he had seen a number of cases in which cardiac lesions developed during the course of an attack of scarlet fever or shortly afterward. In one case pains in the joints were also present, and these, as well as the violent action of the heart, were readily controlled by the administration of the salicylates. At the present time there are seventeen cases of scarlet fever in the Willard Parker Hospital, and among these there are three cases of arthritis. Two of the latter have developed a distinct cardiac murmur since the onset of the arthritis. In all three of these cases the administration of salicylate of soda has produced a marked improvement in the symptoms. The fever has diminished, the pain is lessened, and the heart murmur is fainter. For this reason Dr. Brannan said he was inclined to regard this complication of scarlet fever as rheumatic in character.

DR. LAMBERT, in reviewing the subject of the bacteriology of scarlet fever, said that its true etiology is still an open question. Pfeiffer and his adherents claim that the disease is due to a protozoon, while other observers say that it is the result of some form of streptococcus. A special streptococcus has been isolated by one investigator. Recently a Russian found a diplococcus present in the blood in thirteen cases of scarlet fever examined by him. He does not claim that this is the cause of scarlet fever, but mentions that he has never been able to find it in other diseases. These few facts, Dr. Lambert said, do not of course indicate the vast amount of work that has been done in this direction; they simply show that the problem is still unsolved.

DR. SAMUEL KETCH expressed the opinion that in tuberculous subjects there is a connection between the acute infectious diseases, notably scarlet fever and measles, and the development of tuberculous joint lesions. He has seen a number of cases which would tend to confirm this view. The speaker said that while he does not believe that scarlet fever is as common a cause of chronic joint disease as the textbooks would indicate, yet he cannot entirely discard the idea that in a tuberculous subject it acts as a trauma in the production of tuberculous joint trouble.

DR. W. R. TOWNSEND said that three years ago he saw a case in which the knee-joints became affected early in the course of an attack of scarlet fever. Both knees were swollen and extremely painful. The patient was put on salicylates and made a good recovery.

DR. S. H. DESSAU said he has always looked upon these joint affections of scarlet fever as being rheumatic in character. Two or three such cases have come under his observation, and in every instance recovery followed the use of antirheumatic remedies.

DRS. JUDSON and CHAPPELL continued the discussion.

DR. BERG, in closing, said he did not wish to be understood as saying that cardiac affections, namely, an endocarditis or a pericarditis, may not complicate scarlet fever; if such a complication occurs, it is probably due to the action of the streptococcus or mixed infection, just as the polyarthritis itself is, and not to rheumatic poisoning. He called Dr. Brannan's attention to the fact that not infrequently cardiac lesions develop in scarlet-fever patients who never give any symptoms of joint trouble at all. According to his experience, mild cases of polyarthritis occurring in the course of scarlet fever get well under any form of treatment, while the severe cases are unaffected by

the salicylates, piperazin, and other antirheumatic remedies.

SECTION ON SURGERY.

Stated Meeting, May 11, 1896.

B. FARQUHAR CURTIS, M.D., CHAIRMAN.

Fracture of the Patella Treated by Suture.—DR. JOSEPH A. BLAKE presented a young man who had sustained transverse fracture of the patella by muscular effort to save himself from a fall, four weeks ago; treatment followed a week later by suturing the two segments together by wire through transverse incision. A point of interest was the presence of the lateral patellar ligament torn from its attachment to the tibia, still attached to the upper fragment of the patella, lying completely across the broken edge of the latter, and which evidently would have prevented bony union without the cutting operation and removal. Thus far the result had been perfect. A plaster cast was still worn, laced up on the front of the leg.

Diabetic Gangrene; Amputation of Thigh.—DR. ARTHUR L. FISKE presented a man, sixty-six years of age, who had been cured of varicose ulcers of the leg in 1893. Others developed in 1894. Sugar was found in the urine, gangrene commenced in the sole of the foot and extended. The temperature was septic and on consultation Dr. Fiske amputated the limb at the point of selection, in the thigh, antero-posterior flap. The femoral artery was found atheromatous. Before the operation the urine contained 7.5 per cent. of sugar, five days afterward only 2.5 per cent., and within a few weeks the sugar had disappeared entirely and the man's health had become better than it had been in years. In Dr. Powell's paper read before a meeting of the New York State Medical Society it appeared that in eleven cases of amputation for diabetic gangrene five patients died. The more dangerous cases were those in which the urine contained albumin in addition to sugar.

Dr. Fiske also presented a woman, aged sixty-one, whose breast he had amputated for ulcerating carcinoma a year ago. Her urine had contained more than two per cent. of sugar and sugar was still present, but the breast had healed favorably and there had been no recurrence of carcinoma. The pectoral muscles and axillary and clavicular glands were removed with the breast.

Intestinal Fistula; Suture.—DR. E. M. FOOTE presented a boy, sixteen years of age, who had had a fistula in the right groin for two years. At first it had discharged pus, then feces. The history was somewhat indefinite. Dr. Foote closed the opening in the intestine eighteen days ago by incision in the loin. Union had been complete.

Separation of Epiphysis of Head of Humerus.—DR. JOHN B. WALKER presented a boy, three years old, who had been brought to him while the shoulder was enormously swollen, and with a history of having fallen. Motion was obtained just below the tuberosity; no crepitus. He made a diagnosis of separation of the epiphysis. The child now had almost perfect use of the arm.

Plastic Operation for Restoration of the Ear.—DR. B. F. CURTIS presented a man advanced in years, illustrating the result of an attempt to restore the ear by plastic operation after its removal for epithelioma. Only the lobe of the ear had been left. An extensive flap of integument had been raised from the neck and gauze placed beneath it; then the lower attachment was divided and the flap, attached by a pedicle above, was turned over, modelled somewhat in imitation of the normal ear, and attached by sutures. The result had been fairly good, but in spite of the size of the

flap it had shrunken so much as to permit of but little further shaping. He hoped to overcome its tendency to droop by a further minor operation. Skin grafts had left the wound in the neck nearly of the appearance of the surrounding integument.

Discussion on the cases being in order, THE CHAIRMAN said Dr. Fiske's case reminded him of one of cellulitis of the hand in which the complaint had started from a small wound and had run a very obstinate course. Finally sugar was discovered in the urine, which cleared up the case; they amputated the arm just below the elbow with good result, and the patient was still living in fairly good health, although the urine was not free from sugar.

DR. LILIENTHAL said he had amputated the breast in a young woman whose urine contained five per cent. of sugar, and, although the wound healed primarily, yet there was no reduction in the amount of sugar. It had been his observation that in amputation of the thigh for gangrene the sugar disappeared from the urine, but why it should disappear in such cases and not after amputation of the breast, he was unable to explain.

DR. JOHN ERDMANN, commenting on Dr. Walker's case of separation of the epiphysis of the head of the humerus, said he once read a paper on some cases in all of which he was able to make out some motion and to feel the bicipital groove.

Multiple Calculi of the Prostate.—DR. L. BOLTON BANGS read the paper. By calculi of the prostate was meant those which formed within the body of this gland from material furnished by the gland exclusively—material which did not come from the urinary tract and primarily had no admixture of urinary salts. They formed insidiously, grew slowly, and occupied a sac which they painlessly made for themselves within the tissue of the prostate. They were usually multiple; under certain conditions two or more might amalgamate and form a stone of considerable size. They were found during midlife, but were said to exist even during childhood. Under the head of prostatic calculi the text-books had recorded many interesting cases, but some of these were not such, strictly speaking, and should have been described as urethral calculi.

As many as three hundred had been found. As a rule they did not cause symptoms except after erosion into the bladder or urethra, when the mass had attained considerable size. They were not infrequently met with at autopsy in considerable numbers and size in persons who had had no symptoms during life. In these days of castration for enlarged prostate, the possibility of a mistake in diagnosis should be borne in mind.

The theory of the formation of prostatic calculi was that they started in the minute concretions which were found microscopically in a large proportion of prostates examined after death. Some observers regarded them as a normal product of the gland, but Dr. Bangs thought they were abnormal and the result of some disturbance of function.

A typical case was related, that of a man of sixty-five, who on two occasions passed a stone per urethram with symptoms pointing to renal calculi, and Dr. Bangs believed that such was their origin. Later he had difficulty with urination, and the family physician felt a calculus in the prostatic urethra which he failed to dislodge. It caused little trouble for a year. Dr. Bangs then saw the man and felt the stone projecting from the body of the prostate into the urethra. After extracting it, he found a prostatic pouch containing twenty-nine other stones closely packed and faceted. After their removal the gland was about one-third its previous size. The patient made an uninterrupted recovery. As already stated, Dr. Bangs was of opinion

that the first two calculi were of renal origin, the others primarily prostatic.

THE CHAIRMAN remarked that the symptoms varied in intensity very much in different cases of prostatic calculi. He had removed one stone in a boy which had penetrated the bladder, was three inches in length, having received accessions from the urine. The symptoms of irritation had been intense.

DR. F. TILDEN BROWN recalled one case of prostatic calculi in which crepitus was quite distinct, although there was no appreciable increase in the size or prominence of the gland.

DR. BANGS replied to a question that the stones seldom produced marked symptoms so long as they were in the sac and had not projected into the urethra or bladder. Crepitation was not always present, as shown by the case of an aged man in whom he had diagnosed prostatic calculi. He emphasized the view that it was a mistake to teach the medical student that concretion in the prostate was normal. He regarded it as the beginning of what might prove to be a very serious pathological process.

Arthritis (?) of Hip in an Infant.—DR. W. R. TOWNSEND presented an infant, four weeks old, with moderately firm swelling of thigh and hip, which had been noticed as early as the third day after birth. The labor had been easy. The temperature had not gone above 101° F., fluctuation was absent, and aspiration had failed to secure pus. The tumor he thought might be a malignant growth.

DR. LILIENTHAL was of opinion that it was a new growth. He mentioned a case of congenital angioma of the buttock which extended to the knee, and finally required amputation, performed by Dr. Gerster. Some fifty ligatures were employed.

Diagnosis in Some Common Shoulder Injuries.—DR. A. C. VIETOR read a paper which contained the histories, with details of repeated examinations, of some fourteen cases of injuries to the shoulder without fracture or dislocation. The object of the paper was to show the necessity for such systematic examinations in all cases in order to arrive at a correct diagnosis and prognosis, if this were possible. It was especially necessary to determine whether there was altered electrical reaction pointing to a neuritis or atrophy of muscle. In a few of the cases there had been no history of traumatism, and in most of them it was only by careful study that such lesions were discovered as limited atrophy, slight paresis, limitation of motion in certain directions, altered reaction to faradism or galvanism in a special nerve branch coming from the brachial plexus. The cases had been seen at the Good Samaritan Dispensary, clinic of Dr. W. W. Van Arsdale.

DR. VAN ARSDALE expressed his appreciation of the importance of studying these cases minutely, as described in the paper, and then referred to experiments of M. Deroche, who had repeated seven times, and always with the same results, those done for the first time by Raymond and Ovanoff. He dissected the posterior roots of the last three lumbar nerves of the left side in dogs and rabbits. After cicatrization had taken place, he assured himself that numbness was complete from the thigh to the knee of the left limb, so that irritation of this region was not felt. The right limb was left intact. An arthritis was then set up in both knees by introducing a thermo-cautery into them. No pain was felt in the left limb, but much in the right. Three months afterward the animals were killed, and in both knees the lesions of arthritis were found; but the muscles of the thigh of the left limb were of normal size, while those of the right were atrophied. M. Deroche thought he found that the atrophy was due to diminution of interfibrillary substance, and that there was an ascending degenera-

tion of the posterior columns of the spinal cord of the same side. However that might be, the inference was certainly justifiable that massage acted to prevent muscular atrophy by maintaining an influence, a movement, or something in the muscles which the spinal cord was for a time unable to impart to them, and in order to do this it should be applied very soon after injury.

New Instruments.

A SELF-RETAINING VAGINAL SPECULUM FOR OPERATIONS IN THE DORSAL POSTURE.

By H. J. GARRIGUES, A.M., M.D.,

NEW YORK,

GYNÉCOLOGIST TO ST. MARK'S HOSPITAL, ETC.

THE principle of making a vaginal speculum hold by its own weight when introduced into the vagina of a patient lying on her back with the knees or the feet drawn up is an old one. So long as the instrument was to be used only in trachelorrhaphy or in other operations in which it need not be removed and replaced during the operation, a blade ending in a tube to which a pail with water was attached answered fairly well. But the new operations for vaginal hysterectomy in which the speculum often is removed and reintroduced many times, call for an instrument composed of one piece that is easy to handle.



Garrigues' Self-Holding Vaginal Weight-Speculum.

I formerly employed Auvard's speculum, an imitation of the one Dr. Jacobs, of Brussels, used on his visits to this country last summer, but I soon found that the two sharp perpendicular ridges that form the upper part of the canal of that instrument were much in the way and in difficult operations cut the fingers and hands of the operator. Another objection was that the canal designed to carry off blood and other fluids was angular and so narrow that it was difficult to clean. After some experiments I have succeeded in making an instrument that has proved serviceable to myself and others in all vaginal operations in the dorsal decubitus, especially curetting, packing, trachelorrhaphy, colpotomy, salpingo-oöphorectomy, and hysterectomy. By the shape of its curve and the size of its angle it adapts itself easily to the posterior vaginal wall and holds even if the perineum and the entrance to the vagina are torn. The lateral wings lie flat against the nates and hold them out of the way; and the canal is cylindrical, smooth, and so wide that two or three fingers find room in it. At the lower end is a slightly prominent flange to which a rubber tube may be attached, but as a rule the fluid flows simply down into a slop-pail or strikes the flap of the inflated rubber cushion on which the patient lies. An inch higher up is a mass of lead which forms one piece with the upper canal and gives the whole instrument a weight of two pounds. The distance between the weight and the blade is long enough to keep the former clear of the nates.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

COLLEGE OF PHYSICIANS—COLLEGE OF SURGEONS—ROYAL SOCIETY—CLINICAL SOCIETY—SPONTANEOUS DISLOCATION OF HIP—ABLATION OF BREAST—THE LATE WILLIAM LOCKHART—DR. SHARP—INSPECTOR-GENERALS ANDERSON AND FLANAGAN.

LONDON, May 8, 1896.

THE College of Physicians has accepted an oil portrait of Dr. J. Copland, the author of the great medical dictionary which bears his name and is a monument to his erudition. The collection of portraits and autographs of medical and scientific men formed by the late Dr. Greenhill has also been presented to and accepted by the college. Ten members have been elected fellows. There is no objection to any of them, but it would have been better to make up the usual dozen with the names of older men, who have been inadvertently passed by or who scorn to seek an honor which should have been offered them.

The College of Surgeons is still in trouble about the representation of members on the council. Mr. Rivington, always as sincere a reformer as he is an able surgeon, has given notice that at the next meeting of the council he will propose that the resolution adopted against this representation be rescinded. So the council will get another opportunity of considering whether it is just to shut out the body corporate from all rights and privileges in their own college.

The conversation of the Royal Society was held on Wednesday. The "new photography" was the great attraction in the exhibition, although the old photography ran it close. There were photographs of splashes of water taken by the electric spark with an exposure of only three-millionths of a second. Also the stereo-photo-chromoscope for recording and reproducing colors as well as the phonograph does sounds. A rapid photo-printing machine was also shown, which must greatly advance the illustration of periodicals.

At the last meeting of the Royal Medical and Surgical Society three papers were read, viz.: 1. "Spontaneous Dislocation of the Hip, with Some Remarks on a Class of Cases often Mistaken for Rheumatism." 2. "A Method of Obtaining a Complete Skin Covering after Ablation of the Breast." 3. "The Transplantation of Skin Flaps for the Filling up of Considerable Defects after Amputation of the Breast."

Dr. Barwell read the first paper. The patient was a naval officer, who on account of an obscure affection of the hip had been sent from St. Leonards by Dr. Fenning. He had served for the last three years in Chinese waters, and during the homeward voyage was greatly troubled with boils. These culminated in erysipelas of the face while he was passing through the Red Sea. He was landed at Malta and went into hospital, where several sores and some abscesses formed about the face, accompanied with high temperature. One night he was attacked with severe pain in the right hip and thigh, and when he left his bed he was very lame. This pain was ascribed to sciatica and was treated accordingly. He came under Dr. Fenning's care on October 8th, still suffering from pain and lameness, his temperature ranging to about 100° F. A striking feature in the case was that the pain was felt in the anterior crural nerves as much as in the sciatic nerve. Mr. Barwell, on first seeing him, noticed the peculiar and uneven step indicative of hip mischief. As the patient stood on the left foot he placed the right one a good deal in front, keeping the

knee bent and the body bowed; when standing on the right foot the other heel did not reach the ground by a considerable distance, and the prominence of the trochanter was absent from its normal place. Dislocation of the head of the femur being diagnosed, it was reduced by Bigelow's method. Three days later the patient walked perfectly straight and without any limp; all his pain had disappeared. He has passed again to active service.

Dr. Norman Moore asked for information regarding dislocation of the hip-joint in cases of enteric fever. He had read all the post-mortem accounts of St. Bartholomew's Hospital since the year 1867. No case had been met with there, neither had he seen the condition.

Mr. Barwell said he had seen three cases of dislocation of the hip in undoubted enteric fever, and in a fourth case there was strong reason to believe that the disease was typhoid fever. In one case, in a girl aged nine years, he attempted reduction two years after the dislocation, but failed. In the case of a girl aged sixteen, in which the diagnosis was confirmed by Murchison, he attempted reduction about four months after dislocation, but failed. In this class of cases there was no sign of inflammation in the joint, but the bone slipped on to the dorsum ilii from a healthy socket.

Mr. Mayo Robinson read the second paper named above, which was illustrated by diagrams and photographs of cases. So far as he could ascertain, the practice among surgeons had been, he said, to draw the parts together as far as possible and then to leave the remainder to granulate, or to cover the remaining surface by Thiersch's skin grafts, the former being a tedious and the latter an uncertain and not always successful method. He showed that by means of one or two single incisions with sliding of the flaps the whole of a very extensive wound might be closed, and that primary union might thus be secured. Although some tension was necessarily present, the observance of antiseptic precautions had prevented sloughing, and in a number of cases in which he had operated he had not experienced any trouble. He concluded his remarks by saying that he believed it would be found that the adoption of the method portrayed, or some modification of it which would carry out the principle of completely re-covering the large wound surface, would not only render these extensive operations less formidable by shortening the convalescence, but would tend to greater thoroughness, as it would also enable surgeons to operate in cases otherwise hopeless.

The third paper was by Mr. Butlin and Mr. Beadon Adams. In cases of cancer in which it was necessary to remove large areas of the integument, too rapid healing and subsequent contraction might often be prevented by transplantation of flaps of skin in the immediate neighborhood of the wound. The flaps should not be more than three and one-half or four inches in length. They should have large bases. Flaps were more easily procured on the lower margin of the wound. Asepsis was not the only condition necessary to ensure the vitality of the flaps. It was found that tension on the flaps was of comparatively small importance in determining sloughing. Mr. W. G. Spencer said that for nearly all cases in which there was not enough covering the lower flap should be undermined to a much greater extent than was commonly done. The undermining could be carried down to the lower ribs and behind to the angle of the scapula. This gave an extraordinary amount of room, and ulceration of a flap from the twisting of its pedicle was avoided. The undermined flap might if necessary be buttonholed at its lower portion to prevent accumulation of blood. Mr. Watson Cheyne confirmed this. He always removed a large amount of skin, all that

which lay over the prominence of the breast. Formerly he performed skin grafting, but afterward he found that undermining was a better procedure. He carried this out in all directions quite up to the neck and down to the abdominal muscles, and he drew the edges together with stout silver wire passed at a distance of about an inch from the edges of the flaps. It was only necessary that the wound should be oval. The stitches sometimes cut through, but this made no material difference. In about ten per cent. of the cases, in which stitching together by these means could not be done, he had employed flaps and skin grafting. An objection to the operation by flaps was that the patient was already often collapsed after the extensive dissection, and the plastic proceedings added to the length of the operation. In such cases he stitched the wound together as much as possible, and then in three or four days skin-grafted the remainder of the wound. Cases treated in this manner did very well, indeed, and he had very few failures after skin grafting. Mr. Wallis had seen flaps in plastic operations about the face become very congested and threaten to slough, but this had been prevented by multiple pricking of the flap. The objection to this method for the breast was that it involved the exposure of the wound. Mr. Barwell said he used large lead-button sutures where the tension was greatest, and he frequently relieved the stitching by making incisions parallel to the wound edge and then sewing these latter up in a direction at right angles to the wound edge. As he believed that the resistance was chiefly in the subcutaneous tissue, he was careful to divide any prominent fibrous bands. Mr. Bowlby said that the patients appeared to suffer more pain when the flaps were dragged together, and that the patient was more hidebound with the dragging than with the flap method. Cases in which the tumor extended toward the clavicle or toward the sternum were more suitable for flaps, while the wounds extending toward the axilla came together better by dragging.

Mr. Mayo Robson, in reply, said that it was only in the exceptional cases that he used the flap method, as undermining and dragging were better when possible, taking care that when dragging was resorted to the stitches should be placed well away from the edge of the wound. In his flaps he took the whole thickness of the tissue, and he had done it in stout people as well as in thin ones without producing sloughing. He used no drainage whatever.

Mr. Butlin, in reply, said his flaps appeared to be much like Mr. Mayo Robson's, except that in very fat people he thought it better to take skin only. The flap method avoided the necessity of skin grafting, which was to the patient a second operation. The after-contraction by the flap method was small, and the upper extremity could be moved with ease.

William Lockhart, F.R.C.S., died on April 25th, at Blackheath, where he had resided for many years. He was eighty-four years of age, and had been for twenty-five years a medical missionary in China. His first diploma dated 1833, and he became F.R.C.S. in 1857. He was also a fellow of the geographical societies of London and Paris. He embodied his views of medical missions in an interesting volume entitled the "Medical Missionary in China." He was the writer of reports on the hospitals of Peking and Shanghai, and contributed to the *Dublin Medical Journal* translations of Chinese works on midwifery, inoculation, and other medical subjects. He passed through some thrilling experiences during his missionary career, especially during the Tai-Ping rebellion, particularly when endeavoring to prevent the burning of Shanghai, which, however, he was doomed to witness. He founded the first hospital there; its successor is the most important Chinese hospital at the present

time. He married a sister of Sir H. Parkes in 1841, who survives him. Some years ago their golden wedding was kept with their children and children's children.

William Sharp, F.R.S., M.D., who died on April 10th, was a link with the medicine of the past. He attained the ripe age of ninety-one. He took his college and hall diplomas in 1826-27, and began practice a year later at Bradford, where he became senior surgeon to the infirmary. He was an active advocate of local museums and his work in promoting them largely contributed to his being elected F.R.S. in 1840. He removed to Hull in 1843, and in 1847 to Rugby, where he remained the rest of his life. The archbishop of Canterbury gave him the degree of M.D. in 1856. The authority of this ecclesiastic to confer degrees was claimed among other privileges as successor to the Pope of Rome, and was exercised at intervals by holders of the see of Canterbury from the time of the Reformation. I believe the archbishop still gives degrees in divinity, and he affected to confer an M.D. as late as 1862, but this would be useless, as the medical act of 1858 authorized the registration of such degrees in medicine only if presented prior to the act. So any since 1858 could only be looked upon as marks of presumption on the part of the archbishop and cheap tokens of his personal favor. It is right to add that the later favors were shown only to men qualified to practise by the corporations or universities. Dr. Sharp continued library work up to 1892. He published several pamphlets on therapeutic problems, in some of which he seemed to lean to homœopathy, but he criticised Hahnemann and his work unsparingly. In 1886 he issued an essay on "Therapeutics Founded on Organopathy and Antipraxy." By "organopathy" he meant influencing diseases by drugs which acted on particular organs. I don't think the essay had any influence on medical thought, but this and some other articles were regarded with good nature as the eccentricities of an old man of considerable powers who was willing to become a system builder, an occupation which on many others seems to exercise a fascination.

Inspector-General Arthur Anderson, C.B., M.D., died on April 26th, in the eighty-second year of his age. He entered the army in 1838, and served in the Crimea, China, and India. He obtained a number of distinctions, had been principal medical officer of Bengal, and eventually served in the same office at Netley Hospital, after which he retired.

Deputy Inspector-General of Hospitals and Fleets J. Flanagan died on April 30th, aged sixty-one. This officer had been some time retired.

OUR BERLIN LETTER.

(From our Special Correspondent.)

THE LANGERHANS AFFAIR—CONGRESS FOR INTERNAL MEDICINE—TETANY AND RICKETS—LUMBAR PUNCTURE—DIABETES ACUTISSIMUS—A NEW ARTERIAL PHENOMENON—A CASE OF LEPROSY—A MEDICAL COURT OF HONOR.

BERLIN, May 16, 1896.

THE quiet which had settled upon the scientific world here during the holidays was suddenly disturbed by the case of Langerhans. The misfortune which fell upon Professor Langerhans, to lose his son immediately after having himself administered by way of prophylaxis an injection of diphtheria antitoxin, has been so widely published in the daily press all over the world that there remains little to add to the sad tale. The general impression here is that the sorely afflicted father acted rashly in publishing the statement that his son's death was due to the antitoxin before

there had been an autopsy to determine the cause of death. But neither the autopsy nor the examination of the serum nor that of the horse from which it had been taken gave any evidence that death was due to the antitoxin, and while the cause will remain a mystery the antitoxin treatment of diphtheria has received no setback.

In the Congress for Internal Medicine, which closed about two weeks ago in Wiesbaden, a number of new questions were brought to the front. Herr Cassel read a paper on the relation between tetany and rachitis. Among six thousand cases at the polyclinic he had sixty of tetany, all in nursing infants, and in thirty-two of these there were also symptoms of rickets. In most of these the evidences of the disease were only slightly marked, but in two of them there was laryngismus stridulus. The speaker could see no evidence from these cases that there was any causal relation between tetany and rachitis, and he had never seen any improvement whatever as regards tetany in the result from antirachitic treatment. He regarded tetany as an independent affection caused by unhygienic conditions. In severe cases he found benefit to result from prolonged baths (twenty minutes) in water at a temperature of 28°-30° R. (96°-99° F.), from small doses of chloral hydrate, and especially from an improvement in the hygienic surroundings of the little patients—a direction in which, in Berlin, there is room for much to be done. Cassel's theory received confirmation from the fact that he had never seen tetany among the children of those in the upper classes.

Those who took part in the discussion did not agree with the author as to the origin of tetany, for they thought that the relation between that and rickets could not be denied. It was suggested that the disease might possibly arise from an auto-intoxication by toxins formed in the gastro-intestinal canal of the patient. Heubner thought laryngismus stridulus and tetany were in no sense identical affections, the latter not being a specific affection, but one that might be excited by any irritation of the cerebral cortex, just as are spasms of the extremities. The speaker had often seen general convulsions and even true epilepsy follow laryngismus stridulus.

In the same meeting the operation of spinal or lumbar puncture was warmly and justly praised. Albert Fraenkel, of the Urban Hospital, reported a case in which the diagnosis of tuberculous meningitis was made by means of spinal puncture, and Stadelmann and Fürbringer reported a number of other cases in which a correct diagnosis was arrived at as a result of this operation. Fraenkel advised that the fluid so obtained be treated in the centrifuge and the sediment be examined for tubercle bacilli. There are cases of quite advanced tuberculous meningitis in which there are absolutely no severe symptoms, neither headache, nor vomiting, nor retardation of the pulse, and the speaker referred to one in which a purulent exudate was found on the surface of the brain, and yet the patient, twenty-four hours before his death, was apparently in perfect health and was walking in his garden. Stadelmann said that in his case he was enabled to determine the pneumonic nature of the meningitis by finding Fraenkel's diplococcus in the exudate. Therapeutically also, lumbar puncture was of value, as it had resulted in the disappearance of the headache. From this interesting discussion the conclusion was arrived at that lumbar puncture was the only means for determining with certainty the diagnosis in a case of doubtful exudative or purulent meningitis.

Benda and Stadelmann also reported an interesting case. It was that of a woman, twenty-three years old, who was perfectly well one week before her death. She was taken with severe abdominal pains, glycosuria (five per cent.) and acetonuria, and finally fell into

diabetic coma and died from heart failure. The autopsy showed extensive infarcts in the pancreas and multiple points of fat necrosis in the omentum. These were of fatty crystals, so that the omentum presented the appearance of a cloth sewn with bright stars. Stadelmann regarded this as a case of diabetes acutissimus, for it had without question begun only a week before, and he thought the disease of the pancreas should be referred to an infection. After complete destruction of the pancreas the diabetes set in and caused the death of the patient.

Litten, to whom we owe the so-called diaphragm phenomenon, recently presented a communication to the Verein für innere Medicin regarding a physical sign in the larger arteries of pathological and diagnostic significance. Starting from the well-known fact that an arterial murmur may be caused by pressure upon the trunk of an artery, he asked himself what phenomena corresponded to this murmur, if the pulse corresponded to the tone, or what perceptible movements of the arterial wall can be called forth by compression. He could perceive a murmur in all the larger arteries from the diameter of the aorta to that of the radial as an expression of the unknown symptom. The sign can be appreciated, however, only after a certain measure of experience, but makes an extraordinary impression upon the observer. The phenomenon is best observed in the subclavians and the abdominal aorta when the latter, as in enteroptosis, is easy of access. The method of examination is the following: With one finger light pressure is made on the artery while the palpation is made with a finger of the other hand. In pathological conditions, in cases of diseases of the arterial system, this murmur takes on a blowing character. These affections are those in which there is an increased blood pressure and dilatation of the arterial system, such as aortic insufficiency—true or false, Graves' disease, arteriosclerosis, poisoning by amyl nitrite. In these affections the symptom is very strongly marked, and may even be felt in the smaller arteries of the foot. Of especial practical value is it in the diagnosis of sclerosis of the ascending and abdominal aorta. Litten reported two cases of disease of the abdominal aorta, in which the diagnosis was materially aided by this symptom. The first case was one of nervous and very painful palpitation, and here only the usual murmur caused by compression of an artery could be felt. In the second case the phenomenon was very marked, and this, added to the almost uncontrollable pains in the abdomen, permitted of a diagnosis of sclerosis of the abdominal aorta to be made. The correctness of the diagnosis in each case was shown later at the autopsy. The author also presented some patients in whom the symptom was very beautifully shown.

At the last meeting of the Berlin Medical Society Blasko reported a case of leprosy and read a paper upon the prevalence of this disease in Germany. The case was one of anæsthetic leprosy in a fifteen-year-old girl from the eastern part of Prussia.

There is at present in German medical circles an agitation on foot for the establishment of a recognized and authoritative medical court of honor. This court would have jurisdiction over physicians only in what concerned their professional conduct, and not in the ordinary affairs of life.

IS APPENDICITIS A MEDICAL OR A SURGICAL LESION?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The article by Dr. MacArtney, "Appendicitis from the Medical Standpoint," in your issue of May 2d, and the letters from Drs. Morris and Wyeth in your issue of May 9th in reply thereto, are intensely

interesting to the active practitioner, and present very clearly the medical and also the surgical side of opinion on the treatment of this frequent and dangerous disease.

I believe all three of these gentlemen are truthful in their statements of facts as they have observed them, and sincere in the opinions which they have expressed, but it is evident that they cannot all of them be correct in the positions assumed, and that some further explanations are needed to make the truth appear. Dr. MacArtney has described in an admirable manner a line of treatment which seems to me to be sensible, which in his hands has certainly been successful, and which, it appears to me, is consistent with our present knowledge of the pathology of appendicitis. It is almost identically the treatment which I have followed for the last twenty-two years, with the same measure of success as is reported by Dr. MacArtney. I have kept notes of but a few of my cases and cannot tell just how many I have treated, but it has been more than the twenty-four reported by Dr. MacArtney. Some of these cases have been very severe, attended by great pain and high temperature, and several times a distinct tumor has been felt in the region of the appendix. None of my patients died, all made good recoveries, and only two were operated upon—one recently for recurring appendicitis (six attacks since last October), and one in a neighboring city, whom I saw but three times, developed an abscess which pointed and was opened near McBurney's point.

It is evident that our surgical friends, Drs. Morris and Wyeth, have never tried the medical treatment recommended by Dr. MacArtney. If they will carefully try it in the next twenty cases, from the very commencement of the primary attacks, they will find very few instances in which an operation will be needed. In order to accomplish the best results, this treatment should be intelligently applied from the commencement of the disease.

It is implied in Dr. Wyeth's letter that he did not believe the physician who stated, at a meeting of the American Medical Association, that he had treated seventy-five cases of appendicitis by medical means only and that all the patients had recovered. I should be entirely willing to believe the statement of a careful physician to the effect that he had treated seventy-five consecutive cases of appendicitis in private practice, and that all his patients had recovered under medical treatment. Such a statement would be in line with my own experience and that of Dr. MacArtney.

Dr. Wyeth, I am inclined to believe, does not see in his practice the average case of appendicitis. Those cases which reach the surgeon are the severe and neglected ones, and many of them, without doubt, can be treated successfully only by surgical means.

I am not blindly opposed to all surgical procedures in this disease, but what I do contend for is that, if these cases receive proper medical treatment from the start, very few of them will require surgical treatment.

I cannot believe that the statistics referred to by Dr. Wyeth and compiled by Dr. Samuel Lloyd fairly represent the results of medical treatment in private practice in this country. They are so far from my own experience that I am confident some error has been made. The closing statement of Dr. Wyeth's letter is as follows: "It is probable that the proportion of cases which recovers under so-called conservative management would number about fifteen in every hundred, which might be increased if it were permitted to include cases which recover from a single attack, but which are subject to repeated seizures (recurring appendicitis)." This statement seems to me absolutely absurd; as well might Dr. Wyeth tell me that not over fifteen per cent of typhoid fever patients recover under medical management. I am sure this statement

is not founded upon the careful observation of a large number of cases well treated in private practice.

Hospital cases should not be considered in making up statistics of this disease. Many of them are recurrent cases, the earlier attacks of which have not been properly treated, and the subjects generally are in such poor condition that no treatment can be expected to give the best results.

I should not consider a case well treated unless opium in some form (I prefer morphine by the mouth) was given from start to finish in sufficient quantity to completely "mask" the most prominent symptom, which is pain.

H. L. WALDO, M.D.

TRON, N. Y., May 15, 1896.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 23, 1896:

	Cases.	Deaths.
Tuberculosis.....	186	133
Typhoid fever.....	5	4
Scarlet fever.....	82	11
Cerebro-spinal meningitis.....	3	4
Measles.....	363	23
Diphtheria.....	298	44
Small-pox.....	1	0

Relations of Medical Examining Boards to the State, to the Schools, and to Each Other.—Dr. William Warren Potter, of Buffalo, president of the National Confederation of State Medical Examining and Licensing Boards, chose this title as the subject of his annual address at the sixth conference of this body, held at Atlanta, May 4, 1896. He said there were three conditions in medical educational reform on which all progressive physicians could agree—namely, first, there must be a better standard of preliminaries for entrance to the study of medicine; second, that four years is little time enough for medical collegiate training; and third, that separate examination by a State board of examiners, none of whom is a teacher in a medical college, is a prerequisite for license to practise medicine. It is understood that such examination can be accorded only to a candidate presenting a diploma from a legally registered school. He further stated that a high-school course ought to represent a minimum of academic acquirements, and that an entrance examination should be provided by the State for those not presenting a high-school diploma or its equivalent. He did not favor a national examining board, as has been proposed, but, instead, thought all the States should be encouraged to establish a common minimum level of requirements, below which a physician should not be permitted to practise. Then a State license would possess equal value in all the States. In regard to reciprocity of licensure, Dr. Potter thought it pertinent for those States having equal standards in all respects to agree to this exchange of inter-State courtesy by official endorsement of licenses, but that other questions were of greater moment just now than reciprocity. Until all standards were equalized and the lowest carried up to the level of the highest, reciprocity would be manifestly unfair. He urged that the States employ in their medical public offices none but licensed physicians. This, he affirmed, would tend to stimulate a pride in the State license and strengthen the hands of the boards. He denied that there was antagonism be-

tween the schools and the boards, as had been asserted. He said that both were working on parallel lines to accomplish the same purpose, that there could not possibly be any conflict between them, and that they were not enemies but friends. The medical journals of standing from one end of the country to the other, he affirmed, were rendering great aid to the cause of reform in medical education, and the times were propitious. He concluded by urging united effort by the friends of medical education, saying that "the reproach cast upon us through a refusal to recognize our diplomas in Europe cannot be overcome until we rise in our might and wage a relentless war against ignorance, that shall not cease until an American State license is recognized as a passport to good professional standing in every civilized country in the world."

Jenks Memorial Prize.—The subject announced for this triennial prize by the College of Physicians of Philadelphia is "The Etiology and Pathology of Diseases of the Endometrium, Including the Septic Inflammations of the Puerperium." The conditions are that the "prize must always be for some subject connected with obstetrics or the diseases of women or the diseases of children," and that "the trustees can in their discretion publish the successful essay, provided the income in their hands may in their judgment be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia." The prize is open for competition to the whole world, but the essay must be the production of a single person. The essay, which must be written in the English language, or if in a foreign language accompanied by an English translation, must be sent to the College of Physicians of Philadelphia, Pa., U. S. A., before January 1, 1898, addressed to Barton Cooke Hirst, M.D., chairman of the William F. Jenks prize committee. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

Railway Transportation of Contagious Diseases.—From advance sheets of the *Medico-Legal Journal* we give the following extracts from the report of the standing committee to the section on railway surgery of the Medico-Legal Society of New York: "It is the duty of railway managers to consider how best to protect all who travel from the dangers of infection. Tuberculosis is transmitted by means of the sputum. Apartments which have been occupied by a consumptive or person sick with any contagious disease should not be occupied by others until disinfected. The sleeping-car is the point of greatest danger. Fellow-passengers and employees can and should be protected. Car sanitation is important to the public of the entire world, but it is a delicate question, affecting personal liberty. Car sanitation, soon to be advertised by railways, will bring them profit in proportion to the perfection to which they carry it. As preventive measures the committee advise: 1, Education of the public through the daily press; 2, legislation, State and national; 3, isolation of passengers; 4, disinfection of berths and compartments; 5, a conference between railway men and railway surgeons."

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Original Articles.

SOME POINTS IN THE THERAPEUTICS OF DISEASES OF THE HEART.¹

By W. H. THOMSON, M.D., LL.D.,

PROFESSOR OF THE PRACTICE OF MEDICINE, NEW YORK UNIVERSITY MEDICAL COLLEGE.

IN no other connection is the subject of etiology so important as in the treatment of affections of the heart. On that account we would prefer to speak of the therapeutics of cardiac diseases as determined chiefly by the consideration whether the affection be primary or secondary in its causation. According to our decision of this question, our indications and measures for treatment may not only be different, but in many cases may seem to be opposite in their nature.

A young man, for example, with a perfectly healthy heart and a healthy state of the whole circulatory apparatus in arteries, veins, and capillaries, has a rapidly developing acute rheumatic fever, till he ends the week with the development of a mitral lesion. A year afterward we find him dyspnoëic, with congested lungs, sallow skin, enlarged liver, and with much œdema of the lower extremities. Another man, fifty years of age, who always had considered himself healthy, has noticed a gradually increasing shortness of breath on going up-stairs. We find him with a pulse of high tension, a hard radial artery, and with a ringing second sound at the semilunar valves. A year afterward he also is very dyspnoëic, with congested lungs, enlarged liver, and with œdema of the legs. But, however numerous the symptoms which these two patients have in common, they certainly are very different from each other when we can properly say to the first that he should stay in bed, and to the other that he should stay out-doors as much as possible. The valvular lesions, and the results of those valvular lesions, may be the same in both cases, but for all that they are not cases of the same heart disease, for in the first the trouble began with the heart, while in the second it ended with the heart. In how many respects, therefore, the treatment of the cardiac affection may be accordingly contrasted on account of these elements in the history of these patients, is a subject which affords a convenient text for our remarks on some points in the therapeutics of heart disease.

Primary heart affections are so commonly of rheumatic origin that this fact alone furnishes us with certain indications which should not be lost sight of. The first of these is the progressive nature of rheumatic heart disease, simply because it is rheumatic. Thus, I have been struck by the number of cases in my experience in which a primary condition, not of rheumatic origin, occurring in young subjects, though it caused permanent valvular change at the time, yet remained thereafter stationary. In the beginning of my practice I was called to a girl, aged twelve, with endocarditis developing in an attack of measles. She

has had a loud mitral murmur for twenty-five years since, but without any seeming injury whatever to her health. On the other hand, nothing is so deceptive as the favorable prognosis, as regards life, of the first attack of a rheumatic carditis. The patient may leave his bed with apparently nothing but a slight cardiac murmur, and soon he feels quite well. He returns, however, twelve months afterward, complaining of attacks of palpitation and of cardiac pains, and auscultation reveals a much increased and permanent condition of cardiac mischief. This has been shown to be particularly the case in children after recovering from chorea, and the rule is, the younger the patient—with, therefore, the most tendency to active muscular exercise and rapid heart action—the more surely inclined is a slight initial cardiac lesion to develop into a serious structural alteration. What is true, therefore, in general of rheumatism, that any one once attacked by it is more liable than others to repeated returns of the affection in his joints, is still more the case with his heart. Inflammation is more likely to recur there with him than anywhere else because of special reasons.

The first of these reasons arises from the continued mechanical operation of the initial valve lesions. These begin with the deposit of beaded rows of fibrin just within the border lines of the valves. Soon these become organized upon the smooth lining membrane like so many trachomatous masses in granular conjunctivitis, with the same grating and irritating effects upon the incessantly moving valves, thus leading in time to deeper inflammatory thickening, with tendency to deforming contraction of the subjacent textures. The heart, therefore, becomes more irritable and liable to inflame with much less provocation than at the first attack. Meantime, its own functional activities explain how, from the first, the rheumatic inflammation caused more structural change there than rheumatic inflammations ordinarily do elsewhere, for here we have the seat of the most unceasing and rapid movements in the whole body. It is therefore the last place in the body where the great indication in inflammation, of rest to the inflamed part, can be secured. The only other texture which is apt, though far less often than the heart, to have permanent structural changes set up in it by acute rheumatism is the pleura, and that also is an unresting tissue.

From these considerations, one of our first indications in the treatment of primary heart affections is the prophylaxis of rheumatism. For this purpose I would recommend particular attention to the state of the tonsils in those who give, along with a tendency to rheumatism, a history of frequent attacks of sore throat. The prompt use of salicylates internally, with the first signs of tonsillitis, and the local application of tincture of iodine are, in my opinion, good preventives in these patients of subsequent rheumatic infection. The habitual employment of hot water douches night and morning to the throat, with the addition of oil of peppermint to the water, is also an excellent measure in the hygiene of the mouth, for the relation of oral infection to chronic pharyngitis, otitis, rhinitis, and tonsillitis is, I believe, a fact of much practical importance for physicians to recognize.

¹ Read before New York County Medical Society, May 25, 1896.

Of equal, if not of greater, importance is the protection of the skin, owing to the easy sweating of rheumatically inclined persons. Whatever be the relation of acute articular rheumatism to microbic infection, the clinical fact is undoubted that rheumatism prevails most in the localities where persons are most apt to be chilled while the surface of the body is wet. It is, therefore, endemic not only in damp and wet climates, but also among the inhabitants of hot and dry desert regions where the rapid radiation of heat in the night causes the early morning temperature to be often quite cold, and thus act upon the skin of those who were freely perspiring from the heat of the previous evening. Rheumatic patients, therefore, should always protect the skin with flannel, and this is quite as needful by night as by day.

Coming to the affections of the heart itself, the pulse of rheumatic patients should be frequently tested, as it often furnishes valuable advance information of the imminence of increased cardiac mischief. I have repeatedly advised such patients to go to bed on account of habitual rapid action of the heart when they did not otherwise complain of rheumatic symptoms, and with the best results. Indeed, to rest in bed we would assign the very first place in the therapeutics of primary heart affections. We have here virtually a case of isolated disease. Practically it is the heart alone which is to be considered, and the first indication is to quiet it. This cannot be done unless the patient lies down. I need not say how often we find hospital patients admitted with every symptom of cardiac distress, and then note a marked improvement in them in a few days, solely due to their being kept in bed, without any medication meantime having been administered. It is easy to see that an embarrassed valve may work fairly well if only seventy-five movements a minute are demanded, but quite otherwise if there be one hundred and twenty instead, and that the most urgent symptoms may subside spontaneously after any measure which eliminates the element of overaction.

In many acute conditions of the kind, however, rest in bed does not suffice to bring down the pulse, and for such we have a medicine whose service in primary heart disease I regard as invaluable, and that is aconite. Many times I have found the patient's symptoms not only not relieved, but rather aggravated by digitalis, strychnine, and other supposed heart tonics, the pulse growing feebler and more irregular, until by a change to aconite the dyspnoea has been lessened, the anginous attacks have been relieved, and the pulse has become both fuller and steadier under the influence of this drug. Aconite is not only a heart sedative in inflammatory cardiac states, but it has a decided effect upon inflammatory pains. In a great many cases also the cardiac rest which it induces will tend to increase the strength of the heart more than will follow upon the administration of heart stimulants. It should also be noted that in common with other vegetable nervines, it produces no permanent effects upon heart muscle, any more than tobacco does upon the habitual smoker. I have never seen a case of heart disease in which aconite has seemed to weaken the heart in inflammatory states, though it be taken three times a day for months continuously.

I, of course, in the limits of this paper, cannot more than touch upon certain aspects of the subject of the treatment of heart affections, and I will therefore only allude to the relief of some special conditions. One of these presents us at times with the most distressing example of how heart disease can produce dyspnoea, and that is when a pericarditis has resulted in the formation of adhesions to the pleura, sternum, and ribs. Every movement of inspiration may then tend to draw upon the walls of the heart and thus in-

terfere with the cardiac systole. To give such a patient digitalis may simply increase his sufferings, but I have found firm strapping of the left side of the chest sometimes of the most undoubted service.

In mitral stenosis, as Foxwell has shown, the resultant hypertrophy of the right side of the heart causes the area of cardiac dulness in adolescents to increase in a different direction from what it does in right dilatation in older patients, as after emphysema, the dulness extending upward and to the left, in many instances quite up to the second left rib articulation instead of transversely to the right. For the dyspnoea of mitral stenosis, especially when it occurs in severe paroxysms, I have found belladonna, often combined with compound spirits of sulphuric ether, much the best remedy. In no other valvular lesion do we find such a tendency to irregular rhythm as in mitral stenosis, and that may be one reason for the superiority of belladonna here, as also for its incontestable superiority in the relief of cardiac pains when they occur in the hypertrophied hearts of rheumatic patients. I would ascribe these pains to the disturbance of the rhythm of the cardiac contractions when the balance between the two sides of the heart is disturbed by the greater hypertrophy of one side, and belladonna, with its allies among the solanaceæ, is characterized above all other agents with the property of restoring the deranged action of rhythmical muscular fibre, and thus relieves spasm whether in the bronchial tubes, in the alimentary canal, or in the urinary bladder. In mitral stenotic cases I have often found digitalis inferior to strophanthus, sparteine, and caffeine.

In all primary heart diseases we should always remember the evil effects of anæmia. Anæmia of itself may cause structural heart disease, as in chlorosis. The most extreme fatty degeneration which we may ever find in a heart is often met with in patients who have died from pernicious anæmia. Now, considering the special tendency of acute articular rheumatism to produce anæmia, it would seem as if we should early administer iron to combat this sequel. But, however invaluable iron is in other forms of heart disease, I regard it as almost certainly mischievous in rheumatism. Repeatedly have I found its administration in these patients to prolong the convalescence, keep up a subfebrile temperature, increase the pain, and apparently increase, instead of diminish, the anæmia. In fact, there are a good many loose ideas about iron as a specific for all forms of anæmia, but which we have no time to discuss now other than to say that in all febrile anæmias, as in phthisis, rheumatism, and pernicious anæmia, iron is as likely to do harm as it is to do good.

The best remedy for rheumatic anæmia, in my opinion, is cod-liver oil along with small doses of arsenic. I have fancied that I have found the sulphide of calcium in as large doses as the stomach will bear without nausea, doses of one-half to one grain four times a day, to be of service in acute rheumatism and to hasten the convalescence. I am at present taking observations on this point, but they are too few yet to warrant a conclusion.

The great aim in adolescent primary heart affections is to carry the patient along until the changes of middle life can develop, when the liability to acute articular rheumatism has ceased. It is significant how many cases of cardiac murmur we find nowadays in patients in middle life which have lasted for years without any inconvenience. Many a patient having mitral stenosis, which produced most serious symptoms at twenty, seems spontaneously to recover at about forty, apparently from the increase in the left ventricular cavity natural to that time of life, operating to dilate the previously narrowed auriculo-ventricular orifice.

The first consideration to which I would advert in

secondary disease of the heart is that unlike other viscera, such as the lungs, liver, kidneys, etc., which contain within themselves the chief conditions for their specific functions, the heart is but a part of the apparatus of the circulation. Not only, therefore, will disorders of the heart affect the circulation, but the converse is equally important, that disorders of the circulation will affect the heart. In the latter case our attention, instead of resting at the cardiac valves, should also include a consideration of the whole circuit of the circulation. Thus, in primary disease of the heart its hypertrophy and dilatation are mainly due to disorder of its valves; in secondary diseases the disorder of the valves is mainly due to antecedent hypertrophy and dilatation.

Secondary affections of the heart, therefore, begin chiefly at the periphery of the circulation, so progressively embarrassing the flow of blood there that the central organ first increases in size and in strength to balance the increased work which it has to do. But as all hypertrophied muscles are more apt than normal ones to undergo degeneration, so the main danger is the supervention of dilatation and, following upon that, increased weakening in its power of emptying itself. The chief indication, therefore, is now to keep up the strength of the walls of the heart and to let all concomitant valvular affections take care of themselves.

For this purpose I would divide our remedial measures into the constitutional and the symptomatic classes of agents. The first of the constitutional, and the most important and continuous in its operation, is the effect of fresh air. The oxygen of our respiration is nature's great source of muscular power, as is exemplified throughout the whole animal kingdom that muscular strength is directly proportioned to the activity of the respiration. On the same principle, iron is the most effective among drugs, because iron is our respiratory food and has no other function in the body but as the carrier of oxygen to enable us to breathe. The recognition of this fact in modern therapeutics has led to the recommendation of mountain climbing as a cure for failing heart power, and when resorted to in the right cases and in proper measure it undoubtedly is a great advance over the old views which confounded secondary with primary disorders and hence advised that every patient with heart disease should be very careful about muscular exercise.

Next to as continuous breathing of the open air as possible, I would rank properly applied massage, especially that form in which the patient exerts a carefully regulated resistance to the flexion and extension of his muscles by the operator. I have seen many cases of most striking improvement, especially in senile hearts, by the addition of this procedure to other measures of treatment, for it must be remembered that the movements of the aged in walking are not only slow but very limited in their range, and not at all calculated to react as favorably upon the heart as the above-mentioned exercise, given when they are recumbent, seems to do. The improvement in breathing after some weeks of this massage is too unmistakable to be doubted.

Of course, the seat and nature of the peripheral obstruction which reacts upon the heart will modify the symptomatic medication. Dilatation of the right side of the heart with resultant dropsy, due to chronic bronchitis, is one of the most curable of heart affections, if only you can cure the bronchitis first. The trouble is that a vicious circle of interacting influences is set up in these cases whenever the heart becomes involved, the bronchitis becoming worse when cardiac congestion of the lungs supervenes; and this in turn increases the heart weakness. In such cases, again, hours spent in a dry equable air help the

weakened bronchial muscles and the weakened right ventricle as well. Among medicines the tincture of the chloride of iron with strychnine does more good to the cough than any cough mixture. It is in these cardiac cases also that arsenic and the potassium iodide so often do good, but these drugs are also useful in the treatment of chronic bronchitis itself.

The most common as well as most serious of secondary heart diseases, however, are, of course, those dependent upon general arterial disease. It has been rather graphically said that a man is as old as his arteries, and increasing experience with the causes of decline and death in our patients after middle life will lead, we think, most physicians to agree with this statement. The first sign of the coming danger from this source we would put as shortness of breath upon exertion. If the significance of this were more appreciated in time by many who ascribe it only to their growing fat, or to their sedentary habits, many valuable lives would be prolonged and years of usefulness saved. It is instructive to note also the entire difference in the meaning of a rapid pulse in secondary cardiac dilatation from the rapid pulse of primary heart disease. In secondary dilatation it is not from irritation of the heart itself, but because the organ is not capable of emptying itself fully enough with each stroke to meet the needs of the circulation, and therefore has to increase the frequency of its systole. Digitalis, and not aconite, will lessen this symptom.

This leads me, in conclusion, to mention briefly the particular uses of some of our symptomatic remedies. In secondary cardiac dilatation digitalis certainly takes the lead of all other drugs, but there is not one in the list whose administration should be less a matter of routine. In the first place, we have now in all cases of peripheral obstruction a coadjutor to the action of digitalis which has removed one of the chief former obstacles to the remedial effect of this drug, and that is nitroglycerin, which, by dilating the arterioles, whereas digitalis contracts them, enables us to ease the heart of the peripheral obstruction against which it had to contend before on account of the increased arterial pressure caused by the digitalis. But another serious effect of digitalis when given too continuously and in too large doses is that it causes a gastric disturbance which is very difficult to allay. In cases, therefore, of much dilatation, with cardiac arrhythmia, general dropsy, and pulmonary œdema, it has been my practice to begin with free doses of an ounce of the infusion of digitalis four times a day for two or three days, and then to change its administration altogether to a permanent dose of half a grain of the powder three times a day, which dose may then be kept up for a long time with great benefit.

Prior, however, to these smaller doses, and during the administration of larger doses, we have an adjuvant to the action of digitalis which I think cannot be appreciated too highly, and that is calomel, given in doses of one-half to two-thirds of a grain three times daily, until the first slight signs of mercurialization are manifest, when its administration should be stopped. The increased beneficial effect upon the heart and circulation of this short course of calomel in these cases is often as striking as any effect in therapeutics.

As a modification of the digitalis treatment I often use a combination of the three tinctures of strophanthus, nux vomica, and digitalis in equal parts, dose twenty to thirty drops of the mixture three times a day, particularly in aortic regurgitant and mitral stenotic cases.

Of course, the commonest cause of general endarteritis is renal disease, but the relations of this subject to cardiac disease are too wide for us to enter upon now. I can only say that in chronic interstitial nephritis the high tension of the pulse and the low

specific gravity of the urine seem both to be favorably affected by the action of small doses of corrosive sublimate. In the cerebral derangements of such patients which are short of apoplexy, both the cardiac symptoms and the cerebral have often seemed to me to be improved by a pill containing two-thirds of a grain of sparteine sulphate, one-half grain of pulverized digitalis, and one-twenty-fourth of a grain of corrosive sublimate.

In all cardio-renal cases with extensive dropsy I would avoid a milk diet. Repeatedly have I seen the dropsy at once decline upon a marked restriction being ordered in the amount of fluids taken and the administration of solid food.

We forget often that opium is a powerful heart stimulant, as its anodyne and soporific properties are so much more familiar to us, but for severe attacks of cardiac dyspnoea we can hardly do without it as an occasional resort. I would, however, mention that in very many cases of nocturnal attacks of dyspnoea in cardio-renal patients, chloral acts to a better advantage than any other remedy for this particular complication.

STATISTICS OF DIPHTHERIA.

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THE study of the statistics of the infectious diseases is exceedingly valuable to the medical profession. We find, however, that in some of the infectious diseases the study presents difficulties that are not to be found in others and that diphtheria probably offers us a greater degree of uncertainty than any of the others.

One of the greatest difficulties lies in the uncertainty of the diagnosis. Physicians readily learn to accurately diagnose the exanthems, but with some of the infectious diseases, notably tuberculosis and diphtheria, we have been able only since the discovery of their pathogenic organisms to accurately differentiate these diseases from others presenting very similar subjective and objective symptoms.

In order that the statistics of diphtheria may be properly appreciated, I shall divide the disease into two periods, an early period and a late period. The dividing line between these two periods can be quite accurately drawn, and it may be taken as that period when the use of diphtheria antitoxin became quite a factor in the treatment of this disease; for, whatever may be the fate of the antitoxin treatment of diphtheria, it certainly has stimulated not only its advocates but its opponents to more accurate observation of the disease, and has been the most effective means of furnishing to the bacteriologist the requisite cultures, from the study of which so many valuable conclusions have been drawn. The beginning of the year 1894 may be taken to separate these two periods. True, the Klebs-Loeffler bacillus had been known and studied, and many valuable experiments made and conclusions drawn from these in the ten years previous to 1894, but the busy general practitioner merely read of these results. Few physicians up to that time (1894) availed themselves of the aid that bacteriology offered in the diagnosis of diphtheria, even after the establishment in 1893, by the Board of Health of this City, of a laboratory for such bacteriological diagnosis.

Let us examine first this early period of the disease. What constituted diphtheria during this period? A group of constitutional symptoms which varied considerably in individual cases from the slightest to the most severe, together with the appearance in the throat of a pseudo-membrane, also varying in character, position, and extent. We cannot wonder, then, that there

were frequent differences of opinion among physicians seeing the same case as to whether the patient had or had not diphtheria. Some physicians would call almost all anginas presenting any appearance of a pseudo-membrane, diphtheria. In the Scientific Bulletin No. 1, Health Department, New York City, Dr. H. M. Biggs states (page 2) that "during the year 1891 4,874 cases of diphtheria were reported to this board, and, so far as can be judged from the data at hand, at least one-third and perhaps more of these cases were not diphtheria." On the same page he makes the statement that "in those cases in which bacteriological examinations have shown the absence of Klebs-Loeffler bacillus, the mortality has varied from one to five per cent." We are inclined, therefore, to the belief that many physicians whose death rate in diphtheria in this period has been very low, would have found it necessary to exclude many of their cases had they submitted cultures from their patients' throats to bacteriological diagnosis. On the other hand, some physicians have had a very high death rate. In view of our present knowledge of diphtheria derived from bacteriology, we feel sure that they have passed over many of the milder forms, which if included would have reduced their mortality rate. We may mention here that bacteriology has taught us that there are severe and fatal pseudo-membranous affections of the throat in which the Klebs-Loeffler bacillus is not found, but which present all the local and constitutional symptoms even to the sequela paralysis, which clinicians have regarded as justifying the diagnosis diphtheria. Without bacteriological examination it is impossible to differentiate these two conditions, and in this early period the statistics of diphtheria have been made incorrect by their inclusion.

What constitutes diphtheria in the late period of the disease? The discovery of the Klebs-Loeffler bacillus in the cultures taken from the throats of patients presenting any form of inflammation of the fauces. Park and Beebe¹ say: "The examination by a competent bacteriologist of the bacterial growth in a blood-serum tube which has been properly inoculated and kept for fourteen hours at the body temperature, can be thoroughly relied on in cases where there is visible membrane in the throat, if the culture is made during the period in which the membrane is forming and no antiseptic, especially no mercurial solution, has lately been applied." Koplik, among others, has shown that the secretion in the lacunæ of the tonsils has been found in some cases to contain the Klebs-Loeffler bacillus. Again, Park and Beebe state: "We have found that children, and to a less extent adults who are brought in direct contact with true cases of diphtheria, very often receive the diphtheria bacilli into their throats, and that these bacilli may exist and develop in these throats for days and weeks." The same observers, examining cultures from the throats of three hundred and thirty healthy individuals, "where there had been no history obtained of direct contact with diphtheria," found virulent characteristic bacilli eight times, non-virulent characteristic bacilli twenty-four times, non-virulent pseudo-diphtheria bacilli twenty-seven times.

The finding of the Klebs-Loeffler bacilli in its different degrees of virulence in individuals who constitutionally and locally are apparently free from disease has led many to become sceptical as to the value of bacteriological examinations in the diagnosis of diphtheria. A broader and better view to take, however, is that neither clinically nor bacteriologically are we as yet in possession of a full knowledge of diphtheria, and that the more opportunities the practitioner affords to the bacteriologist for studying cultures from the

¹ Scientific Bulletin No. 1, Health Department, New York City.

naturally be led to judge that any new method of treatment pretty generally employed during 1895 ought to be credited as being superior to former methods of treatment. When we examine the columns showing the number dying per 10,000 inhabitants, we find 11.73. This is a saving of nearly 5 per 10,000 over the preceding year. Can this saving be attributed to new methods of treatment? If we examine the figures in the fourth column, there will be noticed a periodic rise and fall in the number dying; thus from 1881 to 1882 there is a fall of 4 plus; from 1883 to 1884 a fall of 2.75. Remaining nearly stationary for nearly four years, it rises again in 1888 by nearly 4, with a further rise the following year (1889) of nearly 2. Next year (1890) it falls nearly 4, with a still further fall of 3.9 the next year; then rises by jumps of 3.8, 1.1, and 6.7 to 1894; and, lastly, falls nearly 5 in 1895. How much of this fall in 1895 may be due to change in the character and type of the disease and how much to treatment, is something, I am free to confess, I am unable to answer. We notice that in 1895 the death rate, 14.48 per cent., was a phenomenal one. It is but little more than half of that of 1894, and less than half of what it was in the majority of the years here tabulated. There is nothing phenomenal, however, in the number 11.73 dying per 10,000, for in more than half the years it was less than this. When next we come to examine in detail the figures for New York, we find pretty much the same conditions, viz., increase of cases from 1893 on, increase in the number of people dying in 1894, the death rate coming down in 1894 but the number per 10,000 rising. The number of cases in 1895 increased, the deaths were fewer, there was a great reduction in mortality rate to 16.46, and also considerable reduction in the number dying per 10,000. A greater reduction, however, took place between 1881 and 1882 and 1882 and 1883, and a closely approximating reduction between 1889 and 1890. Brooklyn, for the years 1894 and 1895, showed nearly the same conditions; but we are surprised to find that the mortality rate there was still so high, 26.63. From the study of all the foregoing statistics, we believe that 1894 was an epidemic year. In 1895 the death rate diminished. Did that epidemic die a natural death or was it helped out of existence by antitoxin?

Examination of the statistics of diphtheria from the Boston City Hospital and the Willard Parker Hospital shows the following:

	B. C. H.			W. P. H.		
	Cases.	Deaths.	Per Cent.	Cases.	Deaths.	Per Cent.
1888 ....	....	....	.....	258	60	23.25
1889 ....	....	....	.....	383	79	20.62
1890	415	151	36.38	292	67	22.94
1891	237	105	44.30	289	85	29.41
1892	387	185	47.80	295	79	26.77
1893	419	203	48.44	343	108	31.48
1894	598	266	44.48	699	205	29.32
1895	1,566	207	13.21	778	190	24.42
		To May	1, 1896	251	58	23.10

In the Boston City Hospital the most striking fact is the great increase in the number of cases for the year 1895—1,566 for that year, and only 598 for 1894. The deaths for 1895 are 207; those for 1894 are 266. The death rate for 1895 is 13.21 as against 44.48 for 1894. It is a curious coincidence that the number of cases for 1895 is nearly three times that for 1894, while the percentage of deaths is less than one-third of what it was for 1894.

In the Willard Parker Hospital we find no such discrepancy in the percentage of deaths. The cases have increased greatly in 1894 and 1895, but the death rate has not been so markedly lowered. In fact, there are three years, viz., 1888, 1889, and 1890, in which

the death rate was lower than that of 1895. The death rate thus far this year to May 1st has been 23.10. It was lower than this in 1889 and 1890.

I believe the great interest in diphtheria brought about by the antitoxin treatment may have been a factor in increasing the number of cases at the Willard Parker Hospital. How many of these cases have been of a milder type and thus have affected the death rate, only those who see the cases there know.

As a result of our study of the statistics of diphtheria, not only in the cities above named but also in many others here and abroad, we find the conditions so different in the early and late period, as we have divided the disease, that any comparison of the death rate of the latter period with the death rate of the former period will be apt to lead one to erroneous conclusions.

REMARKS ON THE RATIONAL TREATMENT OF UTERINE FIBROIDS.¹

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THE time at my disposal this evening will not permit of any exhaustive study of fibroma uteri. I shall not therefore enter upon any discussion of the subject, either histologically or etiologically, nor will questions of differentiation from other growths occupy our attention. It is the most frequent of all the benign neoplasms of the uterus coincident with functional activity of the reproductive organs, and while the percentage of cases in which it becomes a menace to life is small and the mortality attending it still smaller, it is, nevertheless, so frequently a source of annoyance, distress, or disability, as to force itself upon the attention of the general practitioner or specialist. For purposes of clinical study uterine fibroma may be divided into two classes: the hard and the soft, or otherwise known as fibroma and myoma. The disease may be diffused or circumscribed, or confined to the corpus or involving the cervix. As to variety I shall divide it as follows, to wit: diffused, submucous, subperitoneal, and intramural. Uterine fibroids vary from those of the size of a pea or hickory nut to those of large dimensions, weighing from one hundred to one hundred and fifty pounds. The frequency of symptoms for which the patient seeks relief are in about the following order: first, hemorrhage; second, pressure causing discomfort or pain, either from size or position; third, general impairment of health; and fourth, acute septicæmia from rapid absorption of structure undergoing retrograde metamorphosis.

It is not to be assumed that all cases of fibroma require treatment, either surgical or medical. If not large in size and not a source of discomfort, they may produce no symptoms and their presence may not be recognized. It may be laid down as a principle of action that interference should be had the same as in ovarian cystoma, before the growth attains great size.

The causes which lead to menorrhagia are so numerous and so diversified that questions of differentiation cannot be entered upon. The diagnosis of fibroma having been constituted, and the variety and extent of the disease settled, the question of treatment will engage our attention.

Medical treatment must be tried in a certain proportion of cases, for there is a class of patients who will not submit to heroic measures, unless the condition is of great urgency; besides, they are entitled to the benefit which may be derived from systemic medi-

¹ Read before the Brooklyn Medical Society, May 15, 1896.

cation. Few drugs exert any curative influence on fibroma. Those worthy of trial in suitable cases are ergot and *hydrastis canadensis*; both have the power of diminishing the calibre of the uterine blood-vessels, and ergot stimulates contraction of muscular fibres of the uterus. Influence of drugs on the subperitoneal variety is likely to be unavailing, while in the interstitial cases ergot sometimes produces marked results, examples of which I reported in the *Brooklyn Medical Journal* several years since. The well-known physiological effect of pressure, persistently applied, produces absorption, and to this influence in part must be ascribed the power of ergot in producing absorption of fibroid growth and in moderating and controlling hemorrhage. It is alleged by Emmet that the effect of ergot on intramural fibroids is liable to produce excessive pain and to so diminish the blood supply as to endanger the vitality of the growth, thereby inducing sloughing and sepsis. While I have never seen such results follow its use, the possibility of such effects should always be borne in mind. The uterine contractions incident upon its administration in submucous fibroids and intra-uterine fibrous polypus may eventuate in their detachment, partial or entire, or the same force may expel them from the uterine cavity, thereby converting sessile growths into pedunculated ones. In fact, this extrusion of fibroids into the uterine cavity not infrequently takes place independently of medication and should be regarded as conservative evidence of nature's attempt at cure.

When this occurs medical treatment should be supplemented by surgical aid for their entire removal, either by snare, *écraseur*, spoon, or scissors, done under the most rigid aseptic precautions. It should be remembered that fibroid growths sometimes diminish or disappear coincidentally with gestation, and that those of moderate size disappear spontaneously. There is a susceptibility in fibroma to rapid growth and equally rapid diminution in size. Physiological causes dependent on some change in their nutrition, either the result of diminished blood supply or increased activity of the lymphatics, or both, when once set in operation, result in cure or disintegration. Small fibroids developing in the cervix or cervical canal are frequently sources of annoyance and disability entirely out of proportion to their size. Enucleation is the proper treatment, and in my experience the results have been highly satisfactory.

Hemorrhage as a symptom of fibroma is the result of interrupted circulation, ulcerative disease, and degenerative changes of the endometrium covering areas of the growth. In such a condition curettage often acts in the most salutary way by its alterative influence on inflammatory and degenerative structures. Hemorrhage not controlled by such measures requires more active interference. This symptom of hemorrhage is often not due so much to the size as to the location of the growth. Submucous myomas are the most frequent causes in the production of hemorrhage. In cases in which the growths are not too large and persistent and hemorrhage and pain are the prominent symptoms, two methods of procedure are open to choice apart from hysterectomy—one, removal of the ovaries; the other, ligation of the uterine arteries.

It is proper to mention at this stage of the discussion that the state and surroundings of the patient may have much to do with the method of treatment adopted. The woman of ease and opulence, who can without stint command all which medical skill has to offer, may by a prolonged period of rest, mental and physical, be carried safely past the menopause by the use of legitimate palliative treatment, while her less favored sister under circumstances of want and deprivation would fall a victim to such plan of treatment. This makes evident the necessity for discrimination

as to treatment, and the suggestions hereinafter made should be applied accordingly.

If there is reason to expect in a given case that the blood supply can be diminished by ligating the uterine arteries so as to arrest the hemorrhage and prevent the larger growth of the tumor without causing sloughing, it is a proper and conservative method of procedure. It is an operation usually easy of accomplishment, and involves little or no risk to the patient, so far as the procedure *per se* is concerned. It is done as follows: having previously sterilized the vagina, the patient is anesthetized and placed on her back with the knees flexed as in the operation for vaginal hysterectomy. An incision an inch long is made on each side of the cervix through the tissues at the vaginal junction into the broad ligament. Gently separating these structures by the knife handle or blunt scissors and keeping close to the uterus, so as to avoid the ureters, until the uterine artery can be felt, a ligature of some absorbable material is carried around it with an aneurism needle or a Cleveland's ligature carrier and tied in at least three knots cut short, and the incision closed with running catgut sutures. This method does not deprive the woman of her reproductive functions and lacks the objection to mutilation, so deeply seated in a woman's heart. In cases of a severe type in which this method is not successful resource may be had to the removal of both ovaries.

If, however, the growth is large, or moderately so, and there is reason to presume that there is much increase in the calibre of anastomosing vessels, which would in normal conditions be insignificant, removal of the ovaries for artificial production of the menopause may prove delusive and unavailing. It is, however, gratifying to note that a recent *résumé* by Marcy, of Boston, on the results of Battey's operation for this and analogous conditions, shows results more satisfactory than the experience of many had warranted. Dorsett, of St. Louis, and Martin, of Chicago, both produce gratifying evidence of the utility of the ligation of the uterine artery or arteries for such growths. This method of treatment is not applicable to large fibromas, as the impairment of nutrition might induce sloughing. Caution should, however, be exercised in not predicating too much for the patient in either method of procedure, as it may not prove successful. If resource is had to the latter method of operating, great care should be exercised that thorough work be done and no portion of ovarian tissue escape excision; otherwise the function of menstruation will not be arrested. It is held by some, and apparently upon tenable grounds, that it is better to include in this procedure the removal of the Fallopian tubes, thereby diminishing the liability to the development of subsequent disease and insuring greater certainty of cessation of menstrual functions.

In cases sufficiently grave to warrant castration the operator should carefully weigh the reasons, if any exist, why the uterus should not be included with the appendages. The choice between Battey's operation and complete removal of the uterus and its appendages covers debatable ground, and each will continue to have its advocates until larger experience decides which has the paramount claim to our confidence. In this as in many other conditions the results of individual experience will and should govern very largely the mode of individual practice. It must be acknowledged that the arguments against hysterectomy in bleeding fibromas of this class are more sentimental than real. The seat of disease is in the uterine structure, for which operation is proposed, and depriving the woman of her ovaries may at the best only influence this abnormal state by the arrest of periodical functional activity of this organ, and this may or may

not be sufficient to arrest the pathological condition. True, there may be some added risk in removing the uterus, but it would not of necessity outweigh the greater good which hysterectomy makes probable. The liability of these growths to undergo malignant degeneration or suppuration will have due weight in deciding the question. These are the questions which the operator can determine in each individual case. There is, however, a class of cases of large growths in which no such perplexing question perturbs the surgeon, and in which none but radical measures are admissible.

The revolution in methods which has attended the surgery of uterine fibroids (and I might say of abdominal surgery as a whole) within the last decade gives the subject of their management new and far-reaching interest. It is not my purpose to follow the successive steps of the intra- and extra-abdominal methods of German teachers and others, which have been improved upon and superseded by the American methods of Eastman, Baer, Goffe, Kelly, and others; suffice it to say, the evolution has been so complete and radical as to approximate perfection and rob the procedure of much that was formidable and dangerous. It is one of the marvels of modern surgery to note with what ease and safety large fibroids can be removed. The simplicity of this method, whether by supravaginal amputation or by complete extirpation, must recommend its adoption; it is the same except in the final steps, and does not vary in principle and but little in detail, whether the tumor is large or small.

To those familiar with the Trendelenburg posture no argument is needed to demonstrate its superiority over the horizontal position. It gives a clear field for observation, except in adhesions or in great intestinal distentions, and great facility for rapid manipulation. The steps of the operation are briefly as follows: After opening the peritoneal cavity in the median line by the shortest incision by which the growth can be delivered and easy manipulation accomplished, adhesions between the tumor and abdominal walls and intestines should be gently separated, the intestines pushed upward into the abdominal cavity and held in position by a large thick laparotomy gauze sponge. The growth is lifted out of the peritoneal cavity by volsella. A double ligature is then passed through the broad ligament so as to include the ovarian artery and the intervening tissues are divided. A second double ligature again transfixes the broad ligament so as to include the uterine artery, which can usually be felt pulsating under the finger, care being taken to keep sufficiently near the uterine body so as not to include the ureter, and the intervening structures are divided by scissors. The broad ligament and arteries on the other side are to be similarly tied off. These four ligatures usually cut off the arterial supply from the uterus and tumor. Sometimes in large growths other arteries may require ligation, or the proximal side may be held by pressure forceps to prevent reflux from the uterus. This method of applying pressure forceps may be used in ligating the ovarian and uterine arteries, in which case two single ligatures would be used on either side. The peritoneum covering the uterus at a point three-quarters of an inch or an inch above the junction of the cervix with the body is incised anteriorly and posteriorly. Anteriorly it is dissected or pushed downward with the handle of the scalpel, thereby separating the bladder from its attachments to the uterus. The posterior flap is carried down a similar distance, the cervix is amputated, and all that is required to complete the operation is to stitch these peritoneal flaps together over the stump of the cervix and attend to the toilet of the peritoneum. Before putting in a running catgut suture to

approximate these peritoneal flaps, it is oftentimes easy to turn in the stumps of the broad ligaments in such a manner as to leave them extra- and post-peritoneal. If deemed wise to remove the cervix with the corpus entire, it can be easily accomplished by keeping up traction and by the use of curved scissors, snipping the attachments little by little around the entire cervix, having previously sterilized the vagina.

Considerable variation in the method of applying the ligatures will obtain in different cases, from changes in the breadth and depth of the broad ligament owing to the increase in size of the uterine body or thickening due to inflammatory exudates. In some cases it is better to secure the uterine artery after incising the broad ligament than by transfixion. In others Kelly's method is simplest and best. The complications attending fibroma are so many and so diverse that the technique suitable to a simple case must be subject to variation. It is desirable to leave the stumps of the broad ligament with some free border, so that if they cannot be turned under when stitching together the antero-posterior peritoneal flaps, their peritoneal edges can be united by running suture, thereby covering in all raw surface. After complete hysterectomy both the vaginal surfaces and peritoneal flaps can be approximated by catgut sutures.

Should drainage for any reason be deemed necessary, iodoform gauze can be carried through a portion of this opening from above downward into the vagina, and as much left in the peritoneal cavity as seems necessary to cover any raw surfaces not otherwise provided for. In all cases of coeliotomy in the female, the vagina should be sterilized so as to be in proper condition for drainage should emergency so require. I have adopted this method of downward drainage after coeliotomy for various conditions, those primarily septic and those in which the peritoneal cavity became accidentally infected by the rupture of pus tubes or abscess cavities, with the most gratifying results. Unless infected, the peritoneum is closed without drainage.

It is well in allowing the patient to resume the horizontal position after having occupied the Trendelenburg posture, to do so slowly and to watch carefully that the changed blood pressure does not cause hemorrhage. By so doing the risk of secondary hemorrhage can be greatly lessened and probably eliminated.

No reference has been made to vaginal section for fibroids for the reason that unless the growths are small they cannot be delivered through the vagina without morcellation. When small, it may be the better method, as it is usually attended with much less shock than the abdominal method. The steps are the same as those in ordinary hysterectomy and need not occupy our time.

At the present time the adoption of coelio-vaginal hysterectomy for large fibroids with broad attachments is finding favor, and promises in properly selected cases more rapid accomplishment with the minimum of shock and hemorrhage. It is accomplished by first tying the uterine arteries and severing the base of the broad ligaments. There are forms of subperitoneal fibroids which may be removed by myomectomy if pedunculated or sessile; the peritoneum covering them may be incised, the arteries tied, and the peritoneum carefully approximated.

No reference has been made to treating uterine fibroids by Apostoli's method, for the reason that there is little or no evidence that it has any power to promote absorption of fibrous structures, though its efficacy in reducing the size of oedematous fibroids is not disputed. The danger of its use in the presence of diseases associated with fibroids more than outweighs any of the advantages therefrom.

Fibro-cystic growths of the uterus are infrequently

met with, and like solid fibromas may be large or small. They sometimes attain very large dimensions. Palliative methods of treatment promise little or nothing, and galvanism is positively contraindicated. They may spring from almost any portion of the uterine body, but very infrequently from the cervix. In a recent hysterectomy for general fibroma I found, attached to the uterine body, a fibro-cystic growth which was sessile and intraligamentous. Nothing short of radical surgical measures holds out promise of successful treatment.

291 HANCOCK STREET.

CONGENITAL OCCLUSION OF THE URETHRA—REPORT OF OPERATION FOR ITS RELIEF.¹

BY CHARLES W. ALLEN, M.D.,

NEW YORK.

GENTLEMEN: I wish to report briefly an instance of a rather rare condition. On April 19, 1895, there was born in the Maternity Hospital on Blackwell's Island a male child. Upon the following day, April 20th, it was reported to the visiting surgeon, Dr. Marx, that no urine had passed. Examination showed that there was no meatus urinarius externus. An incision was made in the expectation that this would open into a channel, as is the case ordinarily. No opening was found, however, and the cut was extended somewhat deeper, and numerous attempts were made to force a passage through with a fine probe. Dr. Walsh then saw the patient, and, likewise after careful examination, made ineffectual efforts to enter the canal. These gentlemen then kindly referred the case to me, I being at the moment the only member of the City Hospital staff on duty. After a vain attempt to bore through from the external opening, and not knowing how far back the absence of the urethra might extend, I proposed to do an external perineal section, to which Drs. Marx and Walsh assented. The operation was somewhat tedious, as the urethra was not easily distinguished from the other tissues, and never having before operated upon a subject of this age, I preferred to go slow rather than to go wrong, and besides I wished to keep the perineal wound as small as might be. Having entered the bladder and allowed the accumulated urine to escape, and after irrigation, I passed a probe from the perineal wound into the proximal end of the urethra. The instrument became arrested in the middle portion of the pendulous urethra and from this point on the tissues were simply bored through by forcing the instrument toward the artificial meatus already established. A section of a small-sized bougie was fastened in the anterior urethra, brought up to about the calibre of a No. 9 French instrument. Antiseptic irrigations were made and the perineal wound was packed with iodoform gauze. The case was transferred, according to the hospital rule, to the surgical service, where I saw the patient about a week later. He was then in excellent condition. Urine was being passed by the urethra, as I was informed it had begun to pass upon the day following operation; the perineal wound was almost closed; and, as I understood, instruments were being regularly passed to maintain the calibre of the anterior urethra.

Going off duty on the 1st of May I did not again see the case, and it is only now, wishing, because of the rarity of the condition, to put it upon record that I find the child died on May 16th, nearly one month after the operation. The only history I can find shows that on May 6th the child began to show a temperature of 103°–104° F., respirations running from 40 to

50 per minute, and he was thought to have pneumonia. On May 10th jaundice appeared, and Dr. Herter saw the child with Dr. Brewer. The urine was passed toward the close in very small quantity and was of a very dark brown color. Before death the temperature became subnormal.

The autopsy record showed: Perineal wound entirely healed. Heart enlarged. Weight of left kidney, three ounces. Weight of right kidney, two ounces. The left kidney measured two and a half inches in length and was lobulated. The hilum was distended with urine, as was also the ureter. The right kidney was two inches in length, slightly lobulated, capsule adherent in sulci. The cortex of the kidney was pale yellow and the normal markings were absent from the pyramids. The ureter was distended with urine. The bladder walls were over one-eighth of an inch in thickness. The urethra was pervious from the bladder to about one-fourth of an inch behind the glans penis.

This, gentlemen, is all I know about the case. Whether the passage of instruments was continued after the time of change of service, whether Dr. Brewer or his house surgeon knew anything of the previous history of the little patient, what was the cause of the high temperature, what treatment was given, etc., are all lacking. The history books of the institution do not show. The history I have given has been kindly furnished me by Dr. Gilliam, who was present at the operation.

I have just returned from a meeting of the American Medical Association in Atlanta, where a paper was read by Dr. Small, of Pittsburg, upon "Retention of Urine in the Newly Born," during the discussion of which I inquired whether any present were familiar with this variety of occlusion without hypospadias or an opening somewhere for the escape of urine.

While speakers said they had observed a gluing together of the urethral walls, forming a temporary occlusion easily overcome, and the more common occlusion just at the meatus requiring simply a slight incision, none reported having seen such a condition as I have described.

I am somewhat familiar with text-book articles bearing upon the question of deformities of the male genitals, and without looking up the subject at the present time, I think I am safe in saying that the condition of absence of urethra in a considerable portion of its normal extent, or such a firm adhesion between the two halves of the canal as to entirely obliterate it, is rare.

Slight obstructions, due perhaps to inspissated secretions, or to easily overcome stenoses, are not so rare, and a probe or small-sized catheter readily overcomes them. Here, however, there was complete obliteration for a considerable distance, and I believe I pursued the proper course in performing perineal section. To have bored a way through from the meatus, not being able to determine at what point the patulous urethra would be encountered, and perhaps not knowing when it was encountered, if indeed the instrument entered it at all, instead passing up alongside, seemed to me unsurgical and unwise.

Such a course has been pursued with successful results, to be sure. Dr. Campbell related such an instance in 1891,¹ in which there seemed to be no urethra. After prolonged effort with various blunt instruments a passage was forced into the bladder, and at the age of three years the child seems to have suffered no harm from the operation. Dr. Adams has reported two instances of occlusion.² In one case no instrument could be passed and the child died forty-eight hours after birth. In the second case a probe passed into the urethra met an obstruction not far in, which

¹ Read before the genito-urinary section of the New York Academy of Medicine, May 12, 1896.

² British Medical Journal.

³ British Medical Journal, February 28, 1891.

was overcome when considerable pressure was exerted with a soft French catheter. The first of these cases may have been similar to mine, though there was apparently a meatus present. The second case belongs in the same category with those just reported by Dr. Small in Atlanta. Dr. Guibé in November, 1895, related before the Société Anatomique a fatal instance of congenital stricture at the junction of the anterior with the posterior urethra. The prostatic portion was dilated to the same size as the bladder.

An opinion seems to prevail that instrumental exploration of the urethra in the newly born is rarely if ever called for. Whenever the report is made that the urine has not been passed, and there is evidence of accumulation of urine in the bladder, even if not pronounced, I should advise careful exploration of the canal.

126 EAST SIXTIETH STREET.

ABDOMINAL SECTION PERFORMED SUCCESSFULLY ON AN INFANT.

By ALFRED C. CARPENTER, M.D.,

NEW YORK.

ON February 28th I was asked by Dr. Joseph Moorhead, of this city, to see a patient of his in consultation with him. The patient was an infant, male, two months old. Its abdomen was greatly distended; the temperature was 102.4° F., pulse 120, respiration 80.

The mother said she first noticed that the abdomen had begun to swell when the child was three weeks old, and that it had slowly increased until two days before my visit, when it rapidly became enormous. The bowels had been moving very scantily and only with great effort, and finally had ceased to move at all. I diagnosed the case as one of chronic intussusception and advised an immediate operation, giving the mother very little hope of recovery.

The child was brought to my sanatorium. Chloroform was administered by Dr. Moorhead. The intestines were so greatly distended with gas that it was necessary to puncture them to allow it to escape and relieve the pressure upon the obstruction before we could manipulate them. The bowel was reduced without difficulty. The abdominal cavity was flushed out, the intestines were replaced, a small wick of iodoform gauze was introduced for drainage, and the wound was closed. Recovery was uninterrupted, and the child was taken to its home ten days after the operation, the wound having entirely healed and the bowels moving naturally. According to the statistics given by Mr. Frederick Treves, of London, out of a total of seventy-three cases, there were thirteen recoveries, all of them in patients over three months of age.

There have been only two successful cases reported in which the patients were three months old—one by Dr. Wiggin in the *MEDICAL RECORD*, the other by Dr. Kelsey in the *New York Medical Journal*.

From all available statistics this is the youngest successful case of abdominal section on record.

219 EAST NINETEENTH STREET.

Suture of Wounds of Large Venous Trunks.—Dr. M. Ricard (*La Presse Médicale*) reports two cases in which the continuity of the vessels has been preserved by suture. In one case, brachio-cephalic, he employed the Lembert suture and supported the vein by carefully suturing tissues above it. In a second he sewed up an incision in a dilatation of the femoral just as if it had been an ordinary wound, and then stitched the skin above it. The union in both cases was perfect. There was no hemorrhage nor disturbance of the circulation. The lumen of the vessels seems to have been left free.

Progress of Medical Science.

Longevity of Physicians.—The average longevity of the members of the medical profession is an interesting subject. A French statistician has made an inquiry on the subject which is very encouraging for the doctors. He finds that in the sixteenth century the average duration of a doctor's life was only thirty-six and one-half years. In the seventeenth it reached forty-five and two-thirds years, in the eighteenth forty-nine and two-thirds years, and at the present time he finds that it is fifty-six years. This interesting man of science proposes to find out whether the average longevity of the patients increased in the same proportion.—*Evening Sun*.

The Different Methods of Electrolysis in Stricture of the Urethra.—At a recent meeting of the Société Médico-chirurgicale (February 10, 1896) Dr. Desnos reviewed the various procedures which have been advanced for the relief of stricture by the electrolytic current. There are two essentially different methods which claim our attention; one which we may call the rapid method, the other the slow. The first, which was experimented with by Mally and Tripier, is due to Jardin, who has constructed an ingenious instrument modelled after the Maisonneuve. Currents of variable intensity are employed, but of sufficient strength to permit the electrolytic blade to traverse the stricture in a single séance. The negative pole is the one always used in the urethra. In slow electrolysis, or the method of Newman, currents of very feeble intensity are employed, applied in the neighborhood of the stricture, not by means of a blade as in the former case, but by an olivary bulb somewhat larger than one which will pass of itself. This is left in contact with the stricture, while a current of from two to four milliamperes at most is passed. At times the obstruction is rapidly overcome and the engaged bulb is felt suddenly to be liberated; at others the stricture resists, but between the sittings a work of regression has gone on, so that at the expiration of several days an increase in the calibre of the canal, often quite marked, is noticeable. In employing linear electrolysis of moderate intensity the following phenomena are noticeable in the first twenty-four hours: Intense redness at the point of application of the current, as well as extending to the whole periphery of the urethra, which is ecchymosed. In depth these lesions go beyond the limits of the mucous membrane, and if the intensity of the current has been somewhat elevated and prolonged interstitial hemorrhages are to be seen, which seem to Dr. Desnos to play a certain rôle in the genesis of consecutive accidents. Experiments upon dogs, from which the foregoing observations were made, agree with the author's experience in man. The moment it becomes necessary to employ somewhat elevated current strength in order to overcome the stricture in a single sitting, a rapid recurrence of the stricture is noted; but what is especially important is the fact that this new stricture is firm, tense, and non-dilatable, presenting, in a word, the features of traumatic stricture, whence the very great resistance to dilatation in urethra which have been electrolyzed. It is by no means the same after the slow method with feeble currents as in the method of Newman. Here accidents are scarcely known; as to results, they usually are good. The writer admits that he has not been so successful as Newman (who claims not to have had a single accident in several hundred cases), having had several non-dilatable strictures following the application of this method. Unfortunately it is an extremely slow

method. Ten or twelve days must be allowed between the sittings and from twenty to twenty-five applications are often necessary, causing the patient if not the physician to give it up for another method. In discussing the question Dr. Labbé considered the rapid method not electrolysis at all, which is a molecular decomposition of the tissues, but a chemicaustic or a true cauterization, while Newman's method seems to act by true electrolysis. [These opinions, coming from observers of known ability and care in utterance, must be at least gratifying to the originator of a method of electrolysis on this side of the water whose claims have received little encouragement from leaders in genito-urinary thought among his fellow-countrymen. They should also cause enthusiasts to pause and consider the ultimate results, before giving themselves up wholly to the methods advocated by a brilliant and rapid operator who recently spent some time in introducing here his instrument, which we understand is protected by patent and can be purchased at a correspondingly high price.—Ed.]

Traumatic Intracranial Hemorrhage.—Deaths by intracranial hemorrhage, the result of violence (as a blow on the head) are of common occurrence, says a writer in the *Boston Medical and Surgical Journal*, March 12, 1896, as is shown by the records of our criminal courts and mortuary statistics. A fall on the head, a blow from a cane or the fist over the temporal, parietal, or occipital region, may be soon followed by dangerous if not fatal symptoms of compression due to hemorrhage, and in many cases there will be absence of fracture and other external marks of violence. The bleeding in a large proportion of subjects comes from lacerated branches of the middle meningeal artery and is between the dura and cranium, resulting in a firm clot adherent to the dura; the hemorrhage is due to separation of the dura from the bone in consequence of the blow and laceration of the vessels as they enter the arborescent bony grooves. As diagnostic signs of this lesion we have the primary stunning, then a period of consciousness of variable duration, then the secondary coma attended by certain localizing symptoms dependent on the region of the cortex implicated. First the motor symptoms—that is, motor aphasia, from pressure at the bottom—then involvement of the face, then of the arm, and rarely of the leg centres.¹ The dilatation of the pupil on the same side as the lesion is another localizing sign. The indications will not be materially different whether the clot be inside or outside the dura; nor has the modern surgeon any hesitation about the propriety of penetrating the dura when there is extravasation of blood beneath it. Intracranial hemorrhage due to external violence is still the bugbear of the ordinary practitioner, who realizes that such cases are generally fatal, and who is still dominated by such views relative to the utility of trephining as were formerly prevalent and found expression in the declaration of Druitt that "trephining is a last resource, and, it must be confessed, a very desperate one, which modern surgeons become daily more unwilling to resort to."² Even Gross taught that the only case in which trephining is really warrantable is "where the extravasation is associated with or dependent on the fracture of the skull, complicated with depression or serious injury of the soft parts, or where the fracture is situated directly over the course of the middle meningeal artery."³

Naturally, an impetus to bolder surgery followed Listerism and modern aseptic methods, and trephining

is now generally regarded by the surgeon as imperatively indicated in most cases where there is reason to believe that there is hemorrhage within the skull—whether there be fracture or not—provided that there are external marks, as contusion, ecchymosis, and swelling, or other definite localizing indications. Wiesmann has considered the matter from the point of view of statistics. He states the mortality of non-operated cases as 89.1 per cent. and that of operated cases as 32.7 per cent., a difference most remarkably in favor of trephining. It has not been shown that this ratio of lessened mortality is an overestimate. The subject has been frequently discussed before medical societies. In the discussion before the Philadelphia Neurological Society in 1894, Drs. Taylor, Keen, Laplace, Dercum, and Sinkler participated; three unsuccessful and several successful cases were reported. It was also discussed before the Suffolk District Medical Society several years ago, Drs. Elliot, Putnam, Warren, and Bradford taking part (*Bos. Med. and Surg. Jour.*, February 9, 1893). At this meeting, Dr. John W. Elliot reported two cases of intracranial hemorrhage in which the operation was successful; in both the hemorrhage accompanied depressed fracture. Dr. Putnam alleged that "the most satisfactory of the operations done at the hospital have been in this class of cases." Dr. Warren pointed out that the point of election for trephining in cases of hemorrhage is the pterion or the part where the parietal bone joins the frontal and temporal bones. "If no clot is found there, trephine farther back on a line parallel with the roof of the orbit." He thinks it a point of great importance "that we should not only relieve the pressure caused by the hemorrhage, but that we should also undertake, by making an opening into a cranial cavity, to remove all the fluid which remains there." The point of election for drainage "should be a lower point in the cavity of the skull than the one selected for searching for a clot or the vessel itself, that is, through the squamous portion of the temporal bone, just above and a little behind the external auditory meatus." Dr. Griffin, of Lincoln, Neb., in the case of a man who was injured over the arm and leg centre in a brawl, used a bradawl and chisel for trephining, and found the operation surprisingly easy! The middle meningeal artery was bleeding profusely and was tied. The man got well.⁴ It has been remarked that in cases of intracranial hemorrhage without a compound fracture of the skull, it is not always easy to find the bleeding vessel or even the blood clot by trephining. During a period of three years, Kroenlein trephined four closed skulls for the purpose of arresting hemorrhage from the middle meningeal artery. Two of his patients recovered, while the remaining two died because the extravasation was located posteriorly to the trephine openings and could not be found and removed at the time of the operation. Kroenlein therefore recommends that in cases where the surgeon is reasonably certain that the symptoms of compression are due to hemorrhage, exploratory trephining be continued until the hæmatoma is found. Thiersch had to remove three discs of bone before the blood clot was found.⁵ Scudder and Lund⁶ in an analysis of forty-five cases of trephining for intracranial hemorrhage since 1886 found thirty-three recoveries and twelve deaths, a mortality of twenty-seven per cent., which is a considerable improvement on older statistics. This improvement has doubtless resulted from the more accurate diagnosis which a careful comparative study of the symptoms in numerous cases has made possible, and in part from improvement in the operative technique.

¹ Keen: *Journal of Nervous and Mental Disease*, May, 1894, p. 24.

² Druitt: "Modern Surgery," American edition, 1860.

³ "System of Surgery," second edition, vol. ii.

⁴ Medical News, October 14, 1893.

⁵ Sajous' Annual, 1888.

⁶ American Journal of the Medical Sciences, April, 1895.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE RANK AND FILE.

IN these commencement times, when the colleges parade their graduating classes amid tingling music, fragrant roses, and impassioned oratory, the looker-on is apt to put the question to himself, How many of all the flushed anticipations of brilliant futures will be paled before the stern discipline of inevitable disappointment? When we match ordinary professional success against real fame, the proportion which gains the latter is exceedingly small. The higher the degree the less the chance. To attain a pinnacle means the success of one in ten thousand. The law of proportions is founded on a mathematical certainty. The lower grades show more liberal chances, the sweepstakes in the race are not so heavy, and are purposely open to ordinary competitors. Still the training to race develops becoming assurance, creates proper endurance, and in the end makes the essence of actual capabilities. If not a spirited and sweeping record breaker, we get the good and serviceable burden bearer. There are many of these in every field of struggling effort. They are in the majority which is always respectable, always efficient, and which does the really necessary and valuable work for any community. We speak for such of the aspirants for high places who, in spite of every laudable effort, must be contented eventually to find their actual places with this majority. It may not be on account of any lack of merit on their part, but rather in the elucidation of the general and greater law, which necessarily has the fewer and more definite exceptions.

While all should be keenly alive to offered opportunities, the best immediate results and the most lasting benefits are the satisfaction of the work itself and the healthful contentment which always belongs to judicious effort and reasonable anticipation. While every graduate cannot hope to be a great man, in the more popular sense, he can at least be a good one, safely enjoying the ever-present satisfaction of constantly doing his best.

It is such who must make up what is oftentimes affectedly and patronizingly called the rank and file of any profession. But each individual is such an important part of the whole that he very necessarily shares in a credit which is large enough for the freest distribution and varied enough for every particular need. It is every man in his place, with a place

for all. No position is so small or so unimportant that it cannot be profitably occupied by an honest worker. In the most obscure village there is always room and place for the one who loves his vocation. The sick are everywhere. Their claims on good service are equal the world over. The size of a town does not govern the character of this skill. It is the glory of the rank and file that it occupies its position so well and so creditably. Each representative of the army medical is a host in himself, a natural leader among his fellow-men, a centre of influence for the most practical good, an efficient helper in times of direst need, a trusted and honored citizen in matters which concern the public welfare, and a beloved and cherished neighbor in that family life of a community which reflects the glow of the hearth fire and brings sunshine in the home. Is not such position enough for any ordinary ambition? What more can any prophet ask than honor in his own country, and a daily welcome among his friends? Even if fame be not gained, the greater and better part of what remains is not lost. We salute the colors of the rank and file.

CONSERVATIVE GYNECOLOGY.

It was a judicious conservatism that prompted one of the speakers at the recent banquet of the American Gynecological Society to declare against the prevailing craze among the younger members for newer and more brilliant operations. The criticism was respectfully received, as was to be expected on such occasions, although with some of the hearers there was manifest more of courtesy to opposite opinions than of real contrition for past and future sins. It cannot be denied that gynecology of late years has more than held its own in devising, executing, and perfecting startling operative procedures. The enthusiasm that naturally follows such successes is always contagious and always dangerous. The cultivated skill of the majority of operating gynecologists engenders an ominous presumption as to still greater ventures. It may appear a little harsh to assert that many of these operations are unnecessary, but we venture to suggest in view of past history that such will be proven before very long.

Gynecological operations, like everything else belonging to the gentler sex, must have their fashions and their fads. The smaller the field, the higher the cultivation necessary. Operations of different names and different kinds have so densely occupied this well-worked field that there is hardly room for partition fences. Every conceivable surgical procedure has been practised within the pelvic limits, while the number of special instruments that have been devised to give the uterus a bare fighting chance is enough to sink a ship. Sims' spoon handle has twisted itself into so many different shapes and wrinkled itself into so many possibilities of universal adaptation, that it is as often used at one end of the economy as is its distinguished and useful progenitor at the other. So with hooks, plain and clenching; scrapers, sharp and dull; scissors, flat and curved, long and short, thick

and thin; pincers, rough and smooth, heavy and light; needles, long and short, flat or speared; squirts, hot and cold, insipid or salty, aseptic and antiseptic—all find their place on the operating-tray ready to pay tribute to the willingness and daring of the skilful hand that must use each device in turn, and christen each with an impartial benediction for necessary service rendered.

Of the ovary, in times past at least, it might be truthfully said, "The Lord gave, but man taketh away," and of the gynecologist, "Blessed is he who has his pathological jar full of them." Next came new quilting patterns for the perineum and the radical plumbing of pus tubes, and now the uterus, so long celebrated in toast and song, has built a new reputation for herself and statistically smiles from a monument of hysterectomies. The race for novelties has been long and hot. The warning for a slower pace is timely and just. Let us hope that the time will soon come when we can realize the long-expected millennium of a broader and higher conservatism, when the uterus shall cease its troubling and the ovary be at rest.

We speak of unnecessary operations only, and would by no means detract from reputations worthily won and modestly enjoyed. But the line between the fashionably ambitious innovator and the judiciously conservative operator is not yet clearly drawn. However, the revenge of the ovary may be nearer than we suspect. Already, with retaliatory smirk, she appears willing to share her pressing burdens of distinguished consideration with her now anxious analogue, whose right to be is so seriously questioned in connection with the newly discovered reflexes focussed on a tumefied prostate.

THE PSYCHOLOGY OF CROWD PANICS.

THE recent crowd panic on the Hodynky Plain in Russia, with its frightful loss of life, emphasizes the danger in all large gatherings of sudden explosions of fear and demonstrates the impossibility of controlling a thoroughly frightened multitude. It is the history of every crowd under like circumstances, although the damage done in the present instance outweighs that of any similar occurrence in history. The latest estimate of the number of the dead is three thousand six hundred, that of the wounded being over twelve hundred. It is also stated that over five hundred thousand peasants were gathered on the plain in question, with a very inadequate police force and with all the elements which might tend to make the mass of humanity irritable and excitable. The lesson of results is one which the world at large will not easily forget. The horror of the situation passes the power of description, even by the alert and graphic newspaper correspondents. It was a tidal wave of unreasoning brutality forced against the comparatively weak barrier of human resistance. To such as look upon a crowd as an aggregation of human force, a multiplication of personal energy, and an ever-present consciousness of individual weakness, it is surprising that such calamities are not of more frequent occurrence, and that the law of accidents does not swell its statistics to frightful proportions.

If we study a crowd as we would an individual, there are many interesting phenomena to note which may serve to explain the reasons for panics and the most rational means for their prevention. The very gathering of a large number of people implies a concentration of interest in a given and definite direction. There is an individual as well as a general aspect of the condition. The individual is so small a part of the whole that he becomes overawed by the impression of the latent and implied power of accumulated mental and bodily interests. It means stage fright to the one who faces it on the one hand, and on the other hand becoming respect by the one who merely forms a part of it. There is always something about a crowd which manifests a strained and tense degree of mental activity, a hyperexcitability to casual impressions, and a corresponding lack of control of ordinary individual emotions. Thus, the flattest joke oftentimes produces an applause which is proportionate to the size of the audience rather than to its supposed intelligence. Contrariwise, the most trivial mishap awakens the most foolish terror. Excitement, irritability, and then fear rapidly follow each other on the slightest provocation. What would be trivial to an individual is terrible to a crowd. It is a question of degree merely, and is proportionate to the power behind. The mental tension, stupendous and formidable at best, is apt to give way with a sudden and dreadful snap. It is the spark to the magazine. The slightest exciting cause may start the train of the most unreasonable apprehension, which becomes intensified in proportion to the demonstrated difficulty of escape. The insanity of fear is both individual and general. The instinct of self-preservation becomes the one and only factor in the equation of desperate chances. It gathers strength from resistance, until its own exhaustion and despair strike the balance with death.

All these factors were present in the recent lamentable disaster. The crowd was worn out by excitement, irritated by strained expectation, ignorant of possible danger, hungry, tired, and impatient; every selfish interest was intensified by the promise of food and gifts, the struggle for preferment was pronounced and threatening, the terrible combination of lower human interests was charged to the full and awaited the signal for the inevitable explosion.

It is lamentable to think, in view of subsequent facts, that much might have been done to lessen the magnitude of the disaster, if not to prevent it altogether. As a large crowd is always a dangerous one, the gathering should not have been allowed to attain a magnitude beyond possible control. With sections properly guarded, a general and widespread panic would hardly have been possible. There should have been no single point of interest, no distinct focal direction of effort, but rather a judicious distribution of attractions. From all accounts the plain was seemingly large enough to allow space for tables, barbecue fashion, in properly separated places, with a well-organized system of rotation feeding and gift distribution, and a consequent prevention of a closely packed and dangerously sensitive mass of struggling humanity. As it is, the deplorable experience in

Russia may serve as a useful lesson for the more careful management of all crowds wherever assembled, and not only teach the authorities the urgent necessity for extraordinary alertness in properly preventing panics, but in promptly arresting them by the quickest possible methods of diversion and dispersion.

News of the Week.

Vacancies in the Medical Corps of the United States Army.—There are at present three vacancies in the medical corps of the United States army, and it is expected that at least three more will occur during the present year. As usual, an army medical board will meet in Washington early in October for the examination of candidates. The requirements for admission to the medical corps are stated in a circular which may be obtained by addressing the surgeon-general of the army, Washington, D. C.

Nebraska State Medical Society.—At the meeting of the above society, held in Lincoln, May 19th to 21st, Dr. F. D. Haldeman, Ord, Neb., was elected *President*, and Dr. George H. Simmons, Lincoln, *Secretary*. Lincoln is the place of meeting next year.

The Dinner of the Hospital Graduates Club.—The annual dinner of the Hospital Graduates Club of this city was held on the evening of May 29th, at the Hotel Hungaria. The president, Dr. C. H. Knight, welcomed the guests and introduced the toastmaster, Dr. W. K. Simpson. The following speakers responded on call: Drs. George F. Shradly, John W. Brannan, Landon Carter Gray, Frank P. Foster, E. M. Culver, and J. Riddle Goffe.

An Epidemic of Measles prevails at Flushing, L. I., at present, and notwithstanding the efforts of the local board of health and the village physicians, the disease is on the increase. Forty-seven cases were reported during May. The health officers quarantine all premises where the disease exists, and a large sign board, on which the word "measles" is painted, is hung over the front door.

The Morris County, N. J., Medical Society.—At the annual meeting last week of the Morris County Medical Society in Morristown, the following officers were elected: Dr. H. V. Day, of Butler, *President*; Dr. C. N. Miller, of Flanders, *Vice-President*; Dr. Levi Farrow, of Middle Valley, *Secretary*; Dr. John Stiger, of Mendham, *Treasurer*; Dr. E. P. Cooper, of Troy Hills, *Reporter*; Dr. Thomas P. Prout, of the State Hospital, *Essayist* for next meeting.

Dr. J. Henry Furman, of Tarrytown, died at his home in that place on May 26th, at the age of sixty-four years. He left a widow and two sons.

Professor Zacharjin, of Moscow, the eccentric physician of the late Czar Alexander III., will, it is said, shortly resign his chair in the university of that city. Dr. Tschirkoff, professor of therapeutics in the University of Kieff, is spoken of as most likely to succeed him.

The Medical Society of New Jersey.—The annual meeting of this society will be held at Asbury Park, Tuesday and Wednesday, June 23d and 24th. Dr. William Elmer, of Trenton, *President*; Drs. T. J. Smith, of Bridgeton, D. C. English, of New Brunswick, and Dr. C. R. P. Fisher, of Bound Brook, *Vice-Presidents*; Dr. E. L. B. Godfrey, of Camden, *Corresponding Secretary*; Dr. William Pierson, of Orange, *Recording Secretary*; and Dr. Archibald Mercer, of Newark, *Treasurer*.

The American Orthopædic Association, at the meeting held at Buffalo, May 19th to 21st, elected the following officers: Dr. Samuel Ketch, of New York, *President*; Drs. H. M. Sherman, of San Francisco, and W. R. Townsend, of New York, *Vice-Presidents*; Dr. John Ridlon, of Chicago, *Secretary*.

Post-Graduate Medical School and Hospital.—Dr. Robert Abbé has resigned from the professorship of surgery in the Post-Graduate Medical School and Hospital, and Dr. Thomas E. Satterthwaite has been appointed consulting physician to the hospital.

New York Eye and Ear Infirmary.—Dr. W. K. Simpson has been appointed surgeon to the New York Eye and Ear Infirmary, throat department.

The London Temperance Hospital has received a gift of \$250 from a friend of the cause, ninety years old, "as a thank offering for having completed fifty-six years of abstinence from intoxicating liquor."

Medical Association of Montana.—The officers of the Medical Association of Montana for 1896 are as follows: *President*, James M. Sligh, M.D., of Philipsburg, Mont.; *Secretary*, William C. Riddell, M.D., of Helena, Mont. The next annual meeting will be held at Helena, April 6, 1896.

Dr. Paul F. Mundé has been appointed consulting obstetrician to the Maternity Hospital of New York, and has accepted the position of one of the honorary presidents to the International Congress of Gynecology and Obstetrics to be held at Geneva, Switzerland, in September, 1896, which was tendered him by the president of the congress, the late Professor Vulliet, last February.

Sir William MacCormac is spoken of as the most likely candidate to succeed Mr. Christopher Heath in the presidency of the Royal College of Surgeons. He is one of the most hidebound of conservatives, and would probably exert every influence to prevent the introduction of any reforms during his incumbency.

Why We Oppose the Metric System.—Dr. Heywood Smith, of London, has found an eminently satisfactory and atavistic reason for the reluctance of English-speaking countries to adopt the decimal system of weights and measures. "The Anglo-Saxon or English-speaking race," he writes to the *Medical Press*, "is, without doubt, of Israelitish origin; that is, they are the descendants of the lost Ten Tribes of Israel, and thus they adhere to their tribal duodecimal notation; whereas, the other nations, having no sacred tradition regarding the number twelve, use the method that is perhaps more scientifically convenient."

American Climatological Association.—At the last meeting of this association in Lakewood, N. J., May 13, 1896, the following officers were elected: *President*, Dr. E. Fletcher Ingals, of Chicago; *Vice-Presidents*, Dr. S. A. Fisk, of Denver, and Dr. John C. Munro, of Boston; *Secretary and Treasurer*, Dr. Guy Hinsdale, of Philadelphia; *Council*, Dr. W. E. Ford, of Utica, Dr. Roland G. Curtin, of Philadelphia, Dr. Isaac Hull Platt, of Lakewood, Dr. S. E. Solly, of Colorado Springs, and Dr. James B. Walker, of Philadelphia.

Pennsylvania Epileptic Hospital and Colony Farm.—An official decree has been filed allowing and approving the merger of the Pennsylvania Colony Farm for Epileptics with the Pennsylvania Epileptic Hospital, under the title of the Pennsylvania Epileptic Hospital and Colony Farm. Dr. Wharton Sinkler has been elected president of the new corporation and has appointed Messrs. Charles M. Lea, Henry M. Dechert, and W. W. Frazier and Drs. Charles K. Mills and J. C. Wilson members of the building committee. Plans are to be at once prepared for the early erection of buildings upon the farm recently purchased at Oakbourne, Chester County. For this purpose Mr. H. C. Lea has contributed \$50,000. Previous subscriptions amount to \$27,350, of which \$14,000 have been used in the purchase of the farm; the balance will be devoted to the equipment in modest style of the institution and for its maintenance in an experimental way for the coming year. It is hoped that the movement will arouse the interest and support of the charitably disposed in all parts of the State.

The University of Pennsylvania has within the last few weeks been the recipient of a number of munificent donations at the hands of several public-spirited Philadelphians. Mr. Thomas McKean has agreed to contribute \$100,000 on condition that other citizens will swell the gift to \$1,000,000, the whole sum to be used for the development of the general usefulness of the university as a centre of education. Mr. Alfred C. Harrison has also made a contribution of \$100,000. Of this sum \$50,000 is especially contributed for the purpose of promoting the advanced work of the university, including the special preparation of teachers for their work and the equipment of a suitable building for graduate instruction and original investigation, with the necessary laboratories and apparatus. The remaining \$50,000 is contributed without limitation as to its use. Three contributions, each of \$10,000, have been received, one from Mr. John H. Converse, the second from Mr. William P. Henszey, and the third from a donor whose name is withheld.

Valuable Gift to the Philadelphia Academy of Natural Sciences.—Dr. A. Donaldson Smith, who returned a short time ago from an expedition through the northeastern portion of Africa, has presented the Academy of Natural Sciences with a large number of valuable specimens collected by him in his travels, including serpents, fishes, birds, mammals, a large number of entomological subjects, and a few shells.

The Walker Prize of the Royal College of Surgeons, for the best work in advancing the knowledge of the pathology and therapeutics of cancer, done either partially or wholly within the five years preceding the year in which the prize is awarded, has been awarded this year to Mr. Harold Jalland Stiles, of Edinburgh University. The prize consists of £100 accompanied by a certificate of award. It is open to foreigners as well as to British subjects, and the committee is not restricted in any way as to the selection of persons qualified to receive the prize, with the exception that members of the council of the Royal College of Surgeons are not eligible.

The Archives of Clinical Skiagraphy.—The modern tendency to specialism in journalism as well as in other fields is shown by the establishment of a periodical, with the above title, which will be devoted to a demonstration of the uses of the new photography in medical and surgical diagnosis.

A Possible Source of Infection.—The *New York State Medical Reporter* suggests that the promiscuous use of ordinary drinking-water for the extemporaneous preparation of solutions for hypodermic injections is possibly the cause of much disease the infection of which is capable of transmission through the medium of water, as malaria, typhoid fever, and diphtheria.

A Chair on the History of Medicine is to be established at the University of Würzburg.

Obituary.

SIR JAMES RUSSELL REYNOLDS, BART.,
M.D., F.R.S., F.R.C.P.,

LONDON.

SIR J. RUSSELL REYNOLDS, who died on May 29th at his home in London, was the son of the Rev. John Reynolds, of Westminster School, and grandson of Dr. Henry Revell Reynolds, physician in ordinary to George III. He was born in London in 1828 and was educated at University College, of which he was afterward, in 1856, elected a fellow. He began the practice of medicine in 1852, and almost immediately obtained a large clientèle. In 1878 he was appointed physician in ordinary to Her Majesty's household, and was created a baronet in 1895. He resigned the presidency of the Royal College of Physicians, or rather refused a re-election, this year, owing to ill-health. He seemed to be gradually regaining his strength when, on April 28th, as he was entering his house after having made some professional visits, he stumbled on the doorstep. The accident was trivial in itself, but in his weakened condition caused his confinement to bed, and in a short time pulmonary trouble developed, from which he did not recover. Sir J. Russell Reynolds was best known in this country as the editor of the "System of Medicine" which bears his name, though his best work was as a neurologist, and most of his writings were on neurological subjects. Among these works were "Diagnosis of Diseases of the Brain, Spinal Cord, and Nerves," "Tables for Diagnosis of Diseases of the Brain," "Vertigo, an Essay," and "Scientific Value of Legal Tests of Insanity." He was an honorary member of the American Neurological Society, and of many continental societies.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-First Annual Meeting, Held in the New York Academy of Medicine, May 26, 27, and 28, 1896.

WILLIAM M. POLK, M.D., OF NEW YORK, PRESIDENT.

First Day, May 26th.

Address of Welcome.—DR. WILLIAM T. LUSK, of New York, in an address warmly welcoming the members to New York, briefly referred to the valuable work of the society during its twenty-one years of existence.

Virginal and Senile Endometritis.—DR. PAUL F. MUNDÉ, of New York. Nearly all of the great amount of literature on endometritis, he said, referred to that disease during the child-bearing period in women who had been pregnant. Not long ago Dr. Sexton and Dr. Skene wrote on endometritis in the senile uterus, but there is little or no formal literature dealing with virginal endometritis. In 1881 Dr. Mundé saw a case of eroded cervix in a girl of fourteen, the condition being such as he would have taken for a puerperal lesion, had not the presence of the hymen precluded such a cause. Subsequent observation led him to believe that such cases are not very rare. The condition is not unlike that seen in chronic endometritis and cervicitis following some time upon the puerperal state. He had no experience with congenital fissure and erosion of the cervix, although he did not deny the possibility of their occurrence, as has been claimed by Fisher and others.

Dr. Mundé agreed with those who are opposed to vaginal examination of virgins without cause, but in some of the cases under consideration a correct diagnosis and cure could not have been arrived at in any other way.

After relating the case of a girl, aged twelve, who was also seen by Dr. Coe, he gave the history of a girl of eighteen who was anæmic and had hemorrhages. On vaginal examination the uterus, which was slightly anteфлекed, was found in nowise enlarged, but the os was gaping, and on this or a subsequent occasion it was found eroded. Medicinal treatment did not benefit the patient, and he thoroughly curetted the uterus. A number of adenoid vegetations were removed. All hemorrhage ceased, but he expected a return of the condition, and this took place after three months. He recommended another curetting and suture of the os, as in laceration. Some time subsequently this was done, nitric acid was applied to the uterine canal, and the uterus resumed its virginal appearance. He was unable to say what caused the endometritis.

Speaking of endometritis in the senile uterus, Dr. Mundé thought it unnecessary for him to say how suggestive of malignant disease is a discharge sufficient to soil the linen in aged women, yet he had seen not a few cases in which such discharge, even when very foul, was due to a non-malignant endometritis. Under no circumstances is hysterectomy indicated in these cases, and yet it has, no doubt, been sometimes performed under the supposition that malignancy existed.

In discussing this paper DR. PENROSE, of Philadelphia, related a case in confirmation of his view that the erosion and ectropion of the cervix in virgins is sometimes, though rarely, due to a congenital state. DR. LAPHORN SMITH thought it not surprising that endometritis should sometimes occur in virgins in view of the exposure to cold, etc., to which they subjected themselves. DR. M. D. MANN thought a lithæmic con-

dition an important cause. DR. PALMER related some experiences showing the efficiency of constitutional treatment. DR. HOWARD A. KELLY thought an efficient ocular examination of the os could be made without injuring the hymen, and agreed with Dr. Mann as to the sufficiency of constitutional treatment in most cases. The discussion was continued by DRs. W. T. LUSK, J. T. JOHNSON, and the author.

Liability to Prosecution for Damages in Abdominal Surgery.—DR. CYRUS A. KIRKLEY, of Toledo, O., in this paper related two or three cases illustrating liability to suit for damages in abdominal surgery. He said that expert testimony is not regarded above ordinary testimony by the average jury and but little higher by the court; that the hypothetical question which is supposed to embody the facts in a case, in reality is often distorted, disingenuous, and is ruthlessly handled and more or less emasculated before the witness is allowed to pass judgment upon it.

DR. HOWARD A. KELLY confirmed the general views stated by Dr. Kirkley, but thought that usually the surgeon in a large hospital who takes ordinary precautions will have that moral support of the community which will prevent unjust suits for damages, or cause a verdict to be rendered in his favor.

Gynecology and General Medicine; Their Reciprocal Relations.—DR. CHAUNCEY D. PALMER, of Cincinnati, read this paper. He said there is no purely local disease; every organ of the body has its constitutional relations. These differ in intensity, quantity, and duration. The nervous relations were first considered. Many neuroses of a functional kind—chorea, epilepsy, hystero-epilepsy, hysteria, neurasthenia, neuralgia, and mental disorders like mania and melancholia—are often connected with or dependent upon female pelvic diseases or are aggravated thereby.

How does the female organism modify the manifestations of disease? He thought we must accept the view that menstruation is not a local function of but a few days' duration, but that it is a systemic change; a tide, the stages of which extend over twenty-eight days. Preceding the menstrual flow there is increased vascular and nerve tension, with increased bodily and mental function, while the reverse condition follows the flow. In consequence, there are phenomena which modify existing symptoms of disease, if they do not give rise to new ones.

Local diseases tend to become constitutional, and constitutional diseases to become local. Local diseases produce secondary constitutional changes or consequences, rather than the continuance of themselves. Local phenomena without adequate local cause mean bad constitutional condition, as do continuation of symptoms after removal of the exciting cause. There is scarcely a disease of the general system of considerable importance which does not influence the circulation and the innervation, and, of course, the functions of the pelvic organs. On the other hand, almost every gynecological disease requires some, a few need exclusive constitutional treatment. The inevitable trend of modern gynecology has been largely to surgery, yet the gynecologist must survey the system at large while recognizing the true significance of special symptoms. He who seeks the truth should be of no country and belong to no sect, for all truth is full, round, and complete.

The paper was discussed by DRs. JOHN BYRNE, WILLIS E. FORD, S. C. GORDON, and A. W. JOHNSTONE, all of whom were impressed with the necessity for recognizing the reciprocal relations between gynecology and general medicine.

The Clinical Importance of the Intermenstrual Wave.—DR. ARTHUR W. JOHNSTONE, of Cincinnati, in this paper referred to what in England has come to be

known, he said, as Stevenson's wave, as it was brought prominently forward by Stevenson, of Glasgow. This wave phenomenon manifests itself in all female animals, in birds the crest of the wave being seen before the molting period, in women before the menstrual period. Its trough represents the intermenstrual period. One who fails to recognize this wave and its clinical significance will at times be led to do things which are dangerous, while at other times he will be needlessly alarmed at trivial matters. Intermenstrual pain, which formerly was a conundrum, is now explained, as it takes place in the trough of the wave, and is due to shrinking of the ovary to its smallest diameter. For the laparotomist this law is more valuable than any other, and it teaches him never to operate just before a period if it can be avoided. During this time there is greater danger from hemorrhage. By this law are explained many cases of disordered digestion, vomiting, symptoms of gall stones, temporary glycosuria, and reflex manifestations. The menstrual wave undoubtedly has a good deal to do with the pathological metabolism of the body. Its influence on Basedow's disease is common knowledge. It explains the monthly loss or change of voice in some women. Many conditions in the specialties of rhinology, neurology, etc., are also explained by it.

The paper was discussed by DRs. A. J. C. SKENE, BUCKMASTER, ENGELMANN, PALMER, the author closing. The value of the law described by Stevenson was recognized by the several speakers.

Aids in Obstetric Teaching.—DR. J. CLIFTON EDGAR, of New York. In his introduction Dr. Edgar stated his conviction that while the best method for a student to learn obstetrics is the personal care of parturient and puerperal women, still much of this experience will prove useless unless he has an intelligent appreciation of his work, based upon a previous thorough training in the principles of the subject. It is this training of reason and perception and the aids to it which have largely taken the place of the old theoretical lecture with which the author's attention is occupied. He is a firm believer in the advantage of models "possessing the third dimension of space" over elaborate description and illustration in the form of diagram. The rachitic pelvis, injuries to the pelvic floor, the relations of the uterus to surrounding parts are far better understood from casts and paper reproductions than from charts, however well executed. The models are particularly useful in the training of nurses. A further advantage in their use is the fact that they may be kept obstetrically clean and may be used at the bedside or in the obstetrical clinic. While something has been done in this field, much remains; for example, models of uteri of known periods of gestation and of pelvic deformities, which by their interchange do not a little to raise the standard of obstetric teaching.

Models are not in any sense to replace bedside instruction. They are purely auxiliaries to instruction in its various forms, and care must be exercised in their use. They undoubtedly lend a new interest to many points otherwise obscure and dry. The natural size of the object should always be reproduced or a wrong impression may be conveyed. Diagrams, charts, and blackboard illustrations are unsatisfactory and tiresome to the student, and can never be made to impart the practical knowledge obtainable with the aid of a few selected models.

The several varieties of aids to obstetric teaching are, for convenience, divided into five classes:

I. Plaster Models.—As such, these have a very limited field of application on account of weight and brittleness. Plaster is chiefly useful in securing impressions, which are then reproduced in other ways.

II. Paper Reproductions of Clay and Plaster Models.—The method of preparation used is that proposed by W. G. Thompson, which is briefly as follows: A clay or plaster model is covered by a layer of small strips of newspaper (two by four) previously moistened. On this single layer are rapidly placed successive coverings of the same paper dipped in glue. In large models strengtheners, such as wire, gauze, cheese cloth, etc., are introduced, and the top layer is laid smoothly to give an even surface. It is removed entire or in section, a backing added, and several coats of paint or varnish applied. Webster's frozen sections were reproduced in this way by enlarging photographs of the cuts on tissue paper, modelling through this in clay, and overlaying the paper strips as described. Transverse and sagittal sections and round objects may be modelled in this way, the latter to show the size and shape of the uterus in various stages of pregnancy. If casts can be taken from gravid uteri after death, so much the better, for they can then be exchanged among teachers and museums. A few of the uses to which paper models may be put are to show the height and shape of the fundus and lower uterine segment, placental insertion, physiology and pathology of pregnancy, mesial sections of the uterus, the curve of the parturient canal.

It is possibly best not to attempt reproduction in paper of any but the grosser frozen sections. A model of uterus and contained ovum was not altogether satisfactory. For such illustrations, as much can be accomplished by diagram. Models representing involution, position, and relationships of puerperal uteri from Webster's sections are, however, of use not only in demonstrating the physiology but the pathology of the puerperium. Rupture of the vagina and uterus, their relations, and the greater danger of infection when the tear involves vagina as well as uterus, may thus be shown.

III. Composition Models.—The author uses as a cheap substitute for rubber, modellers' and plasterers' composition of glue. Its application seems limited to a series of cervixes in different stages of dilatation. The mixture finally adopted was of Cooper's A1 glue and glycerin, the proportion determined by the flexibility desired.

The glue is soaked in water, the latter being removed by filtration, and the glue melted over a water bath. Glycerin is added and the mass boiled to expel the remaining water. The time required depends on the size of the mass and amount of contained water. When ready to pour the mass should be of thick, creamy consistency. Any desired color of aniline may be added in alcoholic solution. The mould is prepared by taking a negative model of the lower segment of the uterus (for example); this is covered with clay to the required thickness and a core is formed by running in plaster and allowing it to harden. The clay is removed, core and negative mould carefully shellacked, oiled, and fastened together. The glue, not too hot, is then poured in and allowed to cool. It may be removed in six hours.

In case the models shrink and become hard, they may be remelted and fresh glue added. They will then have less tendency to shrink. The lower uterine segment, mechanism of dilatation with gradual disappearance of the supravaginal part of cervix, are some of the conditions capable of reproduction in composition. (The author here took occasion to indicate his preference for bimanual over digital and instrumental dilatation of the os.) The models demonstrate the dangers of ordinary digital and manual dilatation and of breech extraction through an imperfectly dilated os, incomplete extension of the head, etc.

IV. Miscellaneous Models and Aids.—These include metal and leather models not classifiable under

other heads. The first offered is a vertical mesial section of the bony pelvis in aluminium, mounted by a hand screw on a blackboard, and the whole set on a tripod. There is scarcely an obstetric or gynecological condition that cannot be shown with it in connection with puppets, uteri, and chalk. The complete metal pelvis mounted on a tripod has already been described by the author. It is indestructible, adjustable at almost any angle, and fitted with movable sacrum and coccyx.

Chamois-leather models of puerperal uteri do duty in many ways, being made to open. With it the student may be taught to repair cervical lacerations, curette, and pack the cavity. It supplies an opportunity for manual training which may never occur to him again until in practice.

The perineum and pelvic floor should be reproduced in rubber, which is clean and portable. Casts are made from the living subject and rubber models made from them.

V. Electro-Plated Plaster Models.—For very small objects where minuteness of detail is required—*e.g.*, the non-pregnant uterus—electro-plated plaster models are recommended. A plaster cast is taken of the specimen, carefully dried, and copper plated. Bone, composition, and clay may be covered in the same way. Pelvic deformity, a subject usually dry and uninteresting to the student, is brilliantly illustrated by Tramond's series of twenty-four papier-mâché models from Paris museums. By copper plating they are made indestructible and may be constantly handled. This series is equally valuable to the teacher, practitioner, and surgeon.

Lacerations of vagina, perineum, and anterior rectal wall are permanently preserved in this way, the plaster casts being taken from the living subject at first. Proving unsatisfactory later, they were made from artificial lacerations in the cadaver. Sutures may be put in place by a drill afterward.

The paper was most profusely illustrated throughout by photographs and drawings of the specimens, models, and methods described.

The methods of teaching obstetrics described by Dr. Edgar received the commendation of Drs. KING, POLK, and REYNOLDS, provided, of course, they were intended only as aids, mostly preliminary, to bedside instruction.

Two Pregnancies Following Removal of Both Ovaries and Tubes; Two Cases of Extra-Uterine Pregnancy; the Effect upon the Vagina of Hysterectomy.—Dr. S. C. GORDON, of Portland, Me., related some clinical observations in line with the title given. In neither of the two cases in which removal of both ovaries and tubes was followed by pregnancy, was it known that any ovarian tissue had been left, yet he supposed there must have been. But how could the ovum reach the uterus with the tubes tied off? Probably some stump of the tubes had been left and the ligature had disappeared. The third case related was one of tubal pregnancy which became abdominal. The fœtus continued to live. Laparotomy was performed about the end of the fifth month. The fœtus was removed alive, but soon died. The mother recovered.

Regarding the effects of complete hysterectomy upon the vagina, he said its opponents claim that it shortens the vagina and relaxes the arch. He believed the weight of authority is in favor of leaving a little of the cervix and closing the peritoneum over it in the abdominal operation, but since Jacobs' visit last year the fad seems to be to do the vaginal operation, whereby, of course, the cervix is also removed. Dr. Gordon prefers as a rule complete suprapubic hysterectomy, and claimed that by continuing the suture in the folded-over broad ligament down into the upper portion of the vagina, the latter is lifted up and

lengthened rather than shortened. He found no shortening except in two cases, and those were cases in which a portion of the cervix was left. He is disposed to think that leaving a portion of the cervix favors prolapsus of the roof.

Double Ovariectomy Followed by Pregnancy.—Dr. R. STANSBURY SUTTON, of Pittsburg, read the history of a woman on whom he had performed double ovariectomy, removing on one side a multilocular ovarian cyst weighing twenty-five pounds, from the other side a similar cyst weighing six pounds. On the first side he seared the pedicle with the Paquelin cautery. This failed to work on the other side, and he tied close to the horn of the uterus and cut with the scissors. The uterus being in retroversion, he attached its fundus to the anterior abdominal wall. The operation was done on the 20th of October, 1892; on the 10th of June, 1894, she gave birth to a male child, weighing ten pounds and a half, which is still living. The 25th of February, 1896, she gave birth to another healthy child, weighing eight pounds. The mother is healthy.

Dr. LAPHORN SMITH said he had removed the tubes and ovaries of a woman and she gave birth to a child two hundred and sixty-seven days later. She had probably been impregnated just before the operation.

Drs. CUSHING, ENGELMANN, A. P. DUDLEY, A. W. JOHNSTONE, and the author continued the discussion.

Second Day—May 27th.

The President's Address.—Dr. WILLIAM M. POLK read his address as president of the society, giving a brief retrospect of gynecological progress since its foundation twenty-one years ago, as the first president, Dr. Barker, had done for the century before. Among the facts marking advance which he touched upon were antiseptics, which explains the former fatality of all operations involving the peritoneum; treatment and prophylaxis in laceration of the cervix, in which connection, he said, it is difficult to overestimate the value of Emmet's work; vesico-vaginal fistula; inspection of the bladder by light; catheterization of the ureters; detection of floating kidney and treatment by anchoring the organ; differentiation between tubo-ovarian disease and appendicitis, or their coexistence; surgical treatment of retro-displacement of the uterus—suspension and fixation; the discussion going on with relation to vaginal versus abdominal operations in pelvic diseases; recognition of infection as the cause of puerperal fever, and steps taken to avoid it; demonstration of the fallacy of the view that the uterus should not be touched during perimetritis, salpingitis, etc.

The President deprecated the conduct of those actuated by the feeling, "Get on! Get on!"

The Technique of Vaginal Hysterectomy.—Dr. PAUL SÉGOND, of Paris, France, spoke upon this subject in French, Dr. Henrotin acting as interpreter. He wished to be understood as advocating the vaginal as only one method, suited to a certain class of cases, and not intended to supplant the abdominal in all cases. Whenever there is the least doubt as to the disease being bilateral, the abdominal method is preferable. In fibroids, assuming the two methods to give about equally good results, he would choose the vaginal in order to avoid the scar inflicted by the abdominal. The Péan method is still the Péan, no matter what slight modifications have been made by this or that man with regard to incision lengthwise, crosswise, etc. Much has been said of the advantage of having the work under one's eye in the abdominal operation, but Dr. Ségond claims that all operative procedure on the uterus through the vagina is just as much within view. It has been objected to the

vaginal route that adhesions can best be separated from above, but in reality in nearly all cases there is a line of cleavage which can be followed with entire success from below, and in the few rare cases in which this cannot be done it is found that the operation from above has also to remain incomplete. Regarding vaginal hernia, he has not seen it in a single case out of six hundred operated upon by him. In uterine prolapse vaginal hysterectomy is contraindicated, according to his view.

Dr. Ségond then directed attention to four possible complications of vaginal hysterectomy which made the operation so dreaded by some men, namely, lesions of the bladder, lesions of the intestines, lesions of the ureters, hemorrhage after the operation. These accidents are, he said, due chiefly to misuse of the retractors. He employs these to a much less extent than many operators. The most serious of the lesions is that of wounding the ureters, yet this accident has happened only twice in his six hundred operations. Dr. Ségond makes a circular incision, and from this a lateral incision up the sides of the uterus, forming two large valves, as it were, of the vagina—an anterior and a posterior one. As to secondary hemorrhage, it usually occurs at the end of forty-eight hours, and can be avoided by using good and proper instruments, all of which are simply modifications of Péan's. He is not in haste to let patients get up, but keeps them abed two weeks.

Dr. Ségond's paper was discussed in connection with that of Dr. Byrne's.

The Relative Merits of Total or Partial Hysterectomy for Cancer of the Cervix by Ordinary Methods and Supravaginal Excision by Galvano-Cautery.—DR. JOHN BYRNE, of Brooklyn, in this paper referred to one bearing upon the same topic which he had read at the meeting of 1892. He believed then, as he does now, that the question of primary mortality, though worthy of thought, is really of secondary importance. It is not so high in skilled hands but that hysterectomy for cancer of the cervix may be regarded as coming under the domain of legitimate surgery, if it were not for the fact that when one reviews the statistics of secondary results he becomes doubtful whether it would not be better for womankind had the operation never seen the light of day. To get at the true import of those statistics, it is necessary to study them critically. Being unable to secure such as would throw light on the ultimate results, about twelve months ago he made a personal appeal to many operators through letter, but only fifty-three replied, and many of these replies were such that no conclusions could be drawn from them.

The time having expired, Dr. Byrne could not conclude reading his paper, but he stated that the opinion expressed four years ago is that which he holds today, namely, that there is positively no place in legitimate surgery for colpo-hysterectomy or high or low amputation in cancer of the cervix except when performed through the agency of the galvano-cautery. He thought it would not be amiss for the president to appoint three fellows to investigate this subject, and to agree to treat a certain number of cases by galvano-cautery, say in the New York Cancer Hospital, and he would aid them in their labors if they desired.

A lengthy discussion followed these two papers, participated in by DRs. SUTTON, JANVRIN, WATHEN, KELLY, CUSHING, MANN, REAMY, A. P. DUDLEY, BACHE EMMET, FLORIAN KRUG, FORD, COE, GORDON, BAER, and BALDY. Few of the speakers touched upon the ultimate results of hysterectomy for cancer of the cervix except Dr. Janvrin, who gave his own experience as recently published in a report of the New York County Medical Association in the *MEDICAL RECORD*, and Dr. Coe, who said he had become doubtful as to the utility

of hysterectomy for cancer of the cervix, and wished to have the committee suggested by Dr. Byrne appointed.

Treatment of Extra-Uterine Pregnancy.—DR. HOWARD A. KELLY, of Baltimore, read the paper. He said it would be seen that he was going to carry conservatism into the most extreme domain of gynecological work. He would speak of treating extra-uterine pregnancy by evacuation through vaginal incision and drainage. Thirteen cases so treated were reported, all of which resulted in recovery except one, that of a patient who was in uræmic coma at the time of the operation and died in that state several days later, death being in no wise due to the operation. As to the class of cases suitable for vaginal puncture, evacuation, and drainage, he said they are those of extra-uterine pregnancy with rupture in the early months, which include the vast majority of all cases, but not the recent ruptures, nor cases, whether recent or more remote, of advanced extra-uterine pregnancy. The opening is made into the sac between vagina and rectum, enlarging it in line with the axis of the pelvis by dilatation, avoiding wounding the rectum; the sac is cleaned out with the finger, and washed out with normal salt solution; this is done again as a final step before putting in gauze drain. The advantages over laparotomy were mentioned. In one instance he had diagnosed extra-uterine pregnancy, which he treated in this manner and found dermoid cyst; in another he found simple pelvic abscess. The chief danger is from hemorrhage, but this is little likely to take place, since at this period tendency to active hemorrhage in the sac has ceased. In one of his cases, however, there was such hemorrhage as to necessitate rapid opening of the abdomen and removal of the sac. He was unable to explain why there should have been hemorrhage in this case, since rupture had taken place some time before.

Dr. Kelly's paper was discussed in connection with the next one.

Early Rupture of Extra-Uterine Pregnancy and Its Treatment.—DR. FERNAND HENROTIN, of Chicago, said the object of this paper was to call attention to some of the peculiarities of early rupture—prior to the second month—and draw some deductions as to its management. There are two classes of cases: 1, what may be termed complete rupture, with free primary abdominal hemorrhage; 2, incomplete rupture in the tube, in which there may be secondary hemorrhage.

It is not claimed that these very early ruptures are invariably complete. There is reason to believe that many rupture into the broad ligament and are absorbed. Failure to observe discharge of decidua membrane is of little significance, for it may occur simultaneously with rupture, or follow it very closely. The physical signs are those of intra-abdominal hemorrhage. Failure to recognize tumor alongside the uterus is not important.

At this point Dr. Henrotin related a case of early complete rupture with hemorrhage into the abdominal cavity. The patient was in marked collapse, was cold, and seemed in rigor mortis, yet he operated, made use of saline solution, and she made an uneventful recovery. In like cases, in which hemorrhage is evidently going on, immediate operation alone can save life. The question of leaving a considerable quantity of fresh blood in the peritoneal cavity will depend upon the urgency of the case and freedom from septic contamination. If there is no sepsis, one needs only remove the larger clots, and the operation being thus done hastily the woman will stand a better chance of recovery.

The author then considered the differential diagnosis between tubal rupture and tubal abortion, after

which his paper was discussed in connection with Dr. Kelly's. Those taking part in the discussion were Drs. BOLDT, MANN, NOBLE, BAER, JANVRIN, GORDON, ASHTON, WATHENS, CURRIER, and the authors. Several of the speakers thought Dr. Kelly was only carrying out a generally accepted procedure, that of opening accessible hæmatoma through the vagina, for at this period the case had practically ceased to be one of extra-uterine pregnancy. Some of the speakers, however, expressed preference for the abdominal method even in these cases of rupture which had become quiescent, as well as in recent active cases, on account of danger from hemorrhage.

Suspensio Uteri with Reference to Its Influence upon Pregnancy and Labor.—DR. CHARLES P. NOBLE, of Philadelphia, had collected in this paper all the statistics as far as possible of operations for suspension of the uterus to the abdominal wall, both in this country and abroad, the number of patients who had subsequently become pregnant, and the influence of suspension upon the course of pregnancy and labor. The foreign and American statistics agree in the fact that when the uterus has been firmly fixed against the anterior abdominal wall there have not infrequently been symptoms during the course of pregnancy due to failure of the uterus to rise and develop in the normal manner, and causing at labor obstruction as if a tumor existed at the attached portion. In a considerable proportion of cases, greater in Europe than in America, the obstruction has been such as to require forceps, version, Porro's operation, or Cæsarean section. It is to be noted that these difficulties have not been observed in cases operated upon by the Kelly method in which the attachment of the uterus to the anterior wall has been only through the parietal peritoneum, followed by the formation of a pedicle or ligature composed of peritoneum, and allowing normal motion and growth to the uterus. Consequently Kelly's method is the one which he would recommend, though slightly modified, when on opening the abdomen it is thought necessary to lift the uterus. The complications named do not apply to the Alexander operation at all, or do so in very slight degree, and this is the method which ought to be adopted for uncomplicated retro-displacement of the uterus.

Vaginal fixation has given the worst results of all the methods in its bearing upon pregnancy and labor.

Third Day—May 28th.

The session was opened with a discussion upon Dr. Noble's paper on suspensio uteri with reference to its influence upon pregnancy and labor. DR. THOMAS ADDIS EMMET said he has found suspension of the uterus by any of the methods named, including Alexander's, unnecessary, as the condition could be corrected in a more natural way by plastic operations on the vagina. The discussion was continued by Drs. EDEBOHLS, KELLY, ASHTON, FRY, LAPHORN SMITH, and the author.

Some Aspects of Ureteritis.—DR. EDWARD P. REYNOLDS, of Boston, gave as the full title of his paper, "Some Aspects of Ureteritis, with Especial Reference to Diagnosis of the Disease as Bearing on Mistakes Between Ureteritis and More Serious Pelvic Diseases, and Some Reference to the Treatment as Determined by its Etiology."

The majority of cases which he has seen seemed to have been inaugurated by altered condition of the urine due to renal inefficiency. Among the symptoms were frequency of micturition, not wholly relieved by recumbent posture; bearing-down pain, increased by standing, usually completely relieved by a few hours' rest in bed; pain and tenderness on pressure on ureter with the finger introduced into the vagina. Cysto-

scopic examination is likely to reveal reddening and erosion at the mouth of the ureter, with eversion of mucous membrane of the outlet.

Treatment is palliative and curative. Application of solid nitrate of silver at the inflamed area mentioned will give more or less temporary relief. Curative treatment is hygienic and medicinal, but chiefly the former. The diet should be regulated by giving largely albuminate food, bland fluid, three pints or more daily of water, supplemented by alkaline diuretics. The condition is probably less due to functional vice of the kidneys than to imperfect metabolism in the body as a whole. So-called alteratives may prove of benefit, and he has given iodide of potassium and mercury a limited trial.

In acute cases there are symptoms not present in the chronic, relating to pain on pressure, referable at successive stages to the region of the pelvis of the kidney, then to the so-called McBurney point of appendicitis (on the right side), then to a spot about Poupart's ligament. He at first mistook two cases for appendicitis.

The paper was discussed by Drs. MANN and LAPHORN SMITH, who recognized constitutional treatment as especially important. Dr. Mann said his attention has not hitherto been directed to the tender points mentioned. He will hereafter look for them.

Implantation of the Ureter into the Bladder, by Abdominal Section, for the Cure of Uretero-Vaginal Fistula.—DR. H. J. BOLDT, of New York. Among the causes leading to the production of uretero-vaginal fistulæ, the most frequent at the present time is probably vaginal extirpation of the uterus. Formerly difficult parturition was the most prolific source in the etiology of this malady. It is the author's belief that injuries of the ureter from the performance of vaginal hysterectomy are of more frequent occurrence than is known, many cases not being reported. It is liable to occur relatively oftener in the hands of experienced operators than in those of less experience, because the former are apt to undertake more difficult cases, especially when operating for cancer, if the broad ligaments are thickened, and the operator works far away from the cervix while endeavoring to remove all particles of malignant infiltration. The ligature or clamp may prevent dribbling until necrosis has taken place. If a fistula is absent, the diagnosis is more difficult. In relating the history of a case, the author said the patient at times passed urine from the fistula, and on such occasions had more pain in the renal region radiating down the course of the ureter; after a short time a copious flush of urine would make its appearance with subsequent relief of pain. He believed the attacks of partial suppression of urine from the affected kidney are readily accounted for by the existence of this fistula, which at times probably becomes occluded; hence the severe pains in the renal region, which are relieved on the free escape of urine.

The patient made a good recovery after removal of the kidney on the affected side, although for a time there were signs of acute nephritis in the remaining kidney. This case taught that all uretero-vaginal fistulæ should be operated upon as soon as possible after the diagnosis has been made, on account of the great liability of the kidney to become infected.

If complete anuria is present there is reason to suspect that both ureters have been tied, especially when pain and sensitiveness to touch are present in the renal regions, with nausea and vomiting. Under such circumstances a cystoscopic examination should be made without delay. When injury has been shown to exist the question of treatment arises. A spontaneous cure can only come about if the ureter has been injured in its long axis. Such cases are more

apt to occur after parturition. Dr. Boldt then related a case which had led him to adopt uretero-cystostomy. It was one of vaginal hysterectomy for suppurative salpingitis, chronic pelvic peritonitis, and chronic metritis. The operation was very difficult, owing to the immobility of the uterus and intestinal adhesion to the pelvic organs.

The abdomen was opened and the lower segment of the ureter was found not mobile, yet it was possible to dissect it without injury by the aid of the ureteral catheter. This was done for a distance of about seven centimetres, leaving the peritoneal covering, which was already attached to it by the inflammatory process. This served a good purpose by maintaining vitality. At the vaginal junction the ureter was severed, but the catheter was allowed to remain in it. The bladder was now filled about two-thirds full of sterile water, so as to permit the selection of a proper place for implantation, which he desired to make as near as possible to the normal position. At this point he opened the bladder by an incision of about three-quarters of a centimetre, the water having been withdrawn again by catheter as soon as the knife touched the mucosa. After the bladder had been opened, a long pair of uterine dressing-forceps was passed through the artificial opening in the bladder per urethram, and the ureteral catheter was drawn from the viscus and out of the urethral opening, so that it protruded about ten centimetres; next the ureter was invaginated through the opening in the bladder to the extent of about one centimetre. Now three very fine silk sutures were placed at about equal distance, passing through the entire thickness of the bladder excepting the mucosa, and quite superficially through the ureter. The abdomen was closed. A permanent catheter was put into the bladder, alongside of the ureteral catheter, to keep the bladder empty and prevent pressure on the newly made opening. Recovery was uneventful.

After relating his own case, Dr. Boldt referred to the few reported in literature, and to the views of Krause, Kelly, Penrose, Krug, Veit, and others. He thought that among the methods adopted for intra-peritoneal implantation, the one applied in his own case deserved a trial, because of its simplicity, its facility of execution, and the favorable result which must follow under aseptic conditions.

To sacrifice a kidney for the abolishment of the fistula should be a last resort. Even if a nephritis or a pyelitis exists, other methods should be tried. Of course, should there be so much ureter lacking that it is impossible to do implantation, there is no help for the patient except nephrectomy.

Intestinal Bacteria as a Source of Infection Complicating Obstetric Operations, with Report of Cases.

—DR. EDWARD P. DAVIS, of Philadelphia, in this paper related two cases of infection about the time of labor, in which autopsy showed that the intestinal tract was the seat of infection. The first case was that of a colored girl with rachitic contraction of the pelvis. When admitted the abdomen was tense from tympany. When labor began Cæsarean section was successfully performed, and the child still lives. There was a tympanitic condition of the large intestine in the mother, but the gut did not protrude through the wound. The temperature remained below 100° F. several days. She then began to be annoyed by nausea and vomiting and persistence of the tympany. The abdominal wound had healed by first intention. She went on for a time with high pulse, clear brain, persistent nausea and vomiting. Finally high temperature ensued and death followed about six days after delivery. The salient anatomical points at post-mortem were immense distention of the small intestine and a mass of fibrin about the junction of the large and small intestine, at

which point the intestine was found studded with small ulcers, full of bacilli coli commune and micrococci pyogenes albi, which were also traced into the mass of fibrin over the intestine. Diagnosis: Lymphangitis with absorption of ptomaines and intoxication. The process had evidently begun before labor. It is the first case demonstrated by autopsy reported in obstetrics, so far as Dr. Davis knew.

The second case was that of an English girl, illegitimate pregnancy. She was constipated and showed anxiety about her condition before labor. She was delivered of a healthy boy by forceps; a slight laceration of the perineum was sewed up immediately. The temperature rose to 103° F.; pulse, 120 to 130; respirations, 36. She became maniacal. Washing out the uterus did no good. She died, and Dr. Bevin, who made the autopsy, found as the only cause of the mania and other symptoms an anomaly of the intestine, consisting of a loop of about two feet in the large bowel, which contained softened and inspissated fæces which had not passed in spite of calomel, etc. The pathologist made the diagnosis of auto-infection from anomaly of the large intestine, as there was no other apparent cause. The condition was new to him, said Dr. Davis, but Dr. Bevin has seen the anomaly in about eighteen out of three hundred autopsies, and the history in most of the eighteen was that of attacks of temporary mental disturbance and constipation. This extra loop, of from one and one-half to two and one-half feet of large bowel, gave a greatly enlarged mucous surface over which the contents of the bowel had to pass.

The differentiation from cases of wound infection seems to be want of chill, lower temperature, pulse rapid. Apparently all that can be done is to induce free purgation if possible.

The following gentlemen discussed the paper: DRs. R. A. MURRAY, E. H. GRANDIN, P. A. HARRIS, and E. CUSHING. Dr. Grandin and some of the other gentlemen thought it might be well to caution general practitioners against attributing to auto-infection those cases of sepsis attending labor in which their own hands or instruments were the cause. Cases of the kind related by Dr. Davis must be rare as compared with the number in which infection was introduced from without, and the cause stated should be if possible attested, as in these two instances, by autopsy.

Treatment of Intra-Ligamentous and Retro-Peritoneal Uterine Fibromyomata.—DR. WILLIAM H. WATHEN, of Louisville, said the purpose of his paper was to describe the method of operating when these tumors are too large to be removed by the vagina, and are so wedged in the pelvis as to make abdominal operation difficult if not dangerous. By the method described he ligates the uterine arteries from below, since if this is not done they cannot be reached from above by abdominal operation until after extensive enucleation. The operation is completed from above. Dr. Wathen thought no portion of the cervix should be left in performing hysterectomy in this class of cases, as it only invites future trouble.

The paper was discussed by DRs. CUSHING, HARRIS, GORDON, J. T. JOHNSON, and THE PRESIDENT. The President spoke of ligation of the arteries in abdominal hysterectomy, out at the side of the pelvis, far enough to prevent hemorrhage from all the branches supplying the field of operation—the ovarian, uterine, etc.

Cæsarean Section; Suture of the Uterus versus Total Extirpation.—DR. HENRY C. COE, of New York, read the paper. He related his experience with Cæsarean section in three cases and extirpation of the uterus following Cæsarean section in a fourth case, and gave reasons why he thought that in many instances, if not usually, it is best to remove the uterus after incising it and removing the child. Among the

women on whom he had found Cæsarean section necessary, it was of doubtful advantage to the patients themselves as well as to society to leave them in a state in which a subsequent Cæsarean section might become necessary. In the instance in which he removed the uterus he was led to this course from the fact that the patient's condition was such as to make it extremely doubtful whether she could survive any operation, and he regarded her chances as better after removing the uterus than after suturing that organ. The operation was shorter and there was less danger, of course, from septic infection. The woman rather unexpectedly survived. Among reasons for extirpating the uterus in similar cases are: Less danger of infection when there have been attempts at delivery; shorter operation; the fact that many of these people are pregnant illegitimately, are stupid, are liable to be away from skilled attendance in future labors, and have not the high motive to raise a child. Of course, there can be no universal rule to remove the uterus.

The following gentlemen discussed Dr. Coe's paper: **DRS. GRANDIN, NOBLE, HARRIS, DAVIS, BOLDT, GARRIGUES, R. A. MURRAY, HARRISON.** Dr. Davis agreed with Dr. Coe, but most of the other gentlemen thought he was too radical. They believed in removing the uterus only when there is a positive indication for it, particularly septic infection.

Drainage of the Stump in Abdominal Hysterectomy.—**DR. HENRY T. BYFORD**, of Chicago, in this paper described his method of draining when, after removing the uterus by the abdominal route, a little of the cervix is left. It consists in making an anterior vaginal incision and inserting a drain between the peritoneal folds and cervix, extending out through the vaginal opening.

DRS. HARRISON, NOBLE, and BAER made some remarks upon this paper. Dr. Harrison gave credit to Dr. Emmet for having done the first operation, removing the uterus except a small portion of the cervix by the abdominal route. Dr. Baer said he did not wish on this occasion to discuss the priority of this operation, as it had already been considered on former occasions. The point of importance was its value to humanity.

Myomectomy, Fatal Secondary Hemorrhage, with Rise of Temperature.—**DR. HENRY D. FRY**, of Washington, related a case of myomectomy in which the patient died after twenty-four hours of continuous bleeding due to slipping of the ligature. The point of interest was rise of temperature, pulse after some hours becoming rapid. While internal hemorrhage was suspected, he was in doubt because of the rise in temperature, as the books stated that in hemorrhage there was a fall of temperature.

The paper was discussed by **DRS. GRANDIN, BALDY, and BOIES.** They paid less attention to the temperature than to the pulse in hemorrhage.

New Instrument.—**DR. CLEMENT CLEVELAND**, of New York, showed a small electrode which he encloses in the ligature on arteries in hysterectomy cases, and after about thirty-six hours attaches to it the battery, passes the current, and severs the ligature (silk).

Surgical Injuries of the Ureter.—**DR. J. M. BALDY**, of Philadelphia, in this paper described the two methods of operating for repair of surgical injuries to the ureter, one consisting in uniting the severed ureter by uretero-uretero anastomosis, the other in inserting the ureter into the bladder, called ureterocystotomy. He thought the division was usually near enough to the bladder to allow of the latter operation, for which he expressed preference. It had been done but a few times, once by himself.

The discussion was by **DR. BACHE EMMET**, who said he had once performed uretero-uretero anastomosis, and by **DR. BYFORD.**

Resolution on Vivisection.—On motion of **DR. GRANDIN** a resolution was adopted opposing the passage of the bill before Congress intended to restrict vivisection in the District of Columbia.

Thanks to the Retiring Secretary.—On motion of **DR. GRANDIN** a vote of thanks was extended to **Dr. Henry C. Coe** for the efficient services which he has rendered the society during the number of years he has acted as secretary.

At an earlier hour a vote of thanks was tendered the president for the able manner in which he has presided over this very successful meeting of the society.

Officers.—The following officers were elected: *President*, **Dr. Chadwick**, of Boston; *First Vice-President*, **Dr. Sutton**, of Pittsburg; *Second Vice-President*, **Dr. Garrigues**, of New York; *Secretary*, **Dr. Goffe**, of New York; *Treasurer*, **Dr. Baldy**, of Philadelphia.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, May 19, 1896.

REYNOLD W. WILCOX, M.D., CHAIRMAN.

Intestinal Fermentation.—The discussion on this subject was opened with a paper by **PROF. R. H. CHITTENDEN**, of Yale College. Professor Chittenden said his paper would necessarily have to deal with the subject in a general way. In it he referred to the microorganisms, principally bacteria, present in the intestine, which brought about fermentation of foods; to proteids, as most liable to fermentation; to the retarding effect of sugar and of acid conditions; to the favorable influence of alkaline or neutral fluids; to the practical freedom of the secretions themselves from germs; to the evidence that bacteria themselves are not necessary to digestion and health; to the products formed by fermentation; to the measuring of intestinal fermentation by examination of the urine; to the power of bacteria to break down proteid matter with the formation of simple compounds; to the fact that the products formed by bacteria might at times combine with others under the influence of oxygen or other means to form more complex bodies of greater toxicity; to the fact that the absorption of the products of excessive intestinal fermentation might not only do harm by their direct toxic action, but also indirectly by increasing the susceptibility of the body to infection from other sources; and to the ailments connected with intestinal fermentation—diarrhoea, abdominal distention, anæmia, so-called biliousness, many nervous manifestations. The question of how to prevent intestinal fermentation is one for consideration by clinicians. There are many drugs which unquestionably exert an inhibitory influence upon fermentation and putrefaction, but there is much diversity of opinion as to their efficacy when administered in such diseases as cholera, typhoid fever, etc. Professor Chittenden did not wish to question the possibility of applying antiseptic treatment efficiently, but he was inclined to lay special stress on the influence of diet. Other things being equal, it is obvious that the more digestible is the food, the less tendency will there be to intestinal fermentation. On the other hand, the accumulation of undigested food in the intestinal tract affords one of the best possible conditions for putrefaction. This explains the favorable action of a milk diet. Moreover, notwithstanding the ease with which milk is fermented, it is possible it has the power to retard somewhat putrefaction in other forms of proteid matter.

The Bacteriology of the Stomach in Relation to

Practical Therapeutics.—DR. J. H. KELLOGG, of Battle Creek, Mich., in a paper with this title, said that while much attention has been given during the last twelve years to the chemistry of digestion, comparatively little has been done in the study of the bacteria of the stomach in relation to practical therapeutics. In this paper he presented some conclusions which he has drawn from a careful comparative bacteriological and chemical study of the stomach fluid in three hundred and seventy-seven cases. The information sought by the mode of examination adopted was: 1, the number of microbes per cubic centimetre of stomach fluid; 2, the presence or absence of gelatin-liquefying bacteria; 3, the presence or absence of gas-producing bacteria; 4, the presence or absence of acid-forming bacteria; 5, the toxicity of the products of bacterial activity in the stomach fluid.

Within the past year three hundred and seventy-seven stomach fluids had been examined from more than three hundred and fifty persons. Of the fluids examined, one hundred and ninety-one were found to be absolutely sterile, while sixty-seven contained less than fifty bacteria per cubic centimetre, a number so small as to be considered accidental, so that these also could be regarded as sterile; while one hundred and two contained bacteria from a few hundred to more than two million per cubic centimetre. Dr. Kellogg was not surprised to find large numbers of bacteria, but was considerably surprised to find so large a number of perfectly sterile stomach fluids, especially since Cadeac and Bournay have recently asserted that the stomach and intestinal fluids are not destructive of micro-organisms as was formerly supposed, and since the assertion is commonly made by bacteriologists and physiologists that bacteria are not only present in the alimentary canal but are useful in the digestive process.

The fact that no bacteria whatever were found at the end of the first hour of digestion in 50.8 per cent. of three hundred and seventy-seven stomach fluids examined, seemed to be all the evidence required to demonstrate the proposition that the normal stomach is able to destroy those microbes which accidentally enter it through the mouth and nose, and that microbes play no part in normal stomach digestion. Kürhoff and Wagner and others were quoted for further confirmation of this view.

The method of chemical examination employed by Dr. Kellogg is based chiefly upon that of Hayem and Winter. In comparing the results of bacteriological examination with the results of chemical examination, he carefully noted the relation of bacteria to: 1, the calculated acidity, which represented the combined value of free hydrochloric acid and the combined chlorines diminished by the fatty acids present; 2, the acidity; 3, the free hydrochloric acid; 4, the combined chlorine; 5, the coefficient of starch digestion; 6, the coefficient of salivary secretion; 7, the coefficients of chlorine liberation; 8, the coefficient of absorption.

The summary was as follows: Of the one hundred and ninety-one sterile cases eighty-three were cases of hyperpepsia, eighty of hypopepsia, and in twenty-eight the amount of chlorine eliminated was normal. Of the eighty-three cases of hyperpepsia combined chlorine was in excess and free hydrochloric acid was normal or in excess in fifty-five cases; in twelve cases free hydrochloric acid was deficient and in one it was absent. Combined chlorine was deficient, or less than 1.55 milligrams per hundred cubic centimetres in sixteen cases. Of the eighty cases of hypopepsia, hydrochloric acid was deficient in sixty-eight, and normal or in excess in quantity in twelve. It thus appeared that a sterile condition of the stomach fluid might exist in hypopepsia as well as hyperpepsia, and it was indeed

a somewhat surprising fact that in forty-two per cent. of the sterile cases hypopepsia existed, whereas hyperpepsia was found in only forty-three per cent. of the cases. In forty-eight per cent. of the cases in which bacteria were absent free hydrochloric acid was less than normal in quantity, being below twenty-five milligrams per hundred cubic centimetres of stomach fluid, and in 23.5 per cent. it was absent altogether.

It was noticeable that anaerobic germs were found most abundant in cases in which the total acidity, the free hydrochloric acid, the coefficient of liberation, and the coefficient of absorption were the lowest. It appeared that the anaerobics flourished better in an acid medium, or rather resisted the influence of the hydrochloric acid better, than did the aerobic.

The coefficient of absorption in the class of anaerobic infected cases was .38 as compared with .34 in the sterile cases.

The author then considered the method of determining the relation of urinary toxicity to the bacteria in the alimentary canal. The normal urotoxic coefficient was .46. In the case of a lady suffering from a severe attack of migraine, stomach infected to a high degree, the urotoxic coefficient was found six times normal. In another case of marked infection, that of a young woman suffering from epilepsy, the urotoxic coefficient, as she was recovering from a series of seizures, was found to be more than double the normal. He said numerous similar cases could be cited.

A fact of considerable importance which his studies have established is that the tests for fermentation heretofore relied upon are of little value. Bacteriological examination is the only means by which it is possible to determine accurately the presence or absence of gastric infection.

For combating infection of the stomach the stomach tube is certainly the most efficient of all therapeutic measures, but most important of all is careful regulation of the diet. Foods already undergoing fermentation or decomposition must necessarily be avoided, and for a time at least those foods which readily undergo decomposition or fermentation—that is, such substances as furnish favorable nutrient media for the development of the micro-organisms found in the stomach.

In cases of excessive amount of free hydrochloric acid, suppression of foods containing ferments and perhaps for a time of foods which encourage the development of ferments is indicated. He finds a dry farinaceous dietary of greatest service in these cases, contrary to the practice of many others; but care must be taken that the starch so far as possible is converted into dextrin. In extreme cases he uses a starch-free dietary, or rather a dietary in which the starch is completely converted into maltose and combined with prepared nuts. Subnitrate and subgalate of bismuth, charcoal, and sulphur are useful. In hypopepsia and apepsia lavage is of vast service. Well-cooked farinaceous foods are digestible, but meats, butter, cheese, oysters, and fish must be carefully avoided for a few weeks or months in cases of mild infection. In dilatation of the stomach dry aseptic food should be given; in gastric catarrh, kumyss, buttermilk, or, better, koumyzoon. Several other measures, including massage, etc., received consideration, and illustrative cases were cited.

DR. W. H. PORTER was called upon to open the verbal discussion. He said it seemed to him, on looking at the subject from a purely practical standpoint, that the etiological factor in intestinal fermentation resolves itself into three conditions: People as a rule eat too much, and eat of material which is not best adapted for digestive and nutritive purposes; as a result, after months or years of such eating, their systems become very poorly nourished and germs innu-

merable appear in the alimentary tract. When called to the case the general practitioner has to deal with errors of diet, general malnutrition, innumerable bacteria, defective digestion. Studying the cases in this way, Dr. Porter thought it is comparatively easy to manage them pretty satisfactorily. On general principles he thought a well-regulated mixed diet gives the best results, but in the more aggravated cases his experience has been best with milk diet; preferably buttermilk. With the further aid of so-called antiseptics he thought we could subdue this intestinal fermentation as quickly as could be expected.

DR. H. D. CHAPIN thought a more important subject than intestinal fermentation could not be brought before the academy, for he believed that many wasting and also germ diseases, including tuberculosis, are at bottom due largely to failure in nutrition, and in restoring nutrition we go a long way toward stamping out the disease. Too great a variety at meals is to be avoided. Many persons who thought they could not take milk thrive best on it when instructed how to take it. Hot water is also valuable, and many cases of intestinal fermentation can be stopped by rare beef alone. In the summer many acute cases in children require that milk be cut off entirely for a time, giving, perhaps, only water, or egg water, or beef blood.

Dr. Chapin thought the value of antiseptic medicinal treatment of intestinal fermentation has been largely overestimated. He has tried mercury, salol, naphthol, etc., but has found them of little use in doses short of poisonous effects. The drug which in his hands had been most valuable is the least antiseptic, subnitrate of bismuth. He believed that by simplifying the diet, cutting off fermentative foods, and avoiding nauseous drugs, we get the best results in intestinal fermentation.

DR. H. POWER said that during the past five years he has attempted to trace the clinical connection between certain forms of convulsive attacks, including forms of epilepsy and disturbances of the gastro-intestinal tract. He thought he has been able to establish such a connection in many cases. The relation may be through peripheral irritation—intestinal—exciting the central nervous system, or by toxins lowering the resisting power. Both explanations are important. Following up this idea, he has placed a large number of patients on small doses of bromides and on intestinal antiseptics, such as salol, naphthol, borax, boric acid, etc.; but all of these antiseptics evidently produce disturbance in one way or another, and cannot be continued indefinitely. He thought benefit has come from flooding the system with water with a view to washing out the toxins.

DR. W. H. THOMSON said he has been accustomed to teach for years that there is a fundamental difference between organic nervous diseases and functional nervous diseases. In the former the patients are never without symptoms; in the latter they show no symptoms during the intervals. Examples of functional nervous diseases are migraine and epilepsy. Yet in the latter, especially, this view does not exclude special structural faults. He has for years treated epilepsy chiefly as a toxic disorder, on the line of intestinal antiseptics. The same is true of migraine and of so-called exophthalmic goitre—an inappropriate name, because the condition may exist without either goitre or exophthalmia. In such cases he believed that the thyroid gland is doing its best to neutralize the ptomain in the blood, which has its starting-point in the intestine, and that to extirpate it would be about as sensible as to extirpate the kidney for diabetes mellitus. Referring to Dr. Chapin's statement that bismuth is not an intestinal antiseptic, he thought he must have meant it is not a germicide,

for he, Dr. Thomson, has found it the best of intestinal antiseptics and gives the subnitrate of bismuth, from eighty to one hundred and twenty grains daily, in typhoid fever. Gastric ulcer is a frequent condition, and in this he gives antiseptics.

DR. KELLOGG said he had been impressed by the statement made by nearly all the speakers that they rely chiefly on diet. He himself relies almost exclusively on regulation of the diet, and does not believe that intestinal antiseptics are of great value. He thought we have heard too much of hydrochloric acid, and that probably writers have not touched sufficiently on the value of the intestinal mucous membrane as a means of destroying microbes and also of destroying the toxic alkaloids produced by microbes.

PROFESSOR CHITTENDEN believed there is a general impression that free hydrochloric acid is absolutely essential for fairly vigorous digestion. That is not so. There may be vigorous gastric digestion of the proteid matter when all the hydrochloric acid present in the stomach is in the form of combined acid. Combined acid has more or less germicidal action, though not so much as hydrochloric acid.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A NEW YORK PHYSICIAN AT THE MEDICAL SOCIETY OF LONDON—HIS VIEWS ON AUTOTOXIS IN INSANITY—LARYNGECTOMY—DISPLACEMENT OF HIP-JOINT—SUTURE OF VAGUS—FRACTURE OF NECK OF FEMUR—HÆMATOZOON OF ASHANTI FEVER—HEALING OF VEGETABLE TISSUES—HEALTH OF IRELAND—IRISH WORKHOUSES—DUBLIN APOTHECARIES' HALL CASE—CHELSEA HOSPITAL AGAIN—THE NEW MEDICAL M.P.

LONDON, May 15, 1896.

VISITORS from your side are always welcome, and on Monday we had the pleasure of seeing Dr. Allan McLane Hamilton at the Medical Society meeting, where he read a paper on the "Connection of Autotoxis with Certain Forms of Insanity." He gave a careful account of the various forms of mental derangement which seem to be associated with gastro-poietic derangement, probably produced by fermentation or putrefaction in the alimentary canal. Your readers are doubtless too well acquainted with Dr. Hamilton's views to care for a brief statement of them from this side, and it will be more interesting to them to hear that the president, Sir Crichton Browne, himself an eminent authority on insanity, spoke very highly of Dr. Hamilton's work in this specialty, and said his own attention had frequently been attracted to the association of some forms of mental derangement with defective intestinal digestion or with diseased liver, which was unable to prevent intestinal ptomains from passing into the general circulation.

Dr. Haig argued that uric acid was the offender, but Dr. Andriezen could not see this and supported Dr. Hamilton. Dr. Hare thought the ancients were alive to the idea of autotoxis, as evidenced by such terms as melancholia and hypochondriasis, and Dr. Bower thought intestinal trouble more frequently the result than the cause of nervous disease.

At the Clinical Society meeting, after notes of a case of malingering in a boy of eleven, who had colored his urine to imitate hæmaturia in order to escape school, three cases of laryngectomy were related by Mr. E. Ward, of Leeds, who had varied the usual mode of operating in order to effect the shutting off of the wound from the mucous canals opening into it, and

thereby securing union by first intention throughout. One of the patients was a man of sixty-four, operated upon for epithelioma; another, a man of forty-two, for general tumefaction producing dyspnoea and dysphagia for five months, deepening into orthopnoea, stridor, lividity, etc. These two cases were treated successfully. The third was that of a little girl, aged two years, with rapidly growing papillomata filling the larynx. She died of collapse sixty hours after the operation, and at the post-mortem the larynx was found again crammed with the growths. No preliminary tracheotomy is required where it has not already been rendered necessary by urgent dyspnoea. The first part of the operation was carried out on the ordinary lines, the larynx being, in preference, separated by division of the crico-tracheal membrane and dissection from below upward, enucleation of the upper part being thus facilitated. In cases of intrinsic disease the opening into the pharynx need not be more than a small vertical slit. After the larynx had been removed a large tube was passed from the mouth into the stomach, and the cut edges of the pharynx were carefully brought together over it by closely set sutures of fine silk, the pharyngeal wound being entirely closed. Then two discs of skin were cut out of the edge of the flaps opposite to the tracheal aperture, which was closely stitched to the circular opening thus made, and the skin wound was closed by suture throughout. Drainage tubes were inserted at each end of the cross incision at the upper part. By this method of closing the wound the trachea and pharynx are completely shut out from it, and the trachea is so held open that no tracheotomy tube is required. The oesophageal tube is removed or left *in situ* for feeding, according to the needs of the case and the difficulty with which it is passed. Mr. Ward claimed for this operation: (1) That it will reduce the mortality of the operation itself; (2) that it will considerably shorten the period of healing and convalescence; (3) that it will add immeasurably to the comfort of patients, both during convalescence and after recovery; (4) that it will justify attempts at radical treatment in some cases in which this is at present considered inadmissible.

Mr. Arbuthnot Lane said he had adopted a similar course in a case of his own, dividing the trachea and drawing it forward out of communication with the pharynx, and the result had proved very satisfactory. In a case of papilloma of the larynx, in which recurrence took place after removal of the growths, he had tried arsenic. By the time the dose of Fowler's solution had been carried to seven minims three times a day, the obstruction had altogether disappeared.

Dr. Semon protested against performing an operation so grave as total laryngectomy in a child for papillomatous disease of the larynx, a condition which had been shown to be amenable to milder forms of treatment.

Mr. E. Ward admitted that he would not be disposed to resort to laryngectomy again in a child with papilloma, though he knew of three cases in which the papillomatous growths recurred after removal and ultimately completely obstructed the larynx, and the condition of these patients was no better than after this operation.

Mr. Arbuthnot Lane showed a child on whom he had operated successfully for a deformity which consisted in a varying degree of outward rotation of the legs, due apparently to a slight forward and upward displacement of the hip-joint from its normal position. He divided each femur at the junction of the middle and lower third, and after rotating the lower fragment inward and the upper through an angle of 90° or more, he secured them together with wire. The result, as exhibited by the patient, both as regarded locomotion and appearance, was very good.

Mr. Makins recorded a case of removal of a secondary epitheliomatous tumor from the neck, in which operation the left vagus nerve was divided just above the centre of its cervical portion and at once sutured. No obvious results either immediate or remote, beyond the paralysis of the muscles supplied by the recurrent laryngeal branch, were observed. The case seems to support the opinion lately expressed by Boswell Park as to the comparative safety of dividing one vagus if necessary, and also offered some evidence as to the possible recovery of function if immediate suture be performed.

Mr. Raymond Johnson brought forward a case of fracture of the neck of the femur resulting from dry caries of the bone, in a boy aged seventeen.

Dr. Norman Moore showed at the Pathological Society meeting a hæmatozoon from a case of malarial Ashanti fever. The parasite occupies a red-blood corpuscle and resembles hæmamoeba præcox. He thought it worth while to note the peculiarity of form, even if it indicated only a phase of development.

Mr. Shattock read at this meeting a communication on the "Healing of Incisions in Vegetable Tissues," comparing the phenomena to those of first intention and third intention in human tissues. His account of his experiments and the results at which he had arrived was followed with interest.

The public health of Ireland is in a satisfactory state according to the registrar-general, who reports that the death rate for the quarter was the lowest rate for the March quarter since 1864, except that for 1868, which was a little lower. Zymotic diseases were much below the average.

Speaking of Ireland, reminds me that the question of reforming the administration of Irish workhouses grows more and more pressing. The medical officers of some seventy of these have reported on the urgent need of changes. The association *Journal* has just concluded the issue of reports by its representative, one of them giving defects scarcely credible. But the *Medical Press*, the first professional authority in Ireland, remarks that "the statement is strong but true." There was a conference on the subject lately in London, and the revelations of some of the speakers were such as to excite disgust and almost despair. Beside neglect of the sick poor to the most shocking extent and corruption and jobbery rampant everywhere, it would seem that the central authority in Dublin has either lost control or sacrificed its duty for some political purpose.

The appeal of the Apothecaries' Hall of Dublin to the Privy Council came on last Monday and was practically referred back to the medical council for reconsideration. Their lordships suggested that the hall might address another application to the medical council, asking the appointment of examiners without restricting such appointments to surgery. Counsel for the hall agreed after consulting his clients to do so, but counsel for the medical council could not consult his clients. He therefore undertook to represent their lordships' suggestion in the most favorable manner, and the matter stands over until the next meeting of the medical council, when it must be brought up. The suggestion will probably be adopted.

The Chelsea Hospital for Women is not yet out of trouble. The lay committee, which, as I have previously shown you, is itself a discredited body, wants to make new by-laws to enable it to dismiss any member of the staff in the most despotic manner. I am told that most of the staff are willing to accept the proposed new rules, but we shall see. A meeting of the governors to consider the matter has been summoned.

Sir William O. Priesly, M.D., has been elected M.P. for the universities of Edinburgh and St. Andrews.

The seat has therefore fallen to a medical graduate. There was no opposition. Sir William is a supporter of the present government.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE ACADEMY OF MEDICINE AND THE CORSET—DISEASES CAUSED BY CORSETS—VACCINATION NOT COMPULSORY IN FRANCE—HOW PUBLIC VACCINATION IS CARRIED OUT—HANGING AS AN ART—SENSATIONS OF HANGING DESCRIBED BY ONE WHO EXPERIENCED THEM—DEATH OF PROF. GERMAIN SÉE.

PARIS, May 15, 1896.

"PARCERE subjectis et debellare superbos" is the Latin device which has been applied to all varieties of the female cuirass (to use a generic term) from 1590 to the year of grace 1896. The same is true, whether it is a question of the ticking corset worn by peasants, of that worn by the workgirl and made of shirting or wool satin, or that of the society woman, of multicolored silk tissues, stitched, embroidered, garnished with lace or ribbons—no matter, the effects are always the same.

The wasp waist so much sought after is too often paid for by incalculable harm. The wan face and the deformed thorax, seen every day on the street and in the ballroom, speak more eloquently than words to the physician of hepatic engorgements, dilated stomachs, and floating kidneys due to tight lacing. The evil is so widespread that the Academy of Medicine has devoted considerable attention to it. It is not altogether tight lacing either. In many cases the corset itself, by the manner in which it is made and the materials used in its manufacture, is alone and *ipso facto* the cause of all the mischief; as even if barely supported by the laces, joined however loosely, it must of necessity interfere with the free movement of the respiratory and abdominal muscles.

The lesions of internal organs due to this instrument of torture have been enumerated and described by all hygienists since the time of the metallic "busk" or cuirass, which was introduced into France under Catherine de Médicis. De Riolan, 1615 to 1640; Winslow, 1741; Michel, 1867; Chapotot, 1892; and Professor Hayem, of the Faculty of Medicine of Paris, during the present year, have demonstrated beyond the shadow of a doubt by indisputable facts the organic malformations acquired by the use of corsets, as well as the dangers of exaggerated compression upon the lungs, stomach, liver, etc. Dr. Poncet's valuable and instructive paper on the subject contains the following significant passage: "No authority, neither that of the parents, nor that of the husband, nor that of the physician, of course; no power, in a word, is capable of inducing a woman of nineteen or twenty years to abandon or even loosen a corset strangling the abdomen and false ribs."

Such has too often been our own personal experience, and when desiring to give a little more natural amplitude to the waist of a young girl of sixteen years, how often do we hear the reply: "But, doctor, I am not laced; the borders of my corset do not even meet. See, I can pass my hand easily under the corset." Vain delusion! The doctor's visit is almost always known beforehand, the corset is loosened accordingly, and five minutes after drawn up to the last notch.

The regular development of the body and marriage are in only an exceedingly small number of cases motives for renouncing these dangerous practices. Parents and friends know well and the physician repeats it often enough that serious diseases, sometimes incurable ones, result therefrom; but the exigencies of fash-

ion pass before everything else. Dr. Poncet reports clinically and in detail the case of a young woman of twenty-three, who died a victim of constriction caused directly by the corset.

Moreover, delivery could not take place normally. An operation was judged necessary, the Cæsarean operation, having for result the death of both mother and child.

It is really surprising that in all these discussions and writings no mention is made of floating kidney, or falling kidney as it is called here, one of the most frequent pathological conditions resulting from lacing; nor of hour-glass liver, a very frequent malformation attributable to the same cause. It is usually the right kidney that is displaced by the continual weight and pressure of the engorged liver upon it, due in its turn to the compression of the lower thorax and false ribs by the corset.

It is just one hundred years ago to-day—May 14, 1796—that Jenner discovered vaccine after numerous researches and patient observations in his native Berkeley Hills. The history of vaccine, from the date of the first public vaccination down to the present time, is too well known to need even mention, and we pass to the practical questions of the hour. Small-pox, said Professor Proust, at the meeting of the consulting committee of public hygiene of France, is a disease that is destined to disappear altogether from our nosological tables and one that will disappear the moment that the measures for its prevention so long since recommended shall be rigorously and completely carried out. That is so true that for twenty-five years past, with the prophylactic measures taken, the average of deaths from variola in France has steadily fallen. But we have not yet arrived at the results obtained in Germany, where vaccination has been obligatory since April, 1875, and is still, small-pox having become so rare that it is no longer mentioned in summary statistics. It appears that the number of deaths caused by variola in Germany is only about 3.3 in a million inhabitants. Among the French population the death rate is unfortunately very much higher, because the vaccinations and revaccinations are not practised regularly. It is on this account that the consulting committee of hygiene proposed three or four years ago to have enacted a law making vaccination and revaccination obligatory. To this the objection was raised that such a law would interfere with individual liberty, and it was not passed. But surely the liberty of spreading small-pox is one of the first that an individual should be deprived of.

The Academy of Medicine gives gratuitous vaccinations every Tuesday in the Salle des Pas Perdus, surrounded by the busts of medical celebrities. Yesterday the hall was crowded with mothers and babies. Over two hundred children were vaccinated between eleven and twelve o'clock. The culture and preparation of the vaccine lymph are made on the spot. At the end of a small garden between the buildings of the Academy of Medicine and the Geographical Society is installed a small stable, a model of cleanliness, in which are always kept four heifers.

In 1894 the vaccine service of the Academy of Medicine made 1,726 vaccinations and 10,766 revaccinations. In 1895 the figures were much lower—1,381 vaccinations against only 1,763 revaccinations. The mortality from variola, which is from thirty-five to forty per cent. among persons non-vaccinated, is from three to five per cent. among those that have been vaccinated, and only two per cent. among those who have been revaccinated. These heifers are kept for nine days in the stable of the academy. After which, the culture of the lymph made, they are killed the same evening. An autopsy is immediately made on every one of them, and in case of disease the lymph taken

from that animal is at once destroyed. While in the stable these heifers receive special treatment—stimulating drinks, alcohol in solution, infusion of tea, hay, and a general nourishment of excellent quality, milk, flour and milk, absolute rest, and a dry bed. The hygiene of the animal is the object of the minutest attention, for the quantity and quality of the lymph depend directly thereupon. Although the progress made in the domain of vaccination has been considerable, yet until vaccination and revaccination are made obligatory in France the population will never have a sufficient guarantee against small-pox, whether sporadic or epidemic.

A curious experiment has just been made by a man named Durand, who hung himself for thirteen days by the neck, taking only fifteen minutes rest (unhung) each day. He describes his feelings as follows: "I thought three days ago I was going to lose the large sum at stake. My fatigue was great, I had an intense fever, my extremities were congested, and my ankles made me suffer horribly. The most curious sensation is when, unhung, I attempt to walk: I have vertigo, my foot strikes the floor, and I imagine myself always in my stocking feet. Then I have a sensation of vast emptiness in my head, and seem to have just got up from a long illness. I cannot eat and only take from time to time a mouthful of bouillon."

When he rehung himself the strangulation was sufficient to cause protrusion of the eyeballs and tongue, the features became convulsed and cyanosed. This was followed by a state of stupor and semi-consciousness, which lasted until the next remission of fifteen minutes at the end of another twenty-four hours; and so on until the thirteen days were completed.

Dr. Germain Sée, who died the day before yesterday, at the age of seventy-eight, had been for thirty-five years past one of the most important physicians in Paris. Médecin des hôpitaux since 1852, professor at the faculty since 1866, member of the Academy of Medicine since 1869, he was during the last years one of the most sought-for consultants, one of the most occupied, and one of the most honored, both *causa honoris* and monetarily. A hard worker and profound clinician always, his best known works were: "La Chorée," "Le Sang et les Anémies," "Le Sal Gastrique," all now out of date. But his grand treatise on "Clinical Medicine," in twenty volumes, will remain a lasting monument to his worth. He was very unpopular with the students, and he said once to his class in our own hearing: "Go and buy your little manuals for three francs fifty. You will be refused at the examination, especially by me." In July, 1870, he was called in consultation in the Emperor Napoleon's case, and he it was who discovered that Napoleon III. was suffering from stone in the bladder, much to the chagrin of the other consulting physicians, who were Nélaton, Ricord, Fauvel, and Corvisart. He met with pecuniary reverses late in life, and was obliged to practise again like a young man, removing from his sumptuous home on the Boulevard Malesherbes to a comparatively modest apartment in the Avenue Montaigne, and climbing stairs to see patients as in his earlier days. Four years ago he retired absolutely, to await the long rest upon which he has just entered.

"APPENDICITIS FROM A MEDICAL STAND-POINT."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of May 9, 1896, is published a letter from Dr. Robert T. Morris commenting upon my article, "Appendicitis from a Medical Standpoint," and regretting that I refer to

the fee as a motive for surgical work, in that it "lowers the caste" of my article. Viewing it from Dr. Morris' standpoint, I agree with him that it might better have been omitted. The reference to the fee, which he finds objectionable, was prompted by certain unpleasant experiences with one or two operative surgeons of a type that "lowers the caste" of the whole profession, and with whom unfortunately the fee is not entirely a secondary consideration. I am free to acknowledge that such men are the exception, in a profession noted for its unselfishness, not the rule, and the question of the "consideration" was intended solely for the black sheep in the flock whose anxiety is not for the relief of suffering humanity, but for fat fees and a "big record." It was neither intended as a fling at such men as Dr. Morris nor as a reflection upon operative surgeons in general. In regard to the major portion of Dr. Morris' communication I can only say that its courteous and gentlemanly tone, taken in connection with his well-known skill and the conservative spirit which he manifests, disarms criticism.

Dr. John A. Wyeth in the same issue reiterates his statement that "appendicitis is strictly a surgical lesion." The appendix, according to modern teaching, is a rudimentary herbivorous stomach. If we can have catarrhal gastritis, phlegmonous gastritis, gastric erosions, and gastric ulcers which may perforate and cause subphrenic abscess, local and general peritonitis, then gastric catarrh and gastric ulcer are surgical diseases, the treatment of which no physician should undertake without an operative surgeon at his elbow.

Dr. Wyeth quotes me as saying that "there is no peritonitis in the fulminant cases," and the statement thus appears in my article. A reference to the original draft of my article would show this to be an error either in copying or in the typesetting whereby a qualifying word was omitted. Taken in connection with what precedes and follows the quotation referred to, I think my meaning must be clear, and Dr. Wyeth will perhaps find it stated more lucidly in conclusions 3d and 4th. "That the proper treatment in non-operative cases is to favor the formation of plastic exudate and to secure firm adhesions; that the dangerous cases are the fulminant cases in which no warning peritonitis exists." By a warning peritonitis, I mean the localized plastic peritonitis which usually precedes perforation, not the general peritonitis which may follow it. Any physician worthy of the title knows that a diffuse septic peritonitis follows in the fulminant cases, but this is far different from the conservative, adhesion-forming, localized process of which I was writing, and which I believe to be not "the result of blind chance," as Dr. Wyeth terms it, but the deliberate effort of nature to wall in the diseased part. In certain cases, for some reason not fully understood, no plastic exudate is thrown out around the diseased appendix—no preliminary peritonitis—and then we have, if perforation or gangrene occurs, a fulminant case. I trust that this is sufficiently lucid for the average comprehension, for I hardly like to rest under the imputation that I have never seen, read, or heard of a septic peritonitis following perforation of the bowel.

Dr. Wyeth feels sure that I "erred in my diagnosis." He also states that "a surgeon of ripe experience or a physician of equal experience can tell in the vast majority of instances when operation is indicated." Contrast these two statements. The diagnosis is not ordinarily considered extremely difficult, while the question of operative interference is often one which will tax the best judgment. I trust Dr. Wyeth did not intend to be discourteous.

It is perhaps regrettable for the sake of argument that no autopsies were held, no laparotomies per-

formed, that the fluoroscope had not then been perfected, and that therefore I cannot prove my case. Inasmuch as it is not considered strictly ethical to enlarge upon one's own diagnostic skill—beyond a certain limit—it will be readily seen that Dr. Wyeth has me on the hip, or to quote from that classic work, "Decius Repetita Placebit," published by a certain chemical company, "he gat him the bulge on me." This question of diagnosis is after all merely a matter of opinion, and would mildly suggest that his absence of knowledge of my cases, and of my own ability or lack of it, detract somewhat from the value of a statement which coming from a man of his reputation would otherwise have more weight.

He refers me also to a paper—or rather to an abstract of a paper—by Dr. Samuel Lloyd, giving a mortality of seventy-seven per cent. in cases treated by medical means. In the absence of any information as to how many of these cases obviously required operation, how many were treated symptomatically, by salines, by the various other methods, or mistreated, and with no reference in the abstract referred to as to the proportion treated by opium, given, not empirically, but with the view of favoring the development of localized plastic peritonitis, the comparison is obviously unfair.

The doctor thinks it probable that the proportion which recovers under so-called conservative management would number about fifteen in every hundred. The vision of the operative surgeon is liable to be distorted by the fact that the graver cases are referred to him for operation, while the mild ones are likely to escape his observation.

The article was written not as a protest against the operative treatment of appendicitis, but as a protest against indiscriminate operating. I believe that nothing in it can be so construed as to interfere with operative procedures in any suitable case. Certainly, some of my own cases would have been operated on, had circumstances been favorable. Our text-books are largely written by hospital men from the hospital standpoint. This is in one sense a necessity, but it would be wise for "those in authority," before laying down cast-iron rules that all or even the vast majority of cases should be operated on, to remember that these text-books are read and taken as guides in the country as well as in the city, and that dogmatic statements, sweeping assertions, are not only capable of doing an immense amount of harm, and of distinctly increasing the mortality, but seriously impair and discredit the surgical side of the discussion. Recklessness of statement implies necessarily an equal recklessness in the selection of cases for operation, and a large number of letters now on my office table, from practitioners living in many localities in this country, would indicate that a reaction from the extreme views held during the past few years is taking place.

The time will never arrive when every patient with a diseased appendix will have it excised, neither will the profession as a whole ever endorse wholesale removal. Some cases cannot, some will not, and some do not need to be operated upon; therefore the sooner we recognize this and put the medical treatment on an established and scientific basis, the earlier will medical progress be benefited thereby. The specialist, including the operative surgeon, who is no exception to the rule unless he carefully guards against it, grows one-sided, like a house plant kept in one window—the leaves all face one way, and a view from the background may disclose defects not visible from the front. The extremes are dangerous, the truth lies midway, and there the pendulum—*est modus in rebus*—will eventually come to rest when some bright genius with sufficiently "ripe experience" can formulate rules when and when not to operate, for the guidance

of those fortunate ones among us who can make a proper diagnosis of appendicitis.

W. N. MACARTNEY, M.D.

FORT COVINGTON, N. Y.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The correspondents' column is very often not the least interesting and instructive portion of the rich contents of the MEDICAL RECORD. Here the writers put forward their impressions, opinions, and conceptions of facts, with a familiarity and *verve* that are necessarily absent from long and sometimes wearying systematic articles. These letters are similar to photographic snap shots. They reveal points and characteristics which the finished work of the artist lets slip in favor of a more harmonious general effect. Drs. Morris' and Wyeth's letters of recent date and Dr. Greene's letter in to-day's MEDICAL RECORD confirm what I have just said. Will you grant me the favor of joining them? I am, I hope, a not too immodest member of that highly-praised and indispensable band or portion of the medical profession commonly called "general practitioners." The general practitioner is the life and soul of the specialist, not only in holiday orations but in reality. If the general practitioner were out of existence, the specialist would be onscious of a very distressing want, namely, that indefinite glittering conglomeration of nobodies against which specialism parades its importance and distinction. But the nobodies—the great crowd of the voiceless—are the medical profession. All other practitioners are members of the "surgical profession," as Professor Wyeth phrases it, or of more limited specialties. It is with a certain sense of superiority that Professor Wyeth speaks of the surgical profession—he does not speak for the medical profession when he criticises Dr. MacArtney's remark on "fulminant" cases of appendicitis. Dr. Morris is somewhat condescending, but just as proud as Dr. Wyeth. Dr. Morris is so much of a surgeon that he seems to be ignorant of the existence of human nature. His reference to Dr. MacArtney's inability (a presumptuous assumption) proves this, as does his reference to time and money. "The general practitioner," says Dr. Morris, "must have so much information upon so many things"—and human life is so short! It was always short when art was the subject considered. Well, the general practitioner cannot, according to Dr. Morris, get the right point of view concerning appendicitis. "So many things of equal importance with appendicitis" keep hid from him the facts and phenomena of appendicitis as seen by operative surgeons only. Therefore some, not all, surgeons, with more charity than justice and wisdom, insist with more or less bluntness that the general practitioner is not a being with senses and a brain, but a simple tool good enough to prepare the way for antiseptics and the scalpel with. That seems to me to be the logical inference to be drawn from Drs. Wyeth and Morris' letters on Dr. MacArtney's interesting article, which has not been treated at all fairly by them.

When I compare my own experience, plus my impressions gathered from conversations and reading, I cannot suppress the thought that surgeons can learn something from the clinician and general practitioner. The surgeon may teach us, but he ought not to force his lessons on us. It will be a sad day for the medical profession, as well as for society, when general practitioners shall cease to present their protests as Drs. MacArtney and Greene have done. Professor Wyeth is not teaching when he says: "If all of a thousand suspected cases were operated upon, the mortality would be fifty per cent. less than in another thousand cases which physicians now let pass

without operation." As a practitioner of nearly twenty years' experience, I must say that Dr. Wyeth is laboring under illusional prejudices which do not affect the physician. Surgeons are not, in this question of appendicitis, free from "the failing common to specialists of all classes—they are bent upon finding the entire theory of the phenomena they investigate within their own specialty, and they too often turn a deaf ear to any explanation of them drawn from other sources."

Let us hope that the clinician and general practitioner will not refuse to take lessons from the surgeon, but let us also hope that the members of the "surgical profession" will treat the clinician and general practitioner as men and workers,

"Heart within and God o'erhead,"

and not as mere tools.

A GENERAL PRACTITIONER.

May 23, 1896.

"SHALL WE GIVE THE APPENDIX A REST?"

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Not while the majority of physicians admit that they cannot palpate a normal appendix, and that they cannot easily diagnosticate true infective appendicitis.

Not while a coroner's physician can tell me that he still finds deaths from unrecognized appendicitis to be "immensely common" in his post-mortem work in New York City.

Not while physicians who do not see appendicitis cases continue to lose cases of peritonitis and intestinal obstruction and acute gastritis.

Not while the medical death rate of appendicitis is nine per cent.—to use the figure chosen by Dr. T. H. Greene, in the MEDICAL RECORD for May 23, 1896.

Why is Dr. Greene willing to have nine per cent. of appendicitis patients die under medical treatment?

I have recently published a list of one hundred of my unselected consecutive appendicitis operations, with ninety-eight recoveries and two deaths. Thirty-eight of these were abscess cases, and the rest were mainly adhesion cases of the interval type. The two deaths were unnecessary. Dr. M. M. Johnson, at the last meeting of the American Medical Association, reported on one hundred of his unselected consecutive appendicitis operations, with ninety-eight recoveries and two deaths. Dr. J. B. Deaver has recently reported on a list of two hundred of his selected appendicitis operative cases, with one hundred and ninety-eight recoveries and two deaths.

My own position is far from being an enviable one. I have aroused the ire of fellow-surgeons by attacking the methods of those who make long incisions, who commit taxidermy upon their patients by stuffing them with gauze, who fail to suture structures of the abdominal wall separately and accurately, who neglect to sterilize abscess cavities while at work, and who do not make it a rule to remove adherent appendices. I am free to confess that they make it pretty hot for me. Men have been known to defend themselves before. They excite my admiration for the piquancy of their satire, and they question the accuracy of statistics which are so different from the statistics of their own experience. Strong men who have won high position through merit are in a position to put air brakes on progress if they wish to do so.

I have aroused the enmity of general practitioners by insisting that they must make correct diagnoses of infective appendicitis, and that they must be guided by a knowledge of the known pathology of appendicitis rather than by their own individual views. Dr. Fowler's book, Dr. Deaver's book, my own book, cover the pathology of appendicitis, and there are many

shorter monographs besides. We know from the known pathology of appendicitis that if Dr. MacArtney did not err in diagnosis in any of his twenty-four cases, he must lose about six of the number before he is through with them. We know that some of these twenty-four patients are not very well since their recovery. The "spectres of tuberculosis of the appendix, large enteroliths, strangulating adhesion bands, and portal embolism that Dr. Morris fears" are not spectres. They are things that I have between my fingers in every-day practice. I know all about the difficulties that physicians have in managing their appendicitis patients, particularly in the country. Some of my most intimate friends are country doctors. We were schoolboy friends. We go fishing together and we go shooting together. We exchange confidences in camp, and I know all about the difficulties that Dr. MacArtney and Dr. Greene have in trying to do what is best for their appendicitis cases, but that has nothing to do with the pathology of the disease. Physicians who treat appendicitis medically save most of their patients, and whenever one dies they are sorry.

Those who are personally acquainted with me know that I am not an extremist. I expend time and money and employ experts to determine the right of a subject, and when the right is clear it is my pleasure to fight for the right. Many a man who fought me on appendicitis standpoints five years ago has stopped. More than one of them has had the subject brought very close to his heart by a calamity in the family. One by one they stop fighting me and turn to a study of the known pathology of real infective appendicitis. No one can say that I am not conservative, unless he has listened to the arguments of men who are defending themselves. My published work on other subjects shows my devotion to constructive, merciful, saving surgery. It is my pleasure to save life and to prevent suffering, and I am morally bound to bear the brunt of ridicule from the general practitioner, and, what is harder, the sarcasm of my fellow-surgeons, in order to see the right prevail. I have never criticised any member of our profession, but have fought for principles only. One of these days we may have a medical court with a judiciary to weigh evidence and to fix the value of testimony which is offered by advocates on both sides of the question of appendicitis, antitoxin, vaccination, and of all of the subjects which allow of scientific classification of data. Until we have such a court men who are on the wrong side of a question will subject patients to treatment according to their views.

ROBERT T. MORRIS, M.D.

49 WEST THIRTY-NINTH STREET, May 23, 1896.

A PROPOSED TAX ON PHYSICIANS IN HAWAII.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: North Carolina physicians are forced to pay a license fee of \$10 per annum. The Hawaiian legislature is now discussing a proposed license tax of \$50 per annum upon physicians. There is no doubt that contagion will spread over other States and the question of license becomes of general interest to the profession. Perhaps it is time to consider upon what grounds liberal professions, the medical included, for centuries have been exempt from special taxation; what moral, historical, and economical arguments physicians of various parts of the country have to meet this novel tendency of legislatures. If the tax is just, we have nothing to do but to submit in silence; if not, we have to come out of our political supineness provided with all the weapons at our disposal. The question of the amount of tax is secondary. It must first be decided

in principle whether a physician, a priest, and a lawyer can consent to pay any such tax without renouncing membership of a liberal profession and joining a trade. The tendency to make trades of these professions is so great and so general that having let go this last right of exemption from taxation, no reasoning man will be able to discover what the difference is between them. The liberal professions are called liberal because they enjoyed for centuries the privilege of exercise without special taxation. The abolition of this magna charta means equalizing of professions with trades. We do not think physicians lose anything morally or financially if henceforward they are considered among laboring and not among privileged classes. The doubtful morality of privileged classes is known too well for a man to feel much complimented nowadays in being classed among the privileged. The abolition of privileges must necessarily be connected with abolition of duties, and the duties of a physician toward his profession and society were always considerable and costly. Professional license seems in appearance only to be a direct tax. All such taxes are paid finally by the consumer; in our case by the sick, which in itself constitutes a great injustice.

So far as historical records show, the governing classes have always shifted the burden of taxation upon the laborers. The modern plutocracy hiding behind the formulas of liberty, equality, and what not, certainly could not do it openly and directly, but the same results have been obtained by the substitution of indirect taxation for direct. Indirect taxation is taxation of the consumer in proportion to his consumption. Nine-tenths of the indirect taxes are levied upon so-called staples and necessities of life, and the consumption of staples is out of any proportion either to wealth or revenue. A millionaire cannot, and does not, consume a hundred thousandfold more sugar than does a beggar.

In joining the ranks of laborers, the physician must protest against and oppose the whole system of indirect taxation as discriminating against the laboring classes. He must oppose all taxation of labor, whether in the shape of poll tax or license or otherwise. He must insist upon progressive revenue tax as the only just and adequate system of taxation. Only upon those principles and in union with other laborers, into whose ranks he is driven by the license taxation, is he sure to succeed.

N. RUSSEL, M.D.,
R. P. MYERS, M.D.,
C. T. RODGERS.

HONOLULU, H. I., April 28, 1896.

THE SIZE OF A TEASPOON.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I recently addressed a note to the Gorham Manufacturing Company, silversmiths, of your city, directing attention to the wide variation in the capacity of teaspoons and asking if a pattern of uniform and definite capacity could not be adopted by the silversmiths of the country. This seems almost too much of a trifle to bring to the notice of your distinguished journal, but inasmuch as teaspoons are the universal standard, in domestic use, of measuring doses, and as they vary between the colonial spoon of one drachm and the modern spoon (tea) of two drachms, it might be of sufficient importance, as a matter of convenience to the profession, to invite some co-operation in an effort to obtain a teaspoon of standard capacity. It is manifestly unsafe, at present, to direct doses of a teaspoonful when there is so great a difference as a drachm in the contents. I have measured probably

three hundred teaspoons during the past two years and have found that most of those of recent design hold one and one-half drachms, some two drachms, and none one drachm excepting the very old and rare spoons.

D. E. WALKER, M.D.

LION, N. Y., May 18, 1896.

"FAILURE OF CASTRATION TO CAUSE ATROPHY OF THE PROSTATE."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I wish to add my testimony to that of Dr. Kelsey as to the total failure of castration as a means of reducing prostatic hypertrophy. The case was seen by me last October in Dr. Wassidlo's polyclinic, in Berlin. The man, seventy-five years old, had been unable to urinate normally for a very long time, being obliged to use the catheter every two or three hours, both day and night. Lately he had also been suffering from severe cystitis. His prostate was found to be very much hypertrophied and the operation of double castration was performed on him by Dr. H. R. Wassidlo, then of Berlin, now of Dresden. No general anæsthesia was employed, only Dr. Schleich's local infiltration method, which excellent method, by the way, deserves to be more widely known and practised in this country. The man's bladder was washed every second day with a 1 to 2,000 argentic-nitrate solution and his cystitis was considerably improved. But in his urination there was not the least improvement when I saw the man the last time—about three months after the operation. He was as helpless without the catheter as before and had to use it quite as often. A digital examination per rectum failed to reveal any diminution of the hypertrophy.

WILLIAM J. ROBINSON, M.D.

112 EAST ONE HUNDRED AND TWENTY-EIGHTH STREET.

THE TREATMENT OF SEASICKNESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of the MEDICAL RECORD of January 28th I notice an article on the treatment of seasickness by Dr. Rockwell, and under date of April 11th a letter on the same subject by Dr. Boyd. In this connection I would like to call your attention and that of your readers to what might be termed the hæmatostatical treatment of this common affliction. For many years past I have had frequent opportunities of noticing the effects of seasickness upon different individuals.

While admitting the generally acknowledged theory at present entertained, that it is due to a disturbance of the cerebral centres by the vessel's motion, it is to be observed that a contraction of the peripheral blood-vessels occurs, inducing a sensation of chilliness, etc., and as the centres that control the calibre of the vessels, peripheral and otherwise, are the same, the vessels of the brain must at the same time become contracted, and upon this condition depends the cerebral anæmia which induces the emesis complained of. Provided this premise is correct, is it not reasonable to suppose that, by the administration of such remedies as will maintain the normal equilibrium of the circulation, with the normal qualities and frequency of pulse beat of the sufferer, we can, mechanico-physiologically, prevent the distressing conditions complained of?

Believing these requirements could best be met by the administration of nitroglycerin and caffeine, I employed them with most gratifying results, further

experience but corroborating my original expectation. A tablet of nitroglycerin, one-one-hundredth of a grain, has proven sufficient to so dilate the vessels; and, when followed by a tablet of caffeine, two grains, an approximation to the normal pulse in character and frequency has been maintained for from three to eight hours, to the complete exclusion of any seasick feeling.

These medicaments can be repeated as required, to the end that the normal pulse for the individual is assured. If a persistent retching prior to the administration of these remedies has induced an irritable condition of the stomach, it can be allayed by the ingestion of five minims of a four-per-cent. solution of cocaine in a wineglass of water—this to be repeated every four to six hours if occasion requires; but my experience leads me to the conclusion that with the aid of the former medication the cocaine need not be employed more than once or twice, if at all.

Although I have always used the nitroglycerin in one-one-hundredth grain doses, I will here suggest that it be given in half that quantity, thus obviating a sense of too great fullness of the head, sometimes for a few moments a subjective symptom of the larger dose. In my own case one-one-hundredth grain was used upon three different occasions, with two grains of caffeine, both being repeated at intervals of from three to six hours, depending entirely upon the pulse characteristics and the subjective symptoms of the malady. On neither occasion did it become necessary to resort to this medication after the second administration, following which all tendency to illness disappeared.

This line of treatment has been the means of my remaining on deck all day in perfect enjoyment of the surroundings in fair and stormy weather, when otherwise I should have been in company with the majority of the ship's passengers. When these drugs were administered to others, I have always had the satisfaction of noticing similarly good effects and the disappearance of the malady.

With such as have a daily alcoholic habit it is advisable to continue the same in moderation, using the caffeine as an adjuvant thereto. The nitroglycerin and caffeine might be even more efficaciously administered hypodermically, although I have not so used them.

It is unnecessary to refer to the advisability of proper attention being given to the primæ viæ before embarking.

FREDERICK C. RILEY, M.D.

48 EAST TWENTY-SIXTH STREET, NEW YORK.

"PONTINE" OR "PONTILE"?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of April 11th, p. 531, last paragraph but one of "Our London Letter," is mentioned a case of "Hemorrhage into the Pons." Since the use of "pons" for "pons Varolii" was advocated by me in 1880 (in a paper before the American Association for the Advancement of Science), and has been recommended by the nomenclature committees of that body (1890), of the Association of American Anatomists (1890), and of the Anatomische Gesellschaft (1893), permit me to congratulate the MEDICAL RECORD upon this example of the substitution of the mononym for the dionym, which latter is also objectionable as an eponym. Indeed, since there is but one pons, there is no more reason for continuing to name its discoverer than, supposing certain abdominal viscera to have been first described by Britons, for talking about the "stomach of Brown" and the "liver of Robinson."

On another point, however, my comment must be

the reverse of congratulatory. In the subtitle of the letter above mentioned the case is referred to as one of "pontine hemorrhage." This form of the adjective is not uncommon in medical literature, and "pontic" and "pontal" have found their way into the dictionaries.

Now, as may be seen from any Latin lexicon, "pontal" has no justification whatever. "Ponticus," the Latin antecedent of "pontic," is derived from "pontus," the sea. "Pontinus," the antecedent of "pontine," was originally "Pomptinus," and refers to a district of Italy. As already pointed out by me (article "Anatomical Terminology," Buck's "Reference Handbook of the Medical Sciences," VIII., 524, § 50), the only legitimate Latin adjective from "pons" is "pontilis," and its Anglo-paronym is "pontile." The use of any other form tends to cause confusion and to bring discredit upon medical scholarship.

BURT G. WILDER, M.D.

ITHACA, N. Y., April 28, 1896.

THE NEW SPECIALTY—GENERAL MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The only department of medicine or surgery not practised by any one in this city (so far as I know) as a pure specialty is general medicine. Nearly all of our physicians are specialists, *i.e.*, laryngologists, neurologists, etc.

I have decided to devote myself exclusively to the practice of medicine, and shall be glad to attend any patients you may intrust to my care, upon such terms as we may agree to. I will take full charge of the patient, except for conditions which may require attention in your specialty, or if you so desire I will see that the patient is returned to you with any complaint that may best suit your specialty.

In regard to my fitness for this work, I would state that I have had a hospital service, which, as you know, a great many specialists have not.

G. R. A. BALL, M.D.

NEW YORK, May 12, 1896.

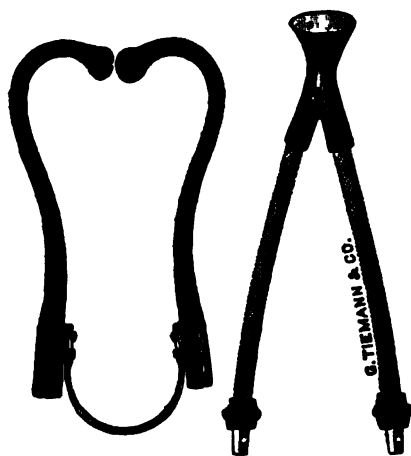
Bacteria in Water from Deep Wells.—It has been a widespread popular opinion that the purity of water obtained from deep wells, especially from deep wells of the kind known as driven wells, might be depended upon. Of late, however, there has arisen a doubt of the accuracy of this belief, and scientific investigation has now shown it to be erroneous. Examination of waters from a considerable number of springs and deep wells by the bacteriologist of the Massachusetts State Board of Health has shown that bacteria are present in water taken not only from springs and open wells, but from carefully guarded wells of quite extraordinary depth. The results of the investigations prove that Sternberg, Abbott, and other high authorities were in error in believing waters from deep sources to be free from bacteria. Frankland, in his "Micro-Organisms in Water," evidently had doubts, but his investigations led him to believe that such waters, although perhaps not wholly free from micro-organisms, possessed a high degree of bacterial purity. It is difficult (says the report of the board) to find deep wells in uninhabited or country districts, and our results are all derived from populous areas. It is possible that other results might be obtained from wells driven in uninhabited regions. It is plain, however, that water absolutely free from bacteria is not ordinarily obtained from even deep wells, and that many deep wells contain as numerous bacteria as are found in many surface waters.—*The Engineering Magazine*.

New Instruments.

AN ARTICULATED KNAPP'S STETHOSCOPE.

By DICKSON L. MOORE, M.D.,
COLUMBUS, OHIO.

AFTER using Dr. Knapp's improved stethoscope, described in the *MEDICAL RECORD*, November 9, 1895, the writer was convinced that the claim made for it as a "high power" instrument, in which the "humming, buzzing sound so familiar to us all" was eliminated, was a claim readily substantiated. Convenience in using it, however, was lessened by the fact that it could not be taken apart and was therefore too bulky to be carried in the pocket. The problem was to ob-



tain an articulated instrument which would not violate Dr. Knapp's principle of a continuous metal tube protected by a non-conducting rubber covering.

At my suggestion Messrs. George Tiemann & Co. have made such a stethoscope with a bayonet adjustment which can easily be taken apart. The pin of the bayonet plays in a semicircular groove, the base of which is hard rubber; the metal attachments lock closely and are protected by hard rubber, so that when articulated the instrument carries out completely the original idea.

I have satisfied myself that none of its superior advantages has been lost in making it adjustable, and its increased convenience in transportation is my apology for this description.

As at times the physician, when leaning over a bed to auscultate, finds it more comfortable to drop his head slightly, Tiemann & Co. have kindly increased the width of the spring over that of the original model, in which the rigid tubes were too closely approximated for those who wear spectacles.

Surgical Tuberculosis.—Dr. Jeannel, in an article in the *Midi Médical*, writes as follows: For abscesses, ulcers, and joint affections, open freely, and excise if a joint be involved. Remove the caseous material by curetting, sponge the parts well, and arrest the bleeding. Fill the cavity through a thick rubber tube with salt solution kept at the boiling-point; fill and empty the cavity until it is thoroughly cauterized. Or fill the cavity with a cold or lukewarm salt solution, and raise the liquid to a boiling-point by introducing into it the blade of a thermo-cautery at a red heat. One minute is sufficient to heat the water in a cavity as large as a pigeon's egg. Do not touch the walls of the cavity with the blade of the knife. Give an anæsthetic if necessary, though usually cocaine locally applied will be sufficient.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 30, 1896:

	Cases.	Deaths.
Tuberculosis.....	226	120
Typhoid fever.....	10	3
Scarlet fever.....	83	9
Cerebro-spinal meningitis.....	3	4
Measles.....	281	11
Diphtheria.....	252	34
Small-pox.....	0	0

Limits of the Physician's Duty to the Dependent Classes.—Dr. Walk, writing in the *American Medico-Surgical Bulletin*, says that the physician as a man and as a citizen owes a great duty to civilized society, a duty which is conditioned upon his special knowledge. Acquainted as he is with the important laws of heredity and the reciprocal influence of mental and physical states, the responsibility rests upon him to lead the community in which he lives to a higher civilization and to better modes of life. He should be a teacher of the people, and not only by training men to cure disease but, pre-eminently, a teacher of preventive medicine, that department of our science now almost new, but destined to become its pride and glory. The question of his duty in regard to medical charities is much less simple. Here also an obligation rests upon him, as, for instance, in cases of sudden accident, etc. But this is a very small part of the so-called "charitable" work now thrust upon the profession. It is the common notion that the doctor should treat, free of charge, all the dependents in his neighborhood and should also give his services to both public and private institutions. Institutions supported out of the tax rate are, in no proper sense, charities. Their cost is levied upon all the citizens, in proportion to their taxable wealth, and there is no call for any one to serve them gratuitously. All others are paid for their services, but the physician is supposed to act upon some principle not applicable to other sensible men. Apart from the institutions supported by public taxes comes the yet wider field of the private charities. In these institutions it is right and fair that physicians should make contributions to them in service, if they see fit, but this right has its limitations. Free medical service, to come within the definition of a wise and judicious charity, should be rendered to those only who are unable to pay for it. To give it to others involves two wrongs: the first, to the younger men of the medical profession, who ought to have turned over to them those patients who are able to pay only small fees; the second, to the community, by the encouragement of pauperism and the undermining of independence. Twelve years ago a thorough investigation of the dispensary system of the city of Philadelphia was made, and quite recently the same ground has been traversed with a similar result by a well-known physician of that place. In thirty-two free dispensaries there were treated in one year one hundred and sixty-one thousand and twenty-nine cases, which was about twenty per cent. of the entire population of the city, or one-fifth of all the people. Carefully compiled statistics show that, in Philadelphia, the actual pauper class does not exceed one per cent. of the population. If medical men do all of this vast work from charitable motives, certainly they need to be converted to a more judicious and discriminating doctrine of charity. If this service is rendered

from selfish motives, the advantages derived from this free service have been greatly overestimated. No medical man should indulge the pleasing delusion that the patients he treats at the dispensaries suppose him to be doing a noble and philanthropic act, and putting them under a corresponding obligation. In their view the accommodation is generally the other way. The valuable experience that may be gained by dispensary practice is often lost from lack of time to make a really scientific examination. If, then, the duty of the physician to the dependent classes and also considerations of self-interest demand the restriction of free medical service, it is obvious that the existing system should be radically changed. Efforts made to restrict free aid to the indigent have, thus far, in almost every instance failed through the opposition of the physicians themselves, who desire to have largely attended clinics. The very enormity of the evil may, however, lead to a powerful revulsion of sentiment, when means will readily be found to discriminate between the poor and those able to pay for treatment.

Moral Insanity.—In the *Journal of the American Medical Association*, March 14, 1896, the subject of moral insanity is editorially referred to in the following words: "Recently a very reputable medical man was convicted of a heinous crime and sentenced to prison for life. In the effort to collect facts to be used in securing pardon the counsel discovered a most unusual life of hypocrisy. He had been cruel and harsh from boyhood. He enjoyed causing pain and suffering in others, and as a student he fairly revelled in the agony of animals in vivisections and the pain of persons diseased. To this was added great egotism and love of personal praise. He ruined his father's property in apparent speculation. He was a bitter enemy to his brothers and sisters, and was indirectly the cause of the death of his wife and drove his children from home. He was not miserly, but was, in his inner life, thoroughly dishonest and without the slightest conception of honor or duty to others. Yet he kept up a fair exterior, was a teacher in a medical college, with a large practice, and had no popular vices such as drinking or gambling. The more his history was studied the worse it appeared. Deception, fraud, and dishonesty marked every stage, and yet it was largely purposeless and without reasonable motive. The facts taken together had only one conclusion and that was moral insanity. Some condition of the brain was literally deranged and malformed. Some central part that had not developed had been steadily retrograding. However difficult it may be to explain and make clear this term, there are classes of facts that can be described by no other name. The common expressions, vice, wickedness, and depravity, used in the moral sense, become more and more confusing with each advance of science, and their use in any technical way is unfortunate for accuracy. The higher governing centres of the brain are clearly distinct from the lower, and what is moral, meaning the consciousness of duty and obligation to others and conceptions of right and wrong, is clearly a later development. Evidently these centres are governed by the same laws which work in harmony in the healthy person, but may diverge greatly in other conditions. The belief that these centres may be undeveloped and diseased is along the line and sustained by both the physiologic and psychologic laws of existence and growth. The legal fear that the recognition of this disorder will be an excuse for crime is purely theoretical and visionary. The greatest danger comes from the want of recognition of the actual physical states which are manifest in criminal immoral conduct, conduct that may not come under legal recognition, but is

nevertheless disease and wide departure from the normal standard. Every physician comes in contact with persons who show by their acts insanity of every element that enters into the higher mentality. The terms commonly used to describe this condition should pass out of all accurate language. Medical men should study the facts of these cases, confident that they will all be found to come under some general law of disease and degeneration. Had the actual physical condition of this doctor been known, the disaster of his life and the suffering of others might have been averted. Arguments over definitions and terms are absurd; the reality of moral insanity can be proven from facts which have no other meaning.

Rigor Mortis in the Fœtus in Utero.—A correspondent of *The Lancet* gives the following account of a recent observation of this kind: "Some few years ago I sent an account to a contemporary of a case in which rigor mortis in the fœtus in utero was the cause of difficult labor. During the last two years I have had three other cases, so that an event which I looked upon as rare must not infrequently occur; but it appears to have passed unnoticed by the generality of practitioners, as every one to whom I have spoken about the matter has confessed that he had never even heard of, much less seen, such a case, and the textbooks do not mention it. The following notes of my last case are, I think, worth placing upon record. On September 6th I was called in to a primipara, aged thirty-seven, by the midwife in attendance. The os was fully dilated, but no advance of the head had taken place for several hours. On applying forceps considerable resistance was experienced, and what I expected to find an easy forceps case proved to be quite the reverse. Progress was slow until I secured extension, when the head came down well; but further difficulty was experienced in extracting the body, which gave the impression of being much too large for the maternal passages. The fœtus, however, proved to be not large, but rather under the average. The difficulty had arisen at the various stages: first, the normal flexion had not taken place, and at a later stage the stiffness of the neck had prevented extension, and the lateral flexion of the body had been interfered with owing to the same cause. Rigor mortis was well developed all over the body, the arms and legs being stiff and in the flexed position. On balancing the child's body on one hand its back kept almost straight and the legs in the same flexed position, the heels not dropping below the nates. Owing to the forcible flexion of the neck, the head moved upon the trunk like a hinge-joint. At the moment of applying pressure with the forceps there was a crunching noise quite audible, sounding as if one were breaking a bone.

The Friends of Man.—To be the friend of man is not all gain. Whether by a process of evolution or degeneration, many animals have become truly domesticated. They have come to depend on man for food, for shelter, for protection. On the other hand, the more closely they have lived with him, and especially the more they have adopted the shelter of his roof, the more they have become exposed to his great enemy—tuberculosis. Professor Delépine, writing on this subject (*The Hospital*) has shown that—taking very large numbers as the basis of his estimate—at least sixteen per cent. of cattle are afflicted with this disease; and that, whereas in some districts it may be comparatively rare, there are parts in which a non-tuberculous cow is the exception. Pigs also are affected in the same manner, although not to the same extent, about one in every thirty-six being attacked by the disease. Cats and dogs also are subject to tuberculosis, and it is to be feared that from their exceeding

friendliness they may be a source of danger to children with whom they play. Although the form of tuberculosis with which poultry are affected differs in some particulars from that of man, it is a very common disease and commits great ravages in poultry yards. Having thus dealt with friends of man which have so far adopted his habits as to dwell under the shelter of a roof the writer goes farther. In the case even of sheep, which are rarely under shelter and in many respects live in more natural conditions, tuberculosis has been found; and, in fact, the only real friend of man which has almost entirely escaped the ravages of tuberculosis is the goat. But any animal which conforms with man's habit of dwelling under artificial shelter is apt to contract tuberculosis, and so it is that whether they be monkeys, camels, giraffes, antelopes, llamas, lions, tigers, foxes, tapirs, zebras, etc., they all, according to Professor Delépine, are liable to tuberculosis when they are kept in menageries. Clearly the friendship of man is not an unmitigated blessing.

The Wickedness of Advertising.—Our entertaining contemporary, *London Truth*, often devotes considerable space to matters medical. In a recent issue it says that the wickedness of professional advertising depends upon who does it. The anomalies, absurdities, and mysteries of medical professional etiquette with regard to advertising are strikingly and amusingly illustrated by an action which was tried recently at Manchester assizes. Damages for libel were claimed by Dr. Kingsbury, of Blackpool, against a medical journal which had charged him with conduct "wholly incompatible with the honor and dignity of the profession" and held him up to "medical reprobation" for allowing himself to be advertised as the physician of two hydropathic establishments. For the plaintiff several medical witnesses expressed the opinion that he had done nothing unprofessional. For the defence several other members of the profession took the opposite view, and it was in the cross-examination of two of these gentlemen that the fun came in. The first of them was Sir Dyce Duckworth. The plaintiff's counsel put to him the fact that Sir B. W. Richardson was advertised as consulting physician of an institution in Leicestershire. Sir Dyce disapproved of this. It was then pointed out that the witness's own name and his private address appeared on the widely circulated prospectus of an insurance company to which he was consulting physician. To that Sir Dyce could see no objection. The next witness was Sir W. T. Stoker. He was asked what he thought of a physician's name and address being given in an insurance prospectus. He said he thought it was wrong. So it will be seen that Sir Dyce Duckworth condemned Sir B. W. Richardson, Sir W. T. Stoker condemned Sir Dyce Duckworth, and both agreed in condemning Dr. Kingsbury. Having impartially considered the conflicting views as to medical etiquette with which the court was thus favored, the jury came to the conclusion that Dr. Kingsbury's professional character had been unjustly aspersed, and awarded him £150 damages. It has always seemed to the editor of *Truth* that there is a good deal of humbug about the objections of the bigwigs of the medical world to advertising. Nearly all are guilty of the practice themselves in one way or another, and some are as eager for a newspaper puff as the veriest quack. What an interesting revelation there would be, for instance, if the editors of my daily contemporaries were to disclose the sources of the paragraphs which appear whenever some more or less distinguished personage is ill and the name of his doctor can be insidiously given the benefit of a little publicity! But somehow the heads of the profession have got hold of the idea that what may be right and proper on their part may

be wrong and unprincipled on the part of humbler practitioners. The attacks which are made upon the latter whenever they are supposed to violate the proprieties of the profession by "advertising" will, however, be somewhat risky after this Manchester case.

Insidious Origin of Phthisis.—The most common mode of commencement of phthisis is insidious, and the usual history obtainable from such patients is that for a definite time—perhaps one month, more usually three or six months, or longer—there has existed a group of symptoms which we may fairly consider as indicative of the disease. Cough, for example, varying in degree; expectoration, at first slight and mucoid and later becoming yellow and purulent; associated, in some cases, with hæmoptysis, but in nearly all cases with the occurrence of wasting and of night sweats. The characteristic night sweats of phthisis are not those which occur in the earlier part of the night, soon after the patient goes to bed, and which may be due to varying causes, such as overeating, hot weather, etc., but are those which occur in the early morning, between 1 and 2 o'clock. These night sweats are usually a sign of nocturnal fever, but they are not proportional to the fever and frequently, after a few months of illness, they diminish or disappear. When a patient complaining of this combination of symptoms is examined physical signs varying in degree are discovered. These will be considered later. As regards the early symptoms, individual patients present some variation, although, if kept under observation, they nearly all show at one time or another an evening rise of temperature; this may be very variable after the disease has lasted one or two months. Other cases present symptoms of excessive wasting without much cough and only slight expectoration, and in these cases the presence of night sweats would indicate tuberculosis. In other cases the cough may be excessive; there is no expectoration, but wasting and night sweats are present. Both these classes of cases may present no hæmoptysis up to the time of the first examination and the physical signs found in the chest may be doubtful, so that as regards symptoms one looks to the presence of night sweats in association with wasting and cough as indicative of phthisis. I think it important to insist on the characteristic symptoms of pulmonary tuberculosis, inasmuch as not infrequently these symptoms are unappreciated, and a careful examination of the chest, which, when made, would indicate the disease, has been omitted. Turning to the physical signs which may be present in these early cases of phthisis, there is, first, a deficiency of movement at one apex and a difference in the percussion note below the clavicles, that on the side in which there is deficient movement being shorter and higher-pitched than on the other side, or is actually dull, while on auscultation and comparing the breath sounds on the two sides, it is found that expiration is prolonged and respiration is divided or that there is cog-wheeled inspiration on the diseased side. The signs of deficient movement at one apex indicate a deficient entrance of air into the upper part of the lung, and the difference in the percussion note, together with the prolongation of expiration, suggests slight consolidation. But in these early cases such physical signs are sometimes absent, are more frequently doubtful, and the chief signs to rely upon in the diagnosis of early consolidation are an increase in the vocal or tussive resonance at one apex or the presence of crepitations and rhonchi. As regards rhonchi it may be said that these alone may be present, and one may hear a sibilus at the end of inspiration or coming out on cough, which, if present at the same place on two or three different examinations, would be indicative of the apex being tuberculous. The crepitations

which are characteristic of consolidation are those which occur during inspiration, but also those which are produced by the act of coughing or are heard on the first inspiration following a cough. The procedure, therefore, of making the patient cough while the suspected apex is being listened to is of great importance, and the absence of crepitation is frequently decisive in a chronic case of illness as to the presence or absence of tuberculosis.—DR. SIDNEY MARTIN, *Clin. Jour., London*.

Neurasthenia of Nations.—At this time, says an editorial writer in the *Cincinnati Lancet-Clinic*, there exists a rather remarkable condition of unrest and irritability among the governing nations of the earth. Even the people of our own land, who have in their past history refrained from any active exhibitions of a desire to mould boundary lines or sit in the councils of other countries, are pluming their feathers for any contingency that may arise. In army and navy circles there are manifest activities of a very practical nature. By order of Congress the navy is being increased in efficiency as rapidly as possible. In observing what is going on, members of the medical profession are equally interested with their neighbors. An increase of men in the army and navy indicates a necessity for a corresponding addition to the medical staff, in each of which there are now several vacancies. There is much reluctance on the part of young physicians to enter the United States navy because of the inferior rank and pay that is accorded the medical staff. This is supplemented by an indisposition on the part of officers of the line in the naval service to give anything like a fair recognition to medical officers, on account of which there are at this time scarcely less than twenty vacancies in the medical corps. The recent increase of sailors will add to the number of surgeons needed for active service. Congress should recognize the fact that, while line officers in the army and navy are educated at the expense of the government, members of the medical staff must pay the entire expense of their professional preparation for service. Next, their service is equally arduous, and requires as high a degree of intellectual attainments, as that which is found to be necessary in any other of the war departments. This is easily shown by the character of examinations for entrance to the several services. For this reason medical men, while asking no special favors, do earnestly demand fair play. Active young recruits in the prime of life and health sometimes exhibit some contempt for the labors of the surgeon, but the time comes eventually when there is a high appreciation of the work of the doctor. So it is with young men from the schools at Annapolis and West Point; they are inclined to sniff at and look upon the surgeon as a very useless appendage in the service, which comes to some extent, no doubt, from there being no professorship of gumption in those institutions. There are some vacancies in the army medical staff as well as in the navy. In this service there is a better recognition of the value of medical men than in the navy. Congress should rectify the malpositions referred to. Millions of dollars are annually appropriated for instruments of precision intended to destroy life and property, while beggarly thousands are grudgingly given for the care and preservation of the lives of soldiers, sailors, and citizens. The nerve irritations of the great nations is not likely to be quieted by anodynes, but will probably seek relief in war measures. Weak spots will be uncovered and probed to the bottom, where, if necrosis exists, excisions and amputations, followed by vigorous aseptic treatment, will be enforced. In other instances transplantation of grafts of new tissue will be necessary for the preservation of the integrity of a nation's life; even then there may be

a weakening in some quarters so great as to cause the vital spark to forever depart from ancient kingdoms. There is a rise and fall, an ebb and flow, in the tides of nation life similar to that found in men, which, when taken at the flood, leads on to fortune and to victory. Sometimes the fight for existence is very hard and the days are very dark, but there comes a dawn, and the sun shines brightly in all of his glory over the victor. There is a survival of the fittest among nations. There are to-day nations which represent an effete civilization, that in the natural course of events will soon go to the wall and be numbered and remembered only in books of history. The rise and decline of great empires is a study of intense interest. In their consideration it is well to draw lines of comparison between such nations and those of an individual man. They are alike fed, nourished, thrive, and grow fat so long as nature's laws remain unviolated, but the moment vices of luxury and sensual dissipations are permitted to become fixed habits, there comes on a feverish condition that disturbs every function of the body. Degeneracy precedes the fall that is sure to come. Every nation and every man is just as strong and no stronger than his weakest part. Weak viscera may be strengthened by appropriate treatment, or utterly destroyed through corrosive environments.

Dr. Kelly's Utopian Suggestion.—Dr. Kelly, in the *New York State Medical Reporter*, advocates a national medical registration law and a repeal of existing law for punishment of malpractice. It is inconsistent to establish a law to insure competency in practice of medicine and surgery while the present laws for the purpose of punishing incompetency still stand. Dr. Kelly suggests as a remedy for existing evils that the medical profession should be an arm of the government service. The graduate should at once be assigned to duty and his salary paid by the government. In cities and large villages stations might be established equipped by the government with library, instruments, apparatus, medicines, and all requisites for research and experimentation. Service for the people should be obtained from these stations and there would be no individual fee. This would be of immense value to the people. With the doctor's bill removed we would see cases in their initial stages and the highest function of the profession would be realized, preventive medicine. The best professional talent would be within reach of the masses. There would be greater efficiency and united, harmonious professional co-operation. The benefit to the profession would be greater. A higher grade of qualification would be necessary and the beginning and conditions and circumstances affecting the individual member would tend not only to maintain that grade but to develop a higher one. The benefit to the government would be greater than to the people or to the profession, for the integrity of the nation depends on the superior physical condition of the people, which superiority would bring in its train higher intellectuality and morality. If we go a step farther and place medical colleges under government control, we could insure competency. This plan would bring a proper appreciation of scientific work. Under our present code physicians do not profit pecuniarily from their discoveries; all are published and given freely to the public. Thus the State often profits. Dr. Kelly's plan would no doubt result in the greatest good to the greatest number, just as would Edward Bellamy's ideal republic. But the difficulties are overwhelming. No doubt, a large majority of the medical profession would hail such a change, but is it probable that men who have practices yielding from \$10,000 upward would be magnanimous enough to sacrifice themselves? These, too, would be the ones who, in virtue of their reputations and wealth would have

greatest influence if the plans were seriously proposed. It is barely possible that the masses would not like to be deprived of the privilege of being humbugged. The government has limitations. International questions and disputes must be settled and appropriations to existing institutions must be cut down to the lowest cent. The time is far distant when the government will attempt to manipulate such a complicated piece of machinery as a national medical bureau. We will have to wait until Sir Robert Harton's ideal republic materializes. If he survives to acquaint us with methods by which supposedly impracticable reforms were there initiated, perhaps we can make them apply to the case in hand.

"Eye, to which all order festers, all things here are out of joint, Science moves but slowly, slowly creeping on from point to point."

The Nose as a Germ Filter.—It would seem, from the researches of St. Clair Thompson and R. T. Hewlett, as reported in *The Lancet*, that the human nose is a nearly perfect filter for micro-organisms. These experimenters calculated that under very favorable conditions the lowest number of organisms contained in the inhaled air of an hour was fifteen hundred, and that oftentimes in the air of a great city there must be as many as twelve or fourteen thousand drawn into the nose during the same period of time. The fate of the thousands of microbes which thus enter the human body is a question of great pathological interest, and this increases when it is remembered that the expired air is practically free from germs. The fact that inspired organisms do not, as a rule, reach the air cells, was first pointed out by Lister. Later, Tyndall showed by his experiments with a ray of light in a dark chamber that expired air—or, more exactly, the last portion of an expiration—was optically pure; *i.e.*, that respiration has freed it from the particles of suspended matter with which it was laden. Since then numerous experiments have been made by bacteriologists which show expired air to be free from germs. Grancher has made many experiments with the expired air of phthisical patients, and has never found in it the tubercle bacillus or its spores. "Now, as the air is practically freed from all germs by the respiratory act, we have to consider where and how the thousands of organisms are arrested in the air passages. The experiments of Hildebrandt would tend to prove that the air is entirely freed from all germs before reaching the trachea. In verifying this we have examined the mucus from the trachea of all animals recently killed in the laboratory, and up to the present have found the mucus to be quite sterile. We therefore commenced with the nasal fossæ, and found that the mucous membrane of the healthy nose only exceptionally shows any micro-organisms whatsoever. The interior of the great majority of normal nasal cavities is perfectly aseptic. On the other hand, the vestibules of the nares, the vibrissæ lining them, and all crusts found there, are generally swarming with bacteria. These two facts seem to demonstrate that the vibrissæ act as a filter, and that a large number of microbes meet their fate in the moist meshes of the hair which fringes the vestibule. Germs which have penetrated into the nose are rapidly ejected by the action of the ciliated epithelium." The nasal mucus is an unsuitable soil for the growth of organisms, and hence is an important factor in that it does not further their multiplication. A pure culture of the bacillus prodigiosus was prepared, and a sterilized loopful deposited at a distinct point on the nasal septum well within the vestibule. Cultures were made from this spot every few moments for two hours, with the result of a continually diminishing growth in the culture medium, the sample taken at the end of two hours producing no growth whatsoever.

The foregoing facts emphasize the importance of nose-breathing, and the great danger which arises from the habit of breathing through the mouth and the resultant unfiltered stream of bacteria which is drawn through the pharynx into the trachea and bronchi.

Is Cremation Demanded by Hygiene?—It is urged with vehemence by the advocates of cremation that the present way of disposing of dead bodies by burial is unhealthful and the existence of cemeteries dangerous to those living in the vicinity. In this connection it is interesting to hear the results of the researches made by Professor Wolffhügel, of the University of Göttingen. As reported by the *Courier*, of Hanover, the author stated that this investigation had ended with conclusions shared by men working in the same department at Berlin, Munich, and Göttingen. At all these places special examinations by competent men had been made into the claim that the existence of cemeteries is dangerous. The conclusion in all these cases was that when cemeteries were established and managed in accordance with the laws, there was absolutely no danger to the health of the neighborhood and the principles of hygiene in no way demanded the change from burial to cremation. The author demands that to each grave be given the space of two cubic metres and that it be kept closed for thirty years, although in many cases a body becomes completely decomposed in six years. Then the cemeteries must be so situated that the lower stratum of water, even when it rises highest, must not reach the graves, in which cases drainage must be resorted to. In other respects there is no danger, as the ground absorbs everything, and not even the water which is one hundred metres from a cemetery is in any way in danger of pollution. It is simply ridiculous to claim that the air over the graves can in any way be contaminated by the bodies in these graves.

Exact Dosage in Exercise.—Housework, chores, gardening, walking, climbing, cycling, running, swimming, and many other sports give just the kind of exercise that is indicated in certain conditions, due regard being had to the physiological effects of varying dosage. Oertel has shown how the simple exercise of walking may be adapted to sufferers from cardiac debility by prescribing the distance and speed and the number and length of the rests on definite paths graduated according to their slope. His interesting and original work has not only given a new direction to the treatment of certain cardiac affections, but is destined to have an important influence in establishing accuracy in the prescription of exercise. Whoever has studied the map of the environs of Reichenhall, Bavaria, prepared by Oertel for the application of his method, will acquire a vivid idea of what precision of dosing in exercise means. In this map the different paths suitable for the work are marked in four different colors, to indicate those that are nearly level, those slightly sloping, moderately sloping, and steep, and figures are placed along each route to show the space that should be traversed in each quarter-hour. The locality itself is prepared for its remedial use by placing benches for resting at suitable distances, and by marking on certain trees near the path circles colored to correspond with the map, to indicate the difficulty of that particular section. By systematic practice on the easier paths heart and system are progressively trained and strengthened. Intelligent analysis may do the same work for cycling, horseback riding, and many other familiar exercises. In this way the dosage is practically reduced to a definite number of kilogrammetres in a given time, and a step has been taken in placing the prescription of exercise upon a scientific basis.—*Popular Science Monthly*.

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THE DIAGNOSIS OF EARLY PHTHISIS.¹

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By "phthisis" I mean, of course, chronic pulmonary tuberculosis. By "early phthisis" I mean to indicate all that period of the disease previous to the breaking down of the tissues and the production of considerable constitutional depression or infection. Thus it will be seen that I include in the term the conditions usually defined as "incipient phthisis" and "first stage of consumption."

Concerning the importance of an early diagnosis there can be no dispute. Of the curability of consumption there is no longer a doubt. As in every disease, there comes a time in the progress of the case when death is inevitable. The earlier the diagnosis is made, the greater the chance of recovery. Therefore an early diagnosis is of the utmost importance to the patient. It is also of importance to others. That the disease is communicable is settled beyond question. A patient should not, and generally will not, go about spreading the germs of the disease broadcast if he is properly instructed after a diagnosis is made. Therefore an early diagnosis is of vast importance to the community. And here, as a corollary to the above, let me say: whenever we find that a patient has consumption he should be told the truth. Knowing the truth he will much more effectually co-operate, both in efforts directed toward his own recovery and in those directed to the prevention of the spread of the disease.

Notwithstanding the vast importance of an early diagnosis, and notwithstanding the great prevalence of the disease, an early recognition of phthisis is the exception. I am speaking well within bounds when I say that not one case in twenty is diagnosed while yet in an early stage.

This is largely due to the fact that many patients do not consult a doctor till the disease has made serious inroads. But it is also due to the failure of the profession generally to recognize the disease when they are consulted. This statement is an unpleasant, and it may be an unpopular one to make, but it is certainly true. Not long since I asked the supervising examiner of an insurance company how many of his local examiners he could trust to recognize an early phthisis. His answer was "Not one in twenty-five." I could sustain this statement by further quotations from many eminent diagnosticians, but I forbear. This failure of the profession is partly due to want of skill, but largely to erroneous teachings of the past and to carelessness and want of thorough investigation. When there is any reason to suspect phthisis, nothing short of a thorough, searching, exhaustive examination is justifiable.

Method is essential to thorough work in any line,

¹ Read before the Upper Cumberland Medical Society, May 5, 1896.

and as an aid to systematic work it is well to make a record of every examination.

Family History.—A careful questioning as to family history is first in order. While the disease is rarely inherited directly, yet beyond doubt certain families are more susceptible than others, and a history of a considerable number of cases of phthisis, scrofula, joint disease, or chronic diarrhoea should have weight in deciding an otherwise doubtful case. But the tendency of the profession is to attach too much importance to family history. This is the result of former erroneous teachings of heredity. An absence of tuberculous history in the family by no means precludes the possibility of the disease in the individual, and should never keep us from a careful personal examination.

Personal History.—After learning the history of the family, question as to the personal history should be made. A history of joint disease, scrofula, chronic cough, or any other tuberculous disease, increases the probability of phthisis; but the absence of any such disease, or of any previous sickness, does not exclude it. I was taught when a student that previous to phthisis there always exists a condition of ill-health—a pre-tuberculous stage. This was an error. Not only may the personal history of the patient have been good, but he may be in fair general health at present, and still have phthisis. For it is true that a considerable amount of tuberculous deposit may coexist with fair or even good general health.

Briefly, while a bad family and personal history and present condition increase the probability of phthisis, the reverse does not exclude it. Nor does age exclude it. Phthisis is much more frequent in childhood and old age than is generally supposed.

In considering the present condition of the patient, the height and past and present weight should be learned; the appetite, the digestion, the appearance of the tongue, the condition of bowels and kidneys, the amount and quality of sleep should all be investigated; and especially should we make a note of the quality and rate of the pulse, of the temperature, respiration, presence or absence of cough, expectoration, hemorrhage or spitting of blood, and of pains in the chest. With such a record, carefully made and intelligently considered, a correct diagnosis of phthisis can often be made, even without a physical examination.

We will return to a discussion of the rational symptoms after a review of the physical signs of early phthisis.

Physical Examination.—Before beginning a physical exploration of the chest, the patient should be stripped to the waist. I make this an inviolable rule. In an advanced stage the coarse râles, gurgles, cavernous respiration, etc., can often be detected through some clothing; but in early phthisis we have to deal with slight changes and slight differences, and even an undershirt is inexcusable.

With the patient thus stripped, he is directed to stand or sit erect and naturally. The chest is then measured about the nipples both at full inspiration and complete expiration; the opposite sides are measured and a note is made of the result. Next, he is inspected carefully, and then, in order, palpation, percussion,

and auscultation are practised. The presence of any scars indicating former glandular trouble about the neck is noted while inspecting, also the degree of muscular development, amount of adipose tissue, and the symmetry of the chest. When palpating, corresponding regions should be compared. It is well to do this also when percussing. But not too much stress is to be put upon comparison, as both sides are often equally involved. An expert ear must recognize the quality of the normal percussion note.

The finger or plessimeter should be applied firmly in percussion, and the stroke adapted to the condition of the parts. Just how much force should be given the stroke can only be learned by experience. The use of hammer or plessimeter is a matter of individual choice; one can be as accurate without as with them. But in auscultation the stethoscope should always be used. Accuracy is impossible without it.

Initial lesions are sometimes found in all parts of the chest, and all parts should be investigated; yet it is in the apices that the earliest infiltrations usually occur, and they should receive especial attention. I make it a rule to begin percussion at the neck, and to first determine the height to which the lungs extend on each side. The height and outline of the apices are surprisingly similar in normal chests and even a slight lack of symmetry is to be regarded with suspicion. The height of the apices can be readily seen by marking with ink or pencil the change from the dull note of the muscle, or the "band-box" note of the larynx, to the note of underlying lung tissue.¹

Pathology.—The pathological conditions of early phthisis are briefly as follows: In its incipency there is more or less deposit or infiltration and no general symptoms are present. We do not often see a patient in this condition except accidentally, as in insurance examinations. Sometimes this deposit becomes considerable, as I have said before, without giving rise to symptoms or in any degree impairing the general health. On the other hand, even a slight deposit will sometimes produce a localized bronchitis, a lobular pneumonia, or a circumscribed pleuritis. Before the area of infiltration becomes very large it usually does produce some one, or two, or all three of these complications. The bronchitis of early phthisis is usually of the smaller tubes. There may or may not be some hemorrhage from the first deposit. This depends upon whether or not there is much obstruction to the blood-vessels, and whether or not the vascular walls share in the tuberculous process. As the degree of consolidation becomes greater the tissues begin to break down and ulcers or small cavities form. This marks the beginning of an advanced stage. But sometimes this destructive process begins while the area of infection is yet small, and it may then be fairly included within the pathology of early phthisis, especially if the general health is not much affected. Usually the lung tissue is involved in the morbid process, but occasionally a tuberculous deposit forms on the walls of a bronchial tube and goes on to destruction with little or no involvement of the surrounding lung.

Physical Signs.—From this review of the pathology we can readily see what physical signs to expect. With but slight consolidation we will learn nothing by inspection, mensuration, or palpation, and only a trained ear can detect the changed percussion note—slightly duller, slightly higher.

It takes but little infiltration to weaken the air-cells and impair their elasticity. As a result we have the murmur lessened in intensity, and with a slightly higher pitch. From some cause—I believe because of

nerve involvement of the affected area—we frequently have a jerky or cog-wheel character of respiration. Of course the amount of infiltration may be so slight, or it may be buried so deeply under normal tissue, that even expert ears fail to detect any modification. One symptom worth something in the detection of early infiltrations, yet not often mentioned, is the transference of heart sounds. If with the stethoscope applied to the posterior apex, the heart sounds are heard with more than usual distinctness, we may well suspect a diseased condition of the intervening lung. Of course allowance must be made for violent heart action.

Even with considerable deposit we may learn nothing from inspection. Or we may, if one side is normal, notice lessened movement upon the affected side. Sometimes, too, there is noticeable flattening about the apex or apices, an appearance as if the neck rose straight from the flattened shoulders. Palpation will now give us noticeable increase of vocal fremitus. Sometimes the increased sense of resistance when pressing upon the apex or between the ribs is marked. The percussion note is decidedly duller and higher, and by auscultation we find the murmur not lessened but decidedly increased in intensity, higher in pitch, and harsher in quality—a broncho-vesicular murmur. If there is a bronchitis we find fine or coarse râles, according to the size of the tubes involved. With a lobular pneumonia, crepitant râles are heard. If there are circumscribed pleurisies, grating, creaking, or rubbing sounds may be heard. Pleuritic friction sounds vary considerably in quality and intensity even with the same amount of pleuritis.

Physical signs are modified somewhat in different parts of the same chest and by the different conditions of the chest walls in different individuals. Thin chest walls give more vocal fremitus, a percussion note more intense, and a respiratory murmur more distinct than chest walls overlaid with considerable muscular or adipose tissue. In the right subclavicular region the vocal fremitus is usually more marked, the percussion note duller and higher, and the respiratory murmur harsher than on the left side. The gland and muscles obscure the sounds in the mammary regions and the scapulæ in the scapular regions.

The value of the physical signs is very great. It is true that there are morbid conditions not of tuberculous origin which give some or all of these signs, but, excepting pneumonia, such conditions are rare, and croupous pneumonia is so easily differentiated as to need only to be mentioned. The other conditions, such as cancerous and benign tumors, hydatids, and syphilitic growths, may, so far as physical signs go, deceive the most expert. But there is usually some clew to the true cause, as for instance the locality. Hydatids are most frequent at the base of the lung. Cancer usually begins at the mediastinum. Syphilitic growths occur in the lower and middle lobe and even in the lower part of the upper lobe, but almost never in the apex. We may in some cases have to rely upon the personal history or finally upon the exploring needle and microscope. But any and all of these causes of consolidation are rare compared to tuberculous deposit, and, given evidence of more or less consolidation of lung tissue, it is safe to assume phthisis unless we can prove the contrary. The same may be said of moist râles, evidence of bronchitis. A chronic localized bronchitis of other than tuberculous origin is possible, but is very rare.

Expert work in physical diagnosis requires skill that can come only after considerable training. The ear must be familiar with all the normal chest sounds, and trained to detect the slightest variations, even as the musician must be familiar with his instrument and trained to detect the slightest jar or discord. It

¹ This method of determining the height of the apex, and the importance of it, were pointed out by Professor von Ziemssen in 1867. Yet it is scarcely mentioned by writers. It seems to me its value is not appreciated.

is different, however, as to a correct interpretation of the general symptoms. This is not a matter of skill, but of knowledge and judgment alone, and is within reach of all. I do not mean to state that a positive diagnosis can always be made in this way. Even an expert, combining physical signs with general symptoms, will often refuse to speak positively without the confirmation of the microscope. But the general practitioner who has a thorough knowledge of the pathological conditions of phthisis, and of its varying clinical history, ought to recognize the very probable existence of the disease at a much earlier stage than is now usual.

Symptoms and Complications.—Pulmonary tuberculosis occurs as a very acute disease, as well as a very chronic one, and with all intermediate grades; and cases in the same grade as to chronicity vary greatly as to symptoms and complications. An accurate description of the symptoms of one case will rarely fit another. No one symptom is always present in early phthisis, but there are not often lacking some two or three out of the group to indicate clearly their cause.

Cough.—As we should expect from the pathology of phthisis, cough is usually the first symptom to attract attention. Rarely, yet not so rarely but that every practitioner must meet them, cases advance quite far with practically no cough, deceiving the patient and his friends, who think there can be nothing the matter with the lungs of one who does not cough. The onset of the cough is as a rule very insidious, so that the patient does not know when it begins. Its character and course are very variable in different cases. It often begins as a slight hawking and clearing of the throat in the morning only. Gradually it becomes more frequent, and the throat clearing is noticeable during the day and night. Sometimes the local irritation of the nerves early produces severe and harsh cough. Again, a bronchitis occurs early and there is a viscid, glairy sputum with the cough. In other cases there is very early breaking down of the tuberculous area, and there is then early expectoration of a purulent or muco-purulent sputum. Oftener, however, the cough is for a long time of a dry, hacking character. It may at first be noticeable only when the patient is about to speak, and sounds like a short, jerky laugh preceding the words. This hacking cough may continue for weeks and months, or it may disappear entirely at times, to reappear now and then for a year or two. After a longer or shorter time expectoration begins.

Sometimes the history of a cough begins with a "severe cold" or an attack of "grippe." In many of these cases, a slight cough preceding the acute attack has probably been forgotten or has not been noticed. In others, the so-called cold was really an acute exacerbation of the early phthisis, and doubtless in some an attack of grippe has lighted up a dormant tuberculous deposit. In all of these cases the cough continues very persistent. The patient says he cannot get rid of his "cold." He may improve some, but the cough persists in spite of cough syrups and what-nots, and after a few weeks or months he consults a doctor.

Cases with such a history are frequently diagnosed chronic bronchitis, but the microscope has shown us that they are almost always of tuberculous origin. Even the absence of the physical signs of some degree of consolidation does not exclude phthisis. A bronchial tube may be the seat of a tuberculous deposit, which though small may cause harassing cough.

Other Causes of Cough.—Other causes of a chronic cough are pregnancy and abdominal tumors pressing upward on the lungs, laryngitis, tracheitis, cancer and syphilis of the lungs, and morbid growths of other parts of the respiratory passages. Not long ago I saw

a patient whose cough of several months' duration was caused by enlarged glands at the base of the tongue. It should be a part of routine work to examine the throat in all cases. By this means we determine whether the throat is a factor in the production of the cough; for the throat is often a complication when not the primary cause. Chronic laryngitis is not infrequent, but most cases of chronic laryngitis are tuberculous and are secondary to phthisis. Tracheitis, tuberculous or non-tuberculous, is rare. I have mentioned the differential diagnosis of cancerous, syphilitic, and other growths in the lungs. In the throat they are not difficult of recognition. Pregnancy and abdominal tumors are easily diagnosed, and their presence must not be accepted without investigation as the cause of the cough. I have not space to discuss coughs of a reflex origin from liver, uterus, or other organ. Such an origin is possible, but far from common, and such an opinion is never justified until every other source is excluded.

Expectoration.—I have said that the first appearance of expectoration varies greatly in different patients. In some the entire first stage is passed with none at all. Usually there is more or less. If there is considerable pneumonic disturbance, the sputum will be of a viscid, gelatinous character. Often it is a frothy mucus. This early sputum is not rarely streaked with blood.

Microscopic Examination.—Whenever sputum can be secured from a patient it should be submitted to a careful microscopic examination. And sputum can often be obtained from those who say they do not expectorate. Only a few days since I secured a sample of sputum and demonstrated bacilli in the case of a patient whose doctor had excluded phthisis because there was no cough, by directing him to clear his throat and spit on a clean piece of white paper when he first awoke in the morning. A sputum examination is of such importance in a doubtful case that the greatest pains should be taken to obtain it. The bacilli are often scant in the non-purulent sputum of early phthisis, and we cannot conclude positively that there is no tuberculosis after one negative examination. But if after several attempts by one skilled in the procedure no bacilli are found, phthisis may be excluded. A good microscope costs considerable money, its successful use requires much skill and takes a good deal of time. For these reasons microscopes will not very soon be as common as fever thermometers, though even more useful. But every practitioner can with little trouble collect a sample of sputum and send it to a microscopist. This should be done a hundred times where it is now done once.

Hæmoptysis.—Next to a cough hæmoptysis is the most frequent first warning of phthisis. Like the cough, it may come to one already in feeble health, yet frequently it occurs while the general condition is good. Not infrequently a case runs its course to a fatal end without hæmoptysis ever having occurred. Families differ in this respect. In some families every case of phthisis will have frequent hemorrhages, while in others there is none. The bleeding of early phthisis is usually slight, not more than one or two ounces. Often it is a mere streak or spot of blood in the mucus. A single attack may consist of only one or two expectorations, or it may continue two or three days, the patient spitting some blood every few minutes during the time. In some cases there is no cough preceding the hemorrhage and none follows. In others there is a dry persistent cough for some time before any blood is raised. Sometimes this cough is relieved by the bleeding, oftener it is not relieved, but continues its course as when no hemorrhage occurs. The color and appearance of the blood vary considerably; usually it is bright red and somewhat frothy;

if it is retained in the air passages any length of time it becomes darker and clotted. Thus we see that all forms and variations of hemorrhages occur in phthisis, and conversely any hemorrhage from the lungs or bronchial tubes is a nearly certain indicator of tuberculosis.

But there are other causes of hæmoptysis as follows:

1. The neoplastic growths before mentioned. None of these are so apt to bleed, even when present, as are tuberculous lesions. The sputa of cancer are of such a characteristic "prune-juice" appearance that they are easily recognized. Besides, cancer of lung is in most cases secondary.
2. A number of acute diseases, the most frequent of which is pneumonia. The history of these is sufficient for diagnosis.
3. Certain dyscrasiæ, as purpura, scorbutus, etc. Again the history is sufficient for diagnosis.
4. Organic heart disease. The chief forms of heart disease which cause hemorrhage are mitral obstruction and insufficiency, obstruction of pulmonary valves, fatty degenerations, myocarditis—any form of heart disease which leads to dilatation and enfeeblement of the right heart. As hemorrhage from heart disease does not occur until an advanced stage, with well-developed lesions, its recognition as a probable cause of hæmoptysis is easy. And phthisis must not be excluded because of the discovery of heart lesions; for those very lesions which are said to most frequently cause hæmoptysis are the ones that most frequently coexist with pulmonary tuberculosis. Given an equal number of the morbid conditions that cause hemorrhage, and phthisis is the one most likely to do it. But it is more frequent than any of the others. It is, as Flint says, "the cause of the hemorrhage in an overwhelming number of cases."

Spitting blood during the menstrual period—vicarious menstruation—affords just ground for suspicion of tuberculosis. I have watched three such cases for several years and two of them have already developed unmistakable phthisis.

Before making a diagnosis of pulmonary hemorrhage the throat should be excluded as the source of the blood. This is easily done by inspection during the bleeding. It is not so easy a matter after the subsidence of the hemorrhage, but the presence or absence of morbid conditions affords ground for a probable diagnosis. Hemorrhage from the larynx is rare; from the vault of the pharynx it is commoner, but from that locality at least part of the blood will pass through the nostrils. The appearance of the blood, whether clotted or not, does not help. The patient referred to above, whose doctor had excluded phthisis because there was no cough, had spit up blood, which, because it was somewhat clotted and dark, the doctor said came from the throat. Yet his throat is normal, and there is no reason to believe it would bleed. But there is dulness over the right upper lobe, with a harshened murmur, and the temperature rises every evening to $99\frac{1}{2}^{\circ}$ F. Such a condition of things, the rise of temperature, the evidences of infiltration, and the hemorrhage make a diagnosis of phthisis almost positive even without the microscope.

Pleuritic Pains.—Pleuritic pains occurring about the upper parts of the chest or beneath the scapula are significant of phthisis. They are symptomatic of the circumscribed dry pleuritis that may occur at any stage of the disease. These pains differ in character. Usually sharp and definitely located, the stitch pain, they at other times give a sense of soreness or of aching, and spread over a considerable area. While pleuritic pains frequently occur during early phthisis, they are by no means constant. Some cases pass through this stage with no pain whatever. Thus the absence of pain has little weight. And the diagnostic value of its presence depends largely upon the coincidence of other symptoms. Considered alone, a pain in the chest has no such significance as a hemorrhage

or a chronic cough, for the pain occurs much more frequently from other causes than do the other symptoms. The neoplasms already mentioned as sometimes producing cough and hemorrhage, may also produce pain. More frequent causes of pain in the chest are intercostal neuralgia and pleurodynia. The pain and tenderness of intercostal neuralgia are usually located at three points—near the exit of the nerve from the cord, in the axillary region, and near the sternum. Pleurodynia more closely resembles pleurisy, but usually occurs in those subject to rheumatism in other parts of the body also.

I have found intercostal neuralgia frequent in the phthical and suggest it as of some value as an early symptom.

The Temperature.—The study of the temperature in phthisis is always very interesting. It has a variety of causes and shows all grades of intensity. The principal causes are, first, the absorption of the toxic products of the tubercle bacilli; second, the reactive inflammation of the lung tissue; third, the absorption of the septic products after infection by pyogenic germs. The first is the most frequent cause of fever in early phthisis, the second often uniting with it; but the third or septic cause is only added after the tissues begin to break down. Thus, the high temperature with chills, very marked remission, and profuse sweating so characteristic of advanced phthisis, never occur in the first stage. There are exceptional cases of phthisis in which the inflammatory reaction is so slight, and the bacillary advance so slow, that the system becomes accustomed to the toxins and no fever results until destruction and septic absorption take place. This oftenest occurs in the so-called fibroid phthisis. Absence of fever, therefore, denotes a slow advance or entire arrest of the disease. Periods of arrest are frequent during early phthisis and a diagnosis that excludes phthisis because of a normal temperature may be at fault. There are very few cases, however, in which there is not more or less rise of temperature at times during the first stage. Even in the very chronic conditions and during periods of arrest, the presence of tuberculous trouble is quite sure to cause some fever after physical or mental fatigue or worry. It is a good plan, in otherwise doubtful cases, to keep a record of the temperature taken at intervals of two hours, for ten or twelve days, and to require exercise to the point of fatigue several times during this record making. A rise in temperature of one or two degrees following this exercise, even though normal at other times, is, other diseases excluded, a reliable indication of incipient phthisis.

A daily fever, though ever so slight, denotes progress of the disease, and it is at such a time that the patient most frequently consults a doctor. And fortunately diagnosis is then easiest, as other symptoms are more pronounced.

In the great majority of cases there is a slight but persistent fever. The temperature rises only a degree or a degree and a half above normal, but stays there day after day, week after week, even month after month, with a steadiness not equalled in any other disease. There is some daily remission, usually in the morning. The amount of the remission varies in different cases. The range may be only from 99° to $99\frac{1}{2}^{\circ}$ F., or 100° F., or at times it may go somewhat below normal in the early morning, to surely rise again in the evening.

Accompanying the fever there is more or less loss of appetite, coated tongue, slow but progressive loss of weight, a feeling of languor, and general malaise. Sleep is broken and restless. The patient rises even more worn and haggard than upon retiring, and looks with dread upon the day's duties. Sometimes there are considerable exacerbations of the fever, the tem-

perature going to 101° F., or 102° F., or higher. Any such increase of fever should be looked upon as probably caused by destructive change and septic infection, and as marking the end of early phthisis. But sometimes these higher temperatures fail to show the marked remission of septic fever and occur when there is no tissue destruction. Such conditions are caused by considerable extension of the inflammatory action. These inflammatory fevers are frequently mistaken for light cases of pneumonia. They are diagnosed from croupous pneumonia by their lobular and not lobar extent, by want of crises, and generally by a preceding history of the lower fever and accompanying symptoms which I have described as so characteristic.

The mistaken diagnosis of malaria is often made of the fever of early phthisis. There are times perhaps when to one not skilled in physical examination the decision as to whether it is malaria or not must be doubtful. But such instances are very rare. Possibly in such cases the inexpert method of diagnosing by the use of quinine would be justifiable. The points of difference as to temperature alone are these: a fever of malarial origin almost always rises during its exacerbations at least to 101° F., while $99\frac{1}{2}^{\circ}$ to 100° F. is the usual height in early tuberculous fever; the exacerbations of malarial fever usually occur during the morning, while the tuberculous fever reaches its highest in the afternoon.

And accompanying the temperature of phthisis there is cough, or hemorrhage or pain in the chest, or other symptoms which direct very plainly to a diagnosis. It is carelessness of investigation, or blindness to the significance of symptoms, that leads to so many failures of recognition.

Indigestion and Anorexia.—Loss of appetite is significant of phthisis only when it occurs in connection with other symptoms. Failure of digestion is of more importance. Indigestion, especially of the fermentative form, is a very frequent complication of early phthisis. More often than any other trouble it precedes phthisis.

Loss of weight has no absolute value in diagnosing consumption, but speaks in supposition of the disease when considered with other symptoms.

Pulse and Respiration.—Respiratory movements are not necessarily increased in early phthisis. When there is rapid respiration it is due to anæmia or to febrile action and not to the slight decrease in lung area. The circulation is more sensitive to the diseased condition and a considerable acceleration of the pulse is frequent, even with little or no fever. Especially is this true when there is coexisting anæmia. A rise of temperature is marked by a corresponding increase of pulse rate. There are cases in which a weak heart is a very evident predisposing cause of the disease, and in these the rapidity of the heart action is very marked.

Anæmia.—Anæmia is sometimes found in early phthisis. Writers have tried to prove that anæmia is a characteristic pretuberculous condition. That anæmia does increase the liability to tuberculous infection cannot be doubted, but too many cases occur without preceding anæmia to justify this view. Anæmia is usually a result rather than a cause of tuberculosis, and is a characteristic of an advanced rather than of an early stage.

Laryngeal Symptoms.—Laryngeal tuberculosis is in most instances a complication of advanced phthisis. It does sometimes occur early, and cases are reported with the primary lesion in the larynx. Such cases must be extremely rare. Expert examination has in the most of the reported cases revealed more or less pulmonary invasion. Laryngeal tuberculosis must be accepted as almost conclusive proof of preceding phthisis.

Other Symptoms.—Repeated chilly sensations, flashes of heat, proneness to "take cold," all these are symptoms which occur in early phthisis, and are of some value in connection with other evidence. With malaria excluded, a persistent coated tongue gives ground for a suspicion of phthisis.

While the different symptoms have greatly differing values, while some of themselves have little weight, yet all should be considered, as all are of value in relation to other evidence. Some standing alone are of great importance; a long-continued cough for instance, or a persistent slight rise of temperature, or a hemorrhage from the lungs, or a circumscribed pleurisy, each of itself affords good presumptive proof of phthisis.

But the value of any symptom is greatly enhanced by confirming symptoms, and even the minor ones may by their number become very conclusive. Thus, as I said in the beginning, by considering the totality of the symptoms a very probable diagnosis of early phthisis can often be made, even without skill in physical exploration. The physical signs are of course always very strongly confirmatory.

There is one evidence of tuberculosis that violates the axiom that a diagnosis is never to be based on a single symptom. It is the appearance of bacilli. No other evidence is needed when bacilli are found by a careful microscopist. This method of diagnosis is of such great importance that I want again to urge a resort to it in every suspected or doubtful case.

And again I want to plead for more watchfulness for the first appearance of this disease and for more care in investigating. Could every case be recognized in an early stage, this king of diseases would be robbed of most of its terrors.

NEURASTHENIA AND ITS RATIONAL TREATMENT.¹

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PHILADELPHIA.

NEURASTHENIA, or the "American disease," first described by the late George M. Beard, of New York, some twenty-five years ago, has since been the subject of much study and many treatises in several languages, as physicians the world over recognized that its occurrence was by no means limited by political boundaries, nor even by the existence of the environments of a new country. That it is peculiarly a disease of modern civilization, even though described to some extent by Burton in his "Anatomy of Melancholy," mainly manifested under conditions of mental high pressure, is but another way of saying that it is one of the penalties of that evolutionary development under which society is continuously progressing. A failure to attain a full correspondence with one's environment is shown by that momentous individual disaster, insanity, and though there is rarely any connection between true mental disease and neurasthenia, sufferers from the latter condition should note the hint it conveys of a lack of coequal exercise of the mental and animal capacities of the individual.

For there can be no question that neurasthenia is a symptomatic manifestation of an imperfect performance of all or nearly all of the organic functions of the animal life, causing perversion of the nutrition and functionation of the nervous system. Though it may be caused by a sudden mental shock, such a causation is unusual and the cases in which it occurs are more nearly related to hysteria. The common cause assigned to it—excessive mental occupation due to the

¹ Read before the Philadelphia County Medical Society, November 13, 1895.

claims of business or society—is but relatively true, for in a normal condition it is not work but worry that kills. In the abnormal conditions of alimentation and excretion which are probably the primary cause of neurasthenia, a persistence in any occupation requiring a high grade of mental work or irregular hours becomes a persistence in relative overwork, though the same exertions may be harmless under more normal conditions.

This view that assigns the many functional derangements of the nervous system comprised in neurasthenia to an auto-intoxication due to an imperfect performance of the abdominal functions is gaining ground, and is evidenced by the recognition of lithæmia in many cases in association with the nervous symptoms.

An enumeration of the symptoms of neurasthenia would occupy more time and space than are at my disposal. Considered as a whole, the subjective symptoms usually display in a most varied way a more or less pronounced inability to perform with personal satisfaction the various tasks imposed upon the individual by the necessities of a gregarious existence. Of objective symptoms the most pronounced are due to disordered action of the sympathetic system of nerves, disordered circulation, and general metabolic sluggishness.

In the treatment, the main purpose should be to arouse the defective activities of the sympathetic and of the organs under its control. The effectiveness of peripheral applications, such as the cold bath of momentary duration or applications of static electricity, in restoring circulatory and nutritive control, is no argument against the abdominal origin of the malady, as these agencies exert powerful afferent effects upon the sympathetic ganglia as well as upon the cerebro-spinal centres of innervation. Of this nature are also massage and electro-motor stimulation of the limbs and body surface, with the added advantage of a stimulation of the local circulation, nutrition, and tissue metabolism. But, unless the abdominal sympathetic system is directly reached, the worst of these cases will fail of complete remedial alleviation, and dissatisfaction will result to both patient and physician.

Rest and regulation of the diet added to these peripheral stimulations will do much for some of these cases, but will be lamentably ineffective in others. The importance of rest alone has been enormously overrated, so much so, indeed, that hundreds of patients who have done nothing but rest all their lives are put through a costly treatment by their physicians under an inordinate belief in this shibboleth, only to find their neurasthenic symptoms made worse by the burdensome effect of temporary additions of fat, or their melancholic symptoms intensified by a prison-like confinement. In this city alone a number of such patients have leaped from their bedroom windows. The fact that partial rest each day away from home and under the surroundings of a well-regulated sanatorium is a most valuable portion of the treatment, will not make rest at the patient's home or in a boarding-house of equal effect. Shorn of its institutional setting, change of surroundings, and the expectancy that occurs when a number of cases are treated together, this feature of treatment is more often harmful than useful. Rest and surface treatment alone in lounge-ridden cases is much like certain farming that is observable in the far South, where activity of soil cultivation is not a fault and where the surface scratching of superficial farming fails to supplement the rest in producing good crops.

In neurasthenia the causal conditions should be stirred from the foundation by appropriate medication and applications to the abdominal sympathetic. Electricity applied directly to the abdominal organs is a most valuable means for accomplishing this, and it

should be supplemented by appropriate doses of exercise as well as rest—the rest to follow each dose of electricity or mechanical exercise.

Electricity has been used for years in the treatment of this condition, particularly in Philadelphia, but it is to be regretted that its use has partaken so largely of the antiquated Duchenne methods as to be closely analogous to the soil-scratching methods of farming alluded to, and equally imperfect in results. Even when retained in the hands of the physician or an intelligent assistant, these methods are merely a peripheral excitation and fall far short of the possibilities that have been demonstrated by modern electro-therapy. Unfortunately, the battery is often relegated to the nurse under instructions, which lessens still further any good results it might give.

Aside from this assumption that an agent of this nature, which is just now being rapidly developed in all directions, can be employed properly by unskilled persons, the faults of the Duchenne methods are: Too great a reliance on the limited value of faradic currents; the use of electrodes of inadequate size; insufficient current strengths for an effective penetration; and failure to apply currents of proper density to the abdominal ganglia and viscera.

The excellent results derived from galvanic currents of fifty to one hundred and fifty milliamperes in the abdominal applications of the Apostoli method first directed my attention to the value of large electrodes and considerable currents in these conditions. As a result of these gynecological applications an increased general health is almost invariable, which is largely due to the necessary inclusion of the abdominal structures in the field of the current. Equally good results in the stimulation of the sympathetic may be obtained by placing the indifferent electrode beneath the back, in the shape of a very large wired-cotton pad, and the active one, which should be six or seven inches in diameter, on the abdominal surface. A greater effect is obtained if the active electrode is given a circular motion, being lubricated by soaping, as all portions of the abdominal contents are thus successively brought under powerful electric stimulation. The effect on secretion is often noticeable.

The peripheral applications are also best made by the galvanic current instead of the faradic, the patient continuing to recline on the large pad, while the smaller one, which is to be negative and well soaped for lubrication, is carried over the motor points of each limb and the trunk in a labile manner, all shock or unpleasant sensations being avoided by the free use of the controller. From fifteen to thirty-five milliamperes will be sufficient to produce ample contractions. A general motor stimulation of all the voluntary muscles is thus easily gained, as with the faradic current, with a greater excitation of the peripheral nerves and cellular activities. The sense of exhilaration is more marked than with the faradic current, and greater warmth of the extremities is produced.

With scientifically applied currents as the principal feature of the treatment, other measures are conjoined as required, including massage if the bodily condition is much below normal, and rest for at least an hour after each general treatment. In certain cases thus treated the diet requires but little attention, and even office treatment is often satisfactory, supplemented in either case by any indicated remedy by mouth. The final result is apt to be a far more lasting acquisition of healthy blood and flesh than if the main feature of the treatment were rest and overfeeding alone, which is so liable to cause a weakness of the heart muscle due to incipient fatty degeneration.

In some cases, however, in which the nutrition is decidedly at fault, absolute rest may be used with great advantage for a time in connection with the other rem-

edies, but if the electrical treatment be of the kind described, the duration of absolute rest need not be greater than two weeks, to be followed by two to four weeks of the electrical treatment under the rest-and-exercise plan before the patient returns to the active affairs of life.

The value of this modification of the "rest cure" has been attested by a number of years' successful employment without a single failure, though previous experience with the rest and overfeeding method resulted in a number of partial failures to permanently cure the patients.

On re-entering active life the former patients should remember that their indisposition was not one that had been acquired accidentally, but was the result of an imperfect response of the vegetative life to the particular environment, and while a continuance of the accustomed mental efforts may be conducive to a healthy will power, nature admonishes them to seek a broader physical life and to minimize the effects of artificial surroundings by spending a larger portion of each year in closer communion with themselves.

Conclusions.—1. Neurasthenia is a disease of abdominal origin primarily and evidences a lack of correspondence between the mental and vegetative life of the individual.

2. The treatment should embrace measures for arousing the defective activities of the sympathetic system of nerves as a principal feature.

3. Strong galvanic currents to the abdomen and general galvanic stimulation are preferable to the routine methods of using the faradic current now prevalent.

4. The tendency to overrate the importance of rest has led to a distinct abuse of this feature of the treatment of neurasthenia, which is of but limited importance with those who have led a sedentary existence.

SPRAINS OF JOINTS AND THEIR TREATMENT.¹

BY JOHN F. CULP, M.D.,

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MR. PRESIDENT AND GENTLEMEN: I have taken for my subject this afternoon one with which every practitioner of general medicine has more or less to do, though I venture to assert there are few injuries which meet with so little consideration in their treatment as do sprains. It is impossible to overlook open wounds because of bleeding and pain, and in fractures we know we must do certain things in order to get a good result. Because of their common occurrence, however, we are so apt to overlook the importance of sprains, though the amount of damage in these injuries is often greater than it is in fractures. A sprain has been defined as a temporary dislocation. As a matter of fact, in most cases this is just what it is. The only difference is that in the dislocation of a joint, muscle, or tendon, these structures which are torn apart remain displaced, while in a sprain they resume their natural relation after the injury. When we consider the amount of damage to the structures of a complicated joint as the result of a bad sprain, and then contrast the half-hearted, inadequate treatment which is so often given, we need not be surprised that our results are so frequently unsatisfactory to our patients and ourselves. Constitutional causes, such as gout or rheumatism, and in some people a feebleness of the power of repair, have, it is true, much to do with the final result; excluding these, however, there are few injuries which yield more readily to the proper treatment, if we only observe two things. These are,

first, to begin treatment at once; second, to see that our treatment is carried out in a thorough and systematic manner. One great mistake that is often made is to consider joints as made up of many different structures, all of them being separate and distinct from each other and with different and independent functions. Throughout the whole of life the very closest sympathy exists between the various component parts of a joint, so that it is impossible for one part to be injured without at the same time involving the other structures. As a natural result it must follow that sprains can never be the simple things which they are often considered to be. The immediate effect of an accident may, as it often does, fall on a joint; it can never, however, be limited to it. The capsule of the joint is opened up and its interior filled with blood. The cartilages are bruised and the ligaments are torn, while the muscles and tendons which surround the articulation are strained and lacerated; and together with all this there is such a general extravasation into the surrounding tissues that it is often weeks before the effused material will disappear. If by chance, however, only one of the component parts of a joint is injured, such as a ligament, it is impossible for the other tissues to remain unaffected during the changes attendant on its repair. It is only by taking a broader and more comprehensive view of the structure of joints and by regarding them as wonderfully complex structures that we can get a just idea of the true nature of the damage they suffer in sprains. When we acquire this knowledge, and then only, will our results of treatment be as they should. Before considering the question of treatment of these accidents, it might be well to consider the underlying anatomical causes which are responsible for most of these accidents. The development of the muscular system determines the strength and security of a joint. In quite an extended experience with this class of injuries, it can positively be asserted that the greater portion have occurred in those people whose muscular development was poor. One can almost assert as a positive fact that sprains never occur unless the muscles are either weakened or tired out by prolonged exertion, or caught by some sudden slip unawares before they can recover themselves. Speaking generally, it may be said that sprains are the result of a twist so rapid and sudden that recovery cannot take place in time. Naturally, this condition one would expect to find in one with weak muscles or in those in whom the muscles have been tired out by prolonged exertion, and who from fatigue have lost their instinctive vigilance and power of recovery so essential to the safety of a joint. The muscles are really as much a part of a joint as the bones and ligaments. The function of a joint is movement. Considering the way in which sprains interfere with this, the muscles which direct and execute these movements are as much concerned as the ligaments, which have only the passive mission of checking them when they become excessive. The question of diagnosis is, generally speaking, not difficult, though in sprains of some of the complicated joints it is often by no means easy.

Dislocations.—Fractures near joints and in children the separation of the epiphyses of the bones must all be excluded. Without an anæsthetic in the severe sprains of the larger joints it is often impossible to make a positive diagnosis. More than once have I etherized with the idea of reducing a complicated fracture and have found a sprain instead. The pain of a sprain is of a peculiar sickening character. Indeed, it is so sudden and often so severe as to cause strong men to faint. Muscular sprains are, as a rule, distinguished by a peculiar sensitiveness of the skin, most marked over the joints or at the point of attachment to the bones or tendons. Very often after the

¹ Read before the Dauphin County Medical Society at Harrisburg, Pa., March 3, 1896.

joint has almost recovered from a sprain, and an imperfect diagnosis or no diagnosis has been made, we can clear up the matter, with some joints at least, by carefully observing the tender points. A tender spot just back of the greater trochanter nearly always affords valuable information as to a hip-joint sprain. In the knee this tender spot is toward the under side of the knee cap slightly below the joint centre. With the ankle joint, while the sprain is constant, its location is not so constant, though it is usually toward the inner side of the external malleolus. The tender spots probably generally mark the location of adherent bands or perhaps roughened synovial fringes, or sometimes spots where there has been extravasation of blood into the joint capsule.

We now come to the question of treatment, and our results will depend on the earliness with which we see these cases, and on the thoroughness with which we carry out certain fixed indications. These indications are just three:

- 1st. To limit the extravasation of blood and lymph.
- 2d. To promote the absorption of effusion.
- 3d. To promote the healing of the torn structures, and to restore the usefulness of the joint.

We can best control the extravasation due to broken blood-vessels by local applications, by placing the joint in the proper position and by the use of judicious pressure and thus securing rest for the joint. One of the best local applications is cold water, but strange to say in most cases we do not usually get satisfactory results from its use. This is because we do not see our cases early enough. Unless they are seen within one or two hours after the injury, or unless later in the case inflammation sets in as a complication, cold applications do not answer as well as do hot ones. Soaking the part in very hot water in these delayed cases not only relieves the pain better, but it seems to produce a more permanent impression on the swelling. The various other local applications almost invariably owe whatever virtue they possess to the spirits they contain. We can, however, make an exception with the old time honored lotion of lead water and laudanum. Much may be done to check the bleeding from torn vessels by placing the articulation in such a position that the joint cavity is diminished. If left to itself, in most sprains we find the joint in a condition of considerable flexion. While this position gives the most comfort temporarily, it conduces to a continuance of the bleeding, because it enlarges the joint cavity to its full extent. We can rely on the judicious application of pressure, however, not only to limit the amount of effused material, but to relieve the pain as well. Pressure as usually applied by bandaging does more harm than good. The bony prominences which do not need it receive the support, while the hollows and irregularities about the articulation do not get any at all. It has been my practice to loosely envelop the joint with a couple of layers of absorbent lint which has been saturated with a lead-water and laudanum solution. Over this a good thick padding of cotton wool is applied, care being taken to make it thicker over the hollows and irregularities. Well-picked oakum is a good substitute for the cotton. A bandage carefully applied over such a dressing will make the ideal compression and support. Sprains of most joints, when treated with proper local applications, position, bandaging, and rest, do not require a splint. It is good routine practice, however, to exclude from this the knee and the elbow, the two most complicated joints. It is well in these sprains to apply a felt splint if the injury is at all severe. Just how long we should give these injured parts rest without disturbance is often hard to determine. Probably most joints are rested too long. Rest in these cases is a necessity, and while it is the first indication in this class of injuries, as well as in all

others, yet a time comes when rest can be carried too far. After the subsidence of the swelling, in most cases we can begin movement within three or four days. Unless we have to deal with a rheumatic or gouty subject, this, as a rule, is not too early. Acute inflammation, so often dreaded as a complication, rarely comes on as a result of early movement. We must, however, know just what damage has been done before we begin to move a joint, or we may make matters worse. For example, in making passive motion in a sprain of the ankle, where the external lateral ligament is so often torn, it would be bad practice to adduct the foot. If, after cautious and well-regulated movements, the joint swells and becomes tender, it is well to wait at least a week or more before resuming movement. The second indication in treatment, *i.e.*, to promote the absorption, is to be met to a great extent by bandaging and rest. After two or three days, soaking the joint in hot water, or, better still, a strong solution of vinegar and salt applied just as hot as can be borne for ten or fifteen minutes, three times a day, does much to soften and absorb the coagulated effusions. These baths should be followed by frictions with some good stimulating liniment, the rubbing being done firmly but gently in the direction of the return current of the lymphatics. It is a most excellent practice to begin these frictions above the seat of the injury in order to empty the absorbents, so that they may the better accommodate the lymph from the injured tissues. This lymph is probably more viscid than that found circulating in normal vessels. If after ten days the thickening about the joint has not disappeared and there still remain tender spots in moving the articulation and on making pressure, counter-irritation by iodine, or, often better still, by a fly blister, is indicated. In two weeks' time, with the treatment outlined, we will nearly always find the joint which has been quite severely sprained in good condition and ready for work. At this period sometimes, however, owing either to the severity of the injury or to some constitutional peculiarity, it remains painful and insecure, and even the slightest movement may cause acute suffering with swelling. The joint structures are in a condition of subacute congestion. What is now needed is absolute rest, and rest must be had or there will be a long history of disability, which may become permanent. A plaster-of-Paris splint will nearly always give the required rest. Put on properly, it will last at least a month, when, as a rule, it should be taken off and the joint examined. It may be necessary to reapply this splint one or more times, though usually four to six weeks of this treatment is enough. We are now in great danger of carrying our rest too far, and it often requires the nicest discrimination to tell when to begin forcible movements. Forcible movements are movements made with some force, let us understand, and when we are of opinion that they are necessary to break up any adherent bands and to restore motion to the joint, they should be carried out in a thorough manner. Half-hearted, inefficient attempts do more harm than good, and, by producing pain and swelling without getting motion, often doom the joint to still further rest, when rest does positive harm. The trouble at this time is to a great extent in the muscles, which really are the true ligaments of the joint. Frictions with stimulating applications, together with the use of electricity, are extremely useful in restoring their tone and strength. The faradic current in these conditions is probably more generally useful than the continuous current, especially if there be simply muscular wasting and stiffness without much pain. When there is marked tenderness accompanying atrophy, the galvanic or constant current meets the indications better, not only improving the nutrition of the muscle, but removing the pain as well. Thus does the joint, which is other-

wise perfectly normal, often remain weak and uncertain simply because of this lack of muscular tone. Our attention cannot be too strongly called to this state of the muscles, which it seems is so frequently overlooked. The various elastic appliances which are so frequently worn after sprains, have much to do very often with keeping them weak and uncertain. They are of unquestionable value at times, but their indiscriminate use without the proper medical supervision does much harm. Constitutional treatment, as has been intimated, is often necessary; rheumatic and gouty patients often require colchicum and the iodides and the salicylates. Where there is a peculiar feebleness of the power of repair without any special diathesis, iron and strychnine are of great value.

In looking over the accident records of a large industrial establishment, the Pennsylvania Steel Company, with which I am connected, I find in thirty-eight hundred cases of accidents, two hundred and sixty-one sprains of all kinds, or an average of one sprain in about every fifteen accidents. These are by no means all that have occurred during this time, this record having been made up only from those which were considered worth recording. The least time for treatment was three days; the longest time eight months. The general average was a trifle over nine days. Sprains of the wrist, the ankle, the back, and the knee were the most common; there being forty wrist-joint sprains, which were under treatment about six days. Knee sprains, while common, are not so numerous as those of the ankle, there being twenty-six cases in this record, which were under treatment on an average of about twenty-three days; of ankle-joint sprains there were seventy-two cases, which got well on an average of about thirteen days. Sprains of the back were most numerous, there being eighty, with an average of eight days for treatment.

These back injuries were with few exceptions marked cured on the record, though as a matter of fact there are, it seems, few bad sprains of the back which are ever really cured permanently. Time will not permit my taking up the treatment of these back injuries. In the total of eighty cases there was not one in which the spinal cord was seriously involved. The muscles or their tendinous attachments, or the investing membrane of the fascia, were almost invariably the parts to suffer. There were but two cases of sprain of the elbow, and the same number of the hip-joint, while there were thirteen of the shoulder-joint.

New Intubation Instruments.—After reviewing the inventions of Bouchut and O'Dwyer, Dr. Tsakiris gives the results of his efforts in this direction in the service of Chantemesse, and describes the modifications which he has applied to the various instruments (Société d'Éditions Scientifiques, Paris, 1895). These consist in a holder for introducing the tubes and a new extractor. He prefers tubes made of aluminium because they are not so apt to force back the false membrane, are not so readily obstructed, do not interfere with swallowing of liquids, keep in place better than the heavy tubes, are better tolerated by the larynx, do not produce lesions, nor oxidize by remaining in the larynx.—*La France Médicale*, February 21, 1896.

Symphiseotomy.—Among the secondary complications non-consolidation of the symphysis is the most important. It causes functional impotence and lumbar pains; at times, however, it may be followed by no inconveniences.—*Union Médicale*, 1895, p. 489.

THE NECESSITY OF ECONOMY IN NERVE EXPENDITURE.

By EDGAR R. IVATTS, M.R.C.S., L.R.C.P.,

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THE various forms of nervous exhaustion or prostration included under the term neurasthenia are so familiar to every physician, and have been so thoroughly investigated by Beard, that it seems somewhat superfluous to say anything further on the subject. It has occurred to the writer, however, that, as in so many cases this condition could be avoided by a little timely care and precaution, it may be worth while once more to point out the real condition of affairs, and to emphasize the absolute necessity of rest, both as prophylactic and cure. A consideration of the dynamic laws of the nervous system in relation to waste and repair helps one in detecting the early indications of exhaustion, and thus in warning the patient at an early stage of the folly of disregarding the obvious rules of health. As pointed out by Herbert Spencer¹ and others, there are in the nerve cell, as in other cells, two opposed processes in continual operation, termed by the physiologists anabolism and katabolism. The relation between the two is of course not a constant one, but fluctuations occur on either side, according to the necessities of the organism. During periods of great activity, the katabolic changes are greatly in excess of the anabolic, and proceed at their expense. During the period of growth in youth, the anabolic greatly preponderate, as also in adult life during times of repose and rest. There is apparently a point of extreme divergence on the katabolic side, an approach to which is compatible with health. That is, the individual can pursue his ordinary vocations to an occasional extremity, and recover expended energies during the ordinary periods of repose.

This point no doubt varies with different individuals, according to their constitutional strength, and also no doubt in the same individual somewhat according to the condition of health at the time. Evidence points to its being less extreme in the case of women than men. As a general rule, most people know when they are tired, and this point is not passed.

The bicyclist goes up the hill until he feels too fagged to go farther, and wisely gets off. The sensible man of business comes home tired, refuses to go out again, and goes to bed early. The busy overworked housewife gets extra help, or her husband sends her off for a holiday to recuperate; and then a working equilibrium is maintained.

But if under stress of business, or from other causes the natural checks or deterrents to excessive expenditure are disregarded, what happens? The supreme inhibitory force called the will, or self-control, is first exhausted, and then follows what might be called a "hyper-katabolism," or exalted action of the subordinate nervous centres, with which every physician is familiar, and which is the first indication and sign of the threatened disintegration. It is analogous to the heightened irritability of the spinal centres, in the absence of cerebral control which occurs in descending sclerosis of the cord. A person in such a condition has for a time an unusual sense of well-being and elation, with increased capacity for work. His ideas flow rapidly and without effort, and his conversation is unusually fluent. Work that at other times would seem a great deal to accomplish seems easy of accomplishment. A prospect that was previously not very inviting now seems rosy.

Such a condition is of course common to ordinary healthy people, but there are indications which show that the normal equilibrium has been upset. The true

¹ "Principles of Psychology."

relation of such persons to their surroundings is to some extent lost, as in a person under the influence of alcohol, and they are borne along involuntarily on the current of their own ideas. There is sometimes a wild restless look in the eyes, reminding one of what is seen in acute mania. There is also an exalted action of the motor centres to be noticed, with some loss of muscular sensibility. Such persons find a difficulty in sitting still, and the ordinary co-ordinated movements are exaggerated so that they move rapidly and continue walking and running up-stairs without feeling tired. When sitting down, a constant shifting of position, or agitated chair-rocking, and general fidgetiness may be noticed. Their only complaint at first is a disagreeable feeling in the epigastrium, probably due to hyperæsthesia. It will be found on inquiry that this display of energy is not being compensated for with food and rest. On the contrary it will be found that the usual sleeping-hours are reduced to three or four, or very commonly there is complete insomnia. They have no appetite for food, and take only a little, perhaps, to relieve the uncomfortable feeling at the epigastrium. Such a condition of affairs precedes many cases of mental disintegration, and is familiar in a more exaggerated form as the early stage of general paralysis and acute mania.

If at this stage the patient comes under a physician's notice, and can be persuaded to alter his or her mode of living by adopting the only rational measures that lead to recovery, rest and food, the end may be averted. Unfortunately this advice is too often disregarded, and as the inevitable reaction sets in, recourse is had to the various so-called "nerve tonics" "to fix themselves up"—too often alcohol, morphine, or cocaine. These are no better than spurs to a jaded horse. Nature has her revenge, and after a certain time, according to the strength of the individual, the reserve is exhausted and there is a progressive depression of the nervous system, spreading from the higher nervous centres downward. All work becomes impossible; a settled melancholy succeeds the previous exaltation; the presence of intimate friends and even of nearest relatives becomes a burden; various forms of emotional weakness, with hysterical disturbances manifest themselves; muscular weakness with fibrillary twitchings, cardiac weakness with fainting, are some of the symptoms of prostrate nervous system.

This is a bare outline of the condition with which we are all familiar under the name of nervous prostration. The progress of events may be rapid or slow, according to circumstances. When it extends over some time, the symptoms displayed are more numerous and often difficult to account for. They have been described very fully by Dr. Beard. It is only my object to emphasize by reference to the dynamic laws of the system, how inevitable the reaction is, and how impossible it is to impede the downfall so long as the exciting causes continue to operate. In a large proportion of cases, as the result of an extended rest, the normal equilibrium is re-established and the patient returns to his or her usual occupation. This means that a considerable rest has to be taken, extending in some cases to a couple of years or more. Every Atlantic liner leaving New York has some of these afflicted ones on board. Most of them are men who have shattered their energies in business. Their very natural excuse is that "time is money, that opportunities cannot be thrown away, and that money would be lost through not pushing business." That is true enough; but they do not seem to consider the time lost in Europe recuperating their health, the opportunities for pushing business that are then lost, and the increased expenditure incidental to travelling. It is quite open to doubt whether they do

not in the end suffer a loss all round. There are some unfortunate cases in which the normal equilibrium is never re-established, and a permanent unstable condition of the nervous system results.

The same law applies to all forms of nervous exhaustion, whether it be that resulting from the general exercise of faculties in business, or the excessive use of any one department of the nervous system. Common examples are seen in the overtaking of children, especially girls in school, too much attention being given to mental development during a period which should be largely devoted to physical growth; or sometimes there is an excess of exercise in both directions. Another form is seen in people of leisure and intellectual attainments, who do too much abstract thinking and self-analysis. Others read too much imaginative literature, especially poetry to excess, and hear too much music, pursuing whatever gives the largest emotional element. The resulting exhaustion can be observed in the gradual deterioration of their taste, which undergoes a gradual decline, seeking for satisfaction finally in the literature of the French decadent school and also in the continual complaint of "*ennui*" and "boredom."

In reference to this form the following law laid down by Alexander Bain¹ is of interest. "Every emotion whatsoever both exercises and exhausts some one portion of the physical framework of mind. Certain circles of the brain, certain muscles and organic processes are involved in each case, and these are liable to weariness after a time, while by repose they become charged with new vigor. Hence any department that has been severely drawn upon ceases to support the associated mental condition, and every department that has been long dormant is ready to burst forth on application of the proper stimulus."

Dr. Beard attributes the tendency to nervous exhaustion to two causes more than to any other; first, the nineteenth-century competitive feeling, and secondly, the stimulus given to the nervous system by electrical discharge in dry conditions of the atmosphere, when conduction in the air is diminished.

The second is probably more operative in America than is generally supposed. As regards medicinal treatment, he places ergot and the bromides in the first rank, and they are certainly very useful in the stage of excitement. Arsenic he also regards as a very useful remedy in some forms of neurasthenia, as it diminishes sensibility and reflex irritability. There are great obstacles in the way of devising methods of treatment in some of these conditions. The judicious selection of methods is fraught with difficulty to the physician, and it sometimes requires a considerable amount of tact and ingenuity on his part to divert the energies into other channels. Considerable space would be occupied if one were to attempt to describe all the forms of exhaustion in detail. My object is only to emphasize, as has already been done by Beard, Weir Mitchell, and others, the necessity of rest. Proportion is everything in life, and the art of living is to husband our resources, and by distributing our energies to avoid excess in any direction.

Operations on the Impregnated Uterus.—Dr. John A. Murphy says that any one who has seen an operation on the impregnated uterus must admit that there is less difficulty than in the non-impregnated. This is due to the fact that the vessels are larger, the uterine body is lifted out of the pelvis, and the ligaments are more easily reached in the impregnated than in the non-impregnated uterus. The danger following operation would be less if more care were taken to remove all of the placenta and membranes.

¹ "The Emotions and the Will."

A STUDY OF HIGHLY MINERALIZED THERMAL WATERS IN THE TREATMENT OF DISEASE, BASED ON EXPERIENCE AT THE GLENWOOD HOT SPRINGS, COLORADO.¹

By HENRY H. SCHROEDER, M.D.,

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AMONG the people who crowd the decks of the Atlantic liners seeking pleasure abroad are thousands of invalids who hope to regain health and vigor at the various European spas, notwithstanding that, as Baruch observes, "this country boasts of mineral springs rivalling if not surpassing in virtues the most celebrated ones in Europe, and that if more attention were paid to the hygienic and social conditions at our health resorts, the results obtained would be fully equal to those observed on the continent."

At Glenwood you will find a conscientious and liberal management endeavoring to fulfil these conditions, and, in addition, certain advantages in the climate and in the character of the springs not to be found in any other European or American resort. The results obtained while acting there in the capacity of resident physician have encouraged me to give a brief description of these springs, with their physiological and therapeutic action, which may prove useful to the members of the profession at large, as an aid in deciding where to send their patients. Hayem believes that the treatment at bathing-resorts is capable of producing profound and lasting modifications of the general nutrition, but that the success of the therapeutical effect renders the choice of a suitable place a problem of great gravity. In order to choose wisely, a thorough knowledge of the value of the different resorts is indispensable, as well as a clear conception of the diagnosis and a complete knowledge of the patient.

While the treatment at every resort is usually applicable to a variety of diverse conditions, it is none the less true that it will be found especially appropriate to a certain form or phase of some chronic disease. It may not be out of place to suggest that the family physician, having selected a place which from actual knowledge or from the experience of others he deems appropriate to his patient, may render the utmost assistance to the resident physician and materially aid in the success of the treatment by sending a full history of the case, the diagnosis, and any personal characteristics or idiosyncrasies. Needless to say, he should for the time being surrender the case *in toto* to the resident physician, and impress the patient with the fact that only by confidence in and obedience to the new medical adviser will he be able to receive the full benefit of the treatment.

One of the first questions presenting itself to our minds when called upon to recommend a suitable resort is the climate, for the preservation of health and the treatment of disease by climate go hand in hand with other curative measures. The medicinal properties of a mineral spring, otherwise of great value, may be so modified by meteorological conditions as to be inefficient in the treatment of disease, while the health-giving qualities of a bathing-resort are very materially augmented by the general prevalence of good weather. Generally speaking, dry air is more bracing than moist. It favors tissue changes, improves the digestion and other functions. Moist air, especially if combined with cold, predisposes to gouty and rheumatic affections; or, if combined with heat, the effect is relaxation—the appetite fails and the

functions of the digestive organs and nervous system become impaired.

Glenwood is situated at an altitude of fifty-six hundred feet, in a valley in the midst of the foothills of the western slope of the Rockies. The dryness of the atmosphere in that region is well known, the annual rainfall, including snow, being only fifteen inches. (In the Alps there is a yearly precipitation of thirty-one inches at the Engadine and thirty-nine inches at Davos-Platz.) The surrounding mountains give protection from high winds and the consequent dust, which are so irritating to invalids sojourning on the eastern slope in close proximity to the great plains. Its sheltered position also makes of Glenwood an admirable winter resort. The valley widens at this point so that the precipitous hills do not deprive it of an abundance of sunshine, and the patients find it quite comfortable to exercise out of doors, and even to swim in the great salt-water pool throughout the entire year. At the altitude of fifty-six hundred feet the air is not so rarefied as to cause discomfort or any symptoms of distress. On the contrary, though there is at first a slight increase in the pulse rate and the respirations, the sojourner presently experiences a sense of comfort and ease in his movements. Invalids suffering from non-complicated diseases of the heart and lungs bear the change of elevation as well as do those in normal health, and are able to take physical exercise with increased elasticity and force.

Weber sums up the physiological effects of mountain climates on invalids as follows:

1. Increased action and better tone of the skin; improved nutrition.
2. Increased tone of the heart and of the contractile fibres of the vascular system.
3. Deeper respirations, strengthening of respiratory muscles, increased determination of blood to the lungs.
4. Increase of the quantity of watery vapor and carbonic acid emitted from the lungs.
5. Increase of appetite and improved assimilation of food.
6. The formation of more blood and better nourishment of the different organs.
7. Stimulation of the nervous and muscular systems to greater activity.
8. Improved sleep.
9. Increased tissue change.

The climate, then, although only an adjunct to the other therapeutic agents, is a most desirable one in the treatment of those disorders which it is claimed are relieved at Glenwood, because the qualities of the atmosphere which might be disadvantageous are almost entirely absent during the whole year, while those other qualities, the proper use of which raises the bodily strength and facilitates the restoration of the affected organs and functions, are present.

The mineral springs are about fifty in number, but only a few of these are utilized. These few, however, yield about two thousand gallons of water a minute, a supply seen to be most generous, when we consider that all the numerous establishments at the Hot Springs of Arkansas have to depend on a flow of three hundred and sixty gallons a minute (Walton). The natural temperature of the water is 127° F. Great quantities of H_2CO_3 and H_2S are evolved. $NaCl$ constitutes a large proportion of the salts in the water, but the degree of mineralization is so high that were all the $NaCl$ eliminated there would still remain a sufficiently large percentage of saline ingredients to make it rank with the strongest of mineral waters.

The following is the analysis of the water of the Yampah Spring at Glenwood, made by Charles F. Chandler, Ph.D., New York, June 12, 1888.

¹ Read before the American Climatological Association, at Lakewood, N. J., May 13, 1896.

In one U. S. gallon of two hundred and thirty-one inches of water:

Chloride of sodium	1089.8307 grains.
Chloride of magnesium	13.0994 "
Bromide of sodium	0.5635 grain.
Iodide of sodium	trace.
Fluoride of calcium	"
Sulphate of potassium	24.0434 grains.
Sulphate of calcium	82.3861 "
Bicarbonate of lithium	0.2209 grain.
Bicarbonate of magnesium	13.5532 grains.
Bicarbonate of calcium	24.3727 "
Bicarbonate of iron	trace.
Phosphate of sodium	"
Biborate of sodium	"
Alumina	"
Silica	1.9712 grains.
Organic matter	trace.

1250.0411

Carbonic acid and sulphuretted hydrogen are given off in large amount at the springs.

In addition to the springs there are the natural vapor caves found in the cliffs at the mouth of the beautiful cañon of the Grand River, a few minutes' walk from the hotel. Springs boil up from the floors of these caverns and pour out vapor laden with sulphuretted hydrogen and sulphurous anhydride. A temperature of 112° F. is maintained in the caves by the heat given off from the water. The presence of large amounts of sulphur in the vapor is demonstrated by heavy deposits of that substance in a free state on the walls of the caves, this being probably effected by the mutual decomposition of sulphurous anhydride and sulphuretted hydrogen.

Physiological Action.—It is often claimed that quite as effective results can be obtained from baths of plain hot water as from the use of the water of hot mineral springs, and that the apparent superiority of the latter is due mainly to the change of climate and mode of living. Although change of climate and mode of living are certainly valuable and sometimes necessary adjuncts in the treatment of certain diseases, I am convinced by my experience at Glenwood that there are virtues in highly mineralized thermal waters that the plain baths of hydropathic institutions do not possess. The improvement noted in patients who were residents of Colorado and accustomed to an out-of-door life and fresh air, and in others who had received treatment in hydropathic establishments of high standing without relief, would seem to justify me in coming to this conclusion.

I am unable to give a satisfactory reason for any difference there may be in the relative merits of artificial and natural heat. The experience of Dr. Keyes, from personal observations made at the Hot Springs of Arkansas, may be of some interest in regard to this point. He says: "My own investigations showed me that a foot-bath at 110° F. was impossible. The feet could not possibly be retained in the water at that temperature, a thing perfectly possible (but not pleasant) at home in Croton water. A thermometer held in the mouth while making the attempt to take this foot-bath was raised to 103° F. An ordinary bath at 98° F. was unpleasantly hot, and caused perspiration to trickle from the forehead in streams. The immediate after-effect of the bath (unlike that from an ordinary bath) is one of exhilaration, followed in a couple of hours by reaction and a desire to sleep. The appetite improves under their use and the ordinary functions seem to be performed better than when they are not used by the visitors to the place." If a mammal be placed in a hot bath which is three or more degrees higher than its own temperature, the excretion of carbonic acid and the consumption of oxygen are increased, owing to the stimulation of the metabolism (Pflüger), while for the same reason urea is also excreted in larger quantities (Schleich). It will also be

observed that this increase of urea continues for several days after taking a series of such baths.

It is now well understood that the foregoing effects of prolonged hot and vapor baths are produced by the stimulation of the sensory cutaneous nerves, which exercise an important influence on the most complicated processes of the organism by means of the reflex actions transmitted through the central nervous system. Anything which tends, then, to intensify the stimulation of the peripheral nerves will favor greater activity of the different vital functions. That saline ingredients act as additional excitants may easily be demonstrated by noting the greater redness of the skin after a hot brine bath as compared with its appearance after a plain hot bath. Paalzow's experiments prove that a strong stimulation to the skin produces a reflex conversion of tissue indicated by an increased consumption of oxygen and excretion of carbonic acid. Brunton recommends the addition of common salt to the water to increase the stimulation of the skin and the amount of after-reaction. The gratifying results obtained at Glenwood I fully believe to be largely due to the decided stimulation of the skin occasioned by the extraordinarily large amount of mineral ingredients in the water. Liebermeister, Rembold, Paalzow, and Leichtenstern have been convinced by their experiments that the stimulus of the salts and gases usually employed in balneotherapy is commonly too weak to increase reflexly the conversion of tissue and the production of carbonic acid. "There is no perceptible influence on the beats of the heart," says Leichtenstern, "and no effect worth mentioning on the distribution of the blood, from the use of thermal indifferent baths (those containing a low percentage of salines), to which class most of those applied in balneotherapy belong. On the other hand, thermally indifferent baths (those with only a temperature of 93° to 95° F.) containing salts and gases in quantity may by their stimulation of the skin act as mild epispastics and occasion a slight expansion of the vessels of the periphery." Röhrig and Guntz found that when they immersed a rabbit in a three-per-cent. brine bath with a temperature of 96.8° F., there was a greater consumption (15.3 per cent.) of oxygen and a greater formation (twenty-five per cent.) of carbonic-acid gas, as compared with an equally long stay in a simple water bath of the same degree. These percentages rose higher and higher as the salt bath approached the point of saturation. Thus, the acceleration of oxidation kept pace with the increasing skin stimulation, due to the larger amount of saline constituents of the bath. In the light of such investigations by men of known ability, we may not unreasonably look for the best results, other conditions being equal, from treatment at those springs the water of which has a temperature considerably over 100° F. and a very high percentage of mineral ingredients. The regular immersion in such water in conjunction with vapor baths, by stimulation of the cutaneous nerves, influences the finer processes of metabolism, as well as the secretions, distribution of the blood, movement of the lymph, etc. It is during these changes that pathological products, exudations, hyperplasias, new formations, and toxic agents are drawn into solution and eliminated from the system.

Before leaving this part of the subject, a few words are in place in regard to the action of the sulphur. In the majority of books it is claimed that, in spite of the strong impression made upon the sense of smell by the sulphuretted hydrogen evolved, the amount of sulphur in sulphur springs is really very small. Unfortunately, the volume of sulphurous and carbonic-acid gases escaping from the Glenwood waters has never been measured, but eye-witnesses are always impressed by the large amount which continually escapes,

and the extensive deposits of free sulphur on the walls of the caverns would seem to indicate that the waters of these interesting springs are heavily laden with this constituent. Woods believes that "sulphur baths act by producing an excitant effect throughout the ultimate organic structure, substituting a new and self-limiting action for that previously existing; perhaps, as in the case of mercury and iodine, changing the very structure itself by stimulating the disintegrating process and causing a healthier nutritive deposition in the place of the diseased tissue removed. In other words, they are an alterative remedy." Sulphur baths also lower the morbidly increased irritability of the nerves, and a simultaneous use of the water for bathing and drinking purposes promotes the flow of the secretions, especially the bile.

The vapor in the caves is used to accomplish the same objects as those obtained by the hot baths. The skin stimulation from this vapor is very marked, probably on account of the large amount of sulphurous and carbonic-acid gases contained, as well as from the heat. These gases, with the aid of the watery vapor, are in the best possible form to be absorbed by the skin, and come directly in contact with the terminations of the nerves, producing a powerful stimulating effect on the glands of the skin as well as the rest of the economy, and a most profuse perspiration is the result. In the case of several persons who complained that Russian baths had not been able to excite the sweat glands to a desirable state of activity, a profound diaphoresis was effected by means of this vapor. This effect is found to be very useful in diseases of the skin and in those diseases in which it is desirable to eliminate lactic, uric, and fatty acids, urea, and other products of metamorphosis.

As a Drinking-Water.—The ingredients of the water which are of value for internal use are carbonic acid, sulphur, sodium chloride, and the laxative bicarbonates and sulphates.

The carbonic acid causes a feeling of warmth in the stomach and acts as a stimulant to the mucous membranes, nerves, and muscular fibres of the stomach and intestines, causing an increase of the gastric juice, exciting peristalsis, and improving the appetite. There is also an increased excretion of urine, due to the fact that carbonic acid accelerates the absorption of water by the mucous membrane of the intestinal canal (Voit).

Sodium chloride stimulates the mucous membranes of the body, especially in the gastro-intestinal tract, dissolves mucus in the stomach, increases the secretion of the gastric, intestinal, and pancreatic juices and bile, favors the formation and absorption of peptones, and excites peristalsis. It plays an important part in the diffusion of fluids through the membranes, and its presence is necessary for the solution of the globulins (Landois and Stirling); it also increases the excretion of urea (Voit, Bischoff, Brunton). By the last-mentioned processes the structures of pathological products become loosened, and their albuminates are carried away and converted into the ultimate product—urea (Voit, Flechsig).

Sulphurous mineral waters containing earthy and alkaline sulphates are more or less laxative and diuretic when taken internally, while the sulphurous acid disengaged from them in the body promotes diaphoresis. Stiff (quoted by Baruch) believes that sulphuretted hydrogen has a specific excitant effect upon the sensory fibres of the pulmonary branches of the pneumogastric and upon the cardiac and vasomotor centres, its prolonged use giving rise to paralysis from overstimulation. In this way he explains the action of sulphur water on the respiratory and circulatory systems, on tissue metabolism, and on the secretory and excretory functions.

A study of the effects of the climate, vapor bath, and the internal and external use of the water of Glenwood, shows that these various agents possess qualities in common which render them of value in the treatment of disorders in which the general condition of the patient is torpid, the tissues changes sluggish, the functions difficult to stimulate, and in which the absorption and elimination of pathological products and deposits are desired.

Contraindications.—In the use of such powerful agents caution is always advisable in selecting cases for treatment. Generally speaking, the patients who would be apt to do badly at Glenwood are those suffering from organic disease of the kidneys complicated with degenerative changes in the arteries or hypertrophy of the left ventricle, valvular lesions of the heart by poor compensation or diseased blood-vessels, epilepsy, acute inflammatory diseases, recent hemiplegias, menorrhagia, and metrorrhagia. Patients with valvular lesions with simple hypertrophy and good compensation, unaccompanied by renal or vascular complications, suffer no inconvenience whatever.

Therapy.—The various resources of modern hydrotherapy and balneotherapy have received full attention at Glenwood, the different forms of douches, massage, tub and vapor baths, and a mammoth swimming-pool being resorted to as the occasion requires. Excellent meals and special kinds of diet are provided at the hotel.

Uric-Acid Diathesis.—Ebstein and others have shown that the introduction of urates in solution into the tissues produces local irritation, and that urates in solution give rise to even more irritation than when in the solid form. In the condition generally known as the uric-acid diathesis, it is usually considered that the excess of uric acid is due to some morbid process and that it is not the primary cause of the disturbance; but it is also recognized that the uric acid itself is capable of exciting irritation and doing harm to the tissues, and that it should be removed from the body and its production restricted. That the treatment at Glenwood is most appropriate to such cases seems to be borne out in my own case. For six or eight weeks before my arrival at Glenwood, though my previous health had been good, I had been the victim of the various symptoms that go to make up an attack of uricacidæmia, *i.e.*, frequent headaches, acid eructations, coated tongue, constipation, an insurmountable sleepiness after meals, mental depression, and irritability. The treatment consisted of a visit to the vapor cave every other day, the drinking of a glass of the water every morning before breakfast, and frequent swimming in the pool. The daily quantity of urea and uric acid was estimated for twenty days, using the hypobromite test for the former and Salkowski's method for the latter. The food before and during the treatment was about the same, consisting of a simple mixed diet. According to these analyses, the ratio of uric acid to urea at the beginning was 1 to 32. This must be considered an excessive amount of uric acid. To be sure, Haig puts the normal ratio at 1 to 33, but the consensus of opinion appears to be that his methods are at fault. The ratio after irregular fluctuations became 1 to 56 on the twentieth day, this really being about the normal relation of the two nitrogenous compounds. The improvement in my condition after the first week seemed to keep pace with the changes in the ratio, so that by the fourth week I felt as well as usual.

It has been affirmed that some mineral waters have a solvent action upon uric-acid calculi. This I cannot believe, unless the uric acid is in the form of very minute particles. It is quite probable, however, that they interfere with the formation of fresh gravel. When the existence of the stones has been recognized,

the simplest way of dealing with them is to adopt surgical measures for their removal, and after the operation the patient may resort to mineral springs to prevent a repetition of the disorder.

Gout.—The indications to be met in the treatment of this disease are the correction and prevention of the necrotic processes by the establishment of a more complete metabolism and by the elimination of uric acid, as well as the absorption of deposits about the joints. According to Roberts, Garrod, Duckworth, and others, the deposition of crystalline urates is not merely a concomitant to, but is the actual cause of the joint troubles. There are others, however, who dispute this theory and believe that uric acid is the result and not the cause of the morbid processes. Nevertheless, both recommend the time-honored measures to hasten the elimination of uric acid. The treatment of this disorder by means of mineral waters is most suitable and effective, for at the bathing-resort the habits are regulated, the patient willingly submits to irksome treatment, lives in a pure and invigorating atmosphere, and enjoys abundant exercise. There is a remarkable unanimity of opinion in the literature of the subject as to the good results obtained at a suitable resort, and especially at hot sulphur springs. Senator believes that sulphurous waters containing sodium chloride and alkaline and earthy sulphates tend to remove the various disorders which stand in a more or less close degree of causal relationship to gout, either as precedents or concomitants, such as irregularities of digestion, gastric and intestinal catarrh, tendency to acidity, constipation, portal congestion, disorders in the urinary secretions, etc. He is also of the opinion that such waters exert a more immediate influence upon the gouty diathesis and uric-acid dyscrasia, and that permanent benefit is derived from their influence on the exciting disturbances. E. Pfeiffer, of Wiesbaden, having subjected some healthy persons to a series of twenty hot mineral baths, found no essential difference in the amount of uric acid eliminated. After treating gouty patients with the same course of twenty mineral baths, he found that the quantity of uric acid excreted by them was usually diminished fifty per cent. or more. He concluded that thermal waters have a very marked action in the prevention of gouty manifestations, and thinks that the saline constituents in them exercise an important influence distinct from the effect of heat itself, as ordinary hot baths have not the same influence. The mineral waters which exert the most powerful stimulant effect on the secretions and most vigorously promote the absorption of morbid products will render the best aid in attacking the deposits in and around the joints, the inflammatory thickening of the tissues, and consequent articular stiffness, dislocations, and contractions of tendons. The following is a fairly illustrative case:

L. K—, aged thirty-eight, of Telluride, Col. Two years ago the large toe of the right foot was swollen, painful, tender, and red. The condition disappeared in about two months under medical treatment. A year later the same symptoms came in the great toe of the left foot, then invaded the other toes, and finally the entire foot. The patient was worse in spite of treatment. June 14, 1895, he came to Glenwood with the condition unchanged; he was barely able to walk with the assistance of crutches.

Treatment, tub baths daily at a temperature of 105° F.; all medicine stopped.

July 5th he walked about with some slight help from a cane.

July 10th he went away almost cured, not being able to stay longer away from home.

Chronic Rheumatism.—This disorder has usually progressed so far in patients who seek the help to be found at bathing-resorts that structural changes at-

tended by proliferation and thickening of the synovial and periarticular connective tissues have taken place as a consequence of the chronic inflammatory irritation. The membranous elements of the articulations in many of the cases have become rigid and perhaps coalesced with the soft parts lying over them. In old and obstinate cases the disturbances of nutrition may have extended to the bones and soft tissues surrounding the joints. Motion is interfered with and the adhesions have occasionally given rise to complete ankylosis, which has persisted in spite of all ordinary treatment. According to MacLagan, lactic acid, although not the cause of rheumatism, is present in excess even in the chronic forms of the disease, and causes great irritation of the tissues, which have become more liable to disturbances on account of the inflammatory changes. As a general rule, the disease drags on for months and years, terminating in even the most satisfactory cases in a very imperfect recovery. The general health of these patients is often poor and calls for tonic remedies to improve their nutrition. The most efficacious treatment in correcting the extensive changes just referred to are the mineral baths, which have a good influence on the nutritive processes by dilating the blood-vessels and by increasing the excretion of lactic acid and other products of metamorphosis.

The natural springs capable of producing these effects are always noted for their high temperature. Senator was convinced of the greater value of waters rich in mineral matters, especially the concentrated brine springs, for stimulating absorption. Massage and douches are important factors in the treatment of this disease.

Mrs. McF—, aged thirty-three, of Fruita, Col. Feet became swollen, tender, and inflamed eleven years ago. At different times almost every joint of her extremities has been affected. Her trouble always became aggravated in the spring, and has grown steadily worse. She came to Glenwood one year ago and took forty-five vapor baths in the cave. She received more relief from this than from any previous treatment, and has been almost free from the disorder until the following spring, when it again recurred. The attack was not so severe as previous ones, although she attended to her duties with difficulty.

June 12th, 1895. Physical examination: Joints of fingers, hands, wrists, and ankles swollen; otherwise normal.

Treatment, vapor baths in the cave every other day for the first week, and then daily; water internally before breakfast.

July 12th she had taken twenty-five baths. All swelling had disappeared from joints; very little pain. She probably felt even better after her return home, as that was her experience before.

Miss P. R—, aged nineteen, of Denver, in March, 1894, began to have swelling of hands and feet. In the summer of 1895 the joints were very much swollen and painful, but were somewhat better in the fall. The trouble grew worse than ever during the following winter. She was treated in a hospital in Denver without any improvement, so she came to Glenwood, April 29, 1895. At this time her feet and hands were much swollen and very painful, and her muscles were stiff. Locomotion very difficult; bowels constipated; appetite poor. She took tub and vapor baths regularly, and drank the water before breakfast.

June 17th the swelling of joints was much less; she walked better; the bowels were regular and the appetite was good.

July 15th she could walk a long distance without pain; all swelling had disappeared.

Mrs. E. S—, aged forty-nine, of Philadelphia.

Her present trouble began nine years ago, with swelling of left arm and lower extremities. During the course of the attack large nodules appeared in various parts of the body. This was accompanied by mild febrile symptoms, a good deal of pain, and a red rash. The condition lasted about four weeks and was followed by considerable pain on exertion. Was improved at Clifton Springs by means of baths and wet packs. Since then she has had many attacks, affecting the muscles and joints all over the body. While coming West she had a severe attack at Denver about one month ago, and was confined to bed for three weeks. This time the pain was severe in the region of the sciatic nerve, and the knees and feet were swollen and painful. The patient became improved enough by means of medicines, massage, and electricity to continue her journey to this place, but she was still almost completely disabled.

Physical examination: Aortic insufficiency; otherwise negative.

Treatment, vapor cabinet baths daily, followed by hot douches over the affected parts; water internally before breakfast.

July 12th she went away, feeling almost well. She walked during the last two weeks without assistance.

July 20th a letter was received from the patient stating that she continued to improve.

Rheumatoid Arthritis.—The erosion of the cartilages, the eburnation and abrasion of the bones, the osteophytic formations around the articular surface, and the lesions of the synovial membranes, with the attending deformities, contractures, ankyloses, and atrophies which characterize this disease will fully test the efficacy of any form of treatment. It is safe to say that the majority of patients suffering from aggravated attacks of this ailment, who are able to bear the expense, sooner or later find their way to some bathing-place, after searching elsewhere in vain for relief.

When the patient is comparatively young and the disease has not run too long a course, proper treatment by means of appropriate mineral baths, if persisted in for a sufficient length of time, will be rewarded by gratifying results. In advanced cases, after the patient has reached middle age, the most favorable prognosis we can offer is that the progress of the disease may be retarded and that some of the complicating contractures and other deformities may be relieved. It is important to remember that in this disease the patient is apt to be in a "run-down" condition, and that in such instances drastic measures cannot be too strongly condemned. Local douches of hot mineral water combined with massage are still at our disposal in the treatment of such cases. Rademaker, of Aix-la-Chapelle, has found marked benefit to follow treatment by this means even in advanced cases, the general bath being used when not contraindicated. My personal experience with this affection was confined to advanced and hopeless cases, and although the disability from contractures, etc., was considerably alleviated, they were not long enough under my care to note whether the improvement continued. Some very remarkable results obtained by my predecessor, Dr. Hobhouse, in younger patients with a less obstinate form of the disease, have been reported by Dr. L. R. Morris, in the *New York Medical Journal* for September 28, 1895.

It is of importance to instruct the patients suffering from rheumatism and gout that they will be liable to experience an increase of the pain in the joints while taking the baths. This pain soon departs, as a rule, though in some cases it persists during the entire course. When it does come to an end, however, it leaves the patients in better condition than before, and they will probably enjoy immunity from attacks of

rheumatism and gout during the following winter at least.

Gastro-Intestinal and Hepatic Disorders.—The waters of Glenwood taken internally, aided by their external use, worked well in gastro-intestinal disorders due to catarrh of the mucous membranes, torpor of the muscular coat, and deficient secretion. In obstruction of the portal circulation and catarrh of the bile ducts the drinking of the water, combined with the mineral and vapor baths, bracing air, and exercise, gave the most satisfactory results. Frerichs, in speaking of some of the European spas, says: "They are with difficulty replaced by any other remedies in cases where the jaundice owes its origin to chronic congestion of the liver, with obstinate catarrh of the bile ducts and mucous membrane of the stomach and duodenum, to gall stones, etc."

Although it must be confessed that the evidence of the efficacy of mineral waters and alkalies in dissolving gall stones is inconclusive and their value overrated, there can be little doubt that they improve the general health, lessen the tendency to acid dyspepsia, reduce congestion of the liver, and produce such changes in the bile as to lessen the chances of the formation of fresh concretions.

Murchison believes that solutions of the crystallized salts from natural spring waters do not when dissolved in ordinary water have the same effect as the mineral waters themselves, which contain other substances left out in the process of crystallizing. The same writer is of opinion that the waters are more efficacious when drunk at the springs than when used at home, and that they should be slowly sipped rather than swallowed at a draught. Zowilski (quoted by Murchison) found that sipping liquids not only increased the quantity of the bile, but caused it to be secreted under greater pressure, so that the secretion still occurred when its flow into the duodenum was obstructed. Following are a few of the cases treated:

J. L. S—, aged sixty-one, Buffalo Springs, Col., is a cattle ranchman accustomed to outdoor life; yet in August, 1892, he became the subject of attacks of dizziness and vertigo. This was accompanied by eructations of gas and acid regurgitation. He vomited from one to three times a day. Insomnia from epigastric oppression was marked and constipation was very obstinate. His weight was reduced from one hundred and twenty-seven to one hundred and eight pounds. Coated tongue, bad taste in mouth, poor appetite, sallow skin. He came to Glenwood in December, 1894, took cave baths and drank one pint of the water before breakfast daily. His bowels soon became regular and after twenty days' treatment he could eat anything. He gained twenty-six pounds in fifty days. He then slept well and all depression and anxiety had disappeared.

Mrs. S. R—, aged twenty-three, of Denver, has had indigestion since a child. It began to be severe when she was fourteen years of age. Her symptoms were eructations of gas, acid regurgitation, flatulence, rumblings of gases in the bowels, bad taste in the mouth, constipation, frequent abdominal pains, distress after eating, and insomnia. Sometimes she passed stringy mucus from the bowels. She came to Glenwood on June 1st, drank the water daily before breakfast, and took tub baths.

June 3d all symptoms of her trouble had gone, and she had a good appetite and slept well.

Mrs. W. E. C—, aged thirty-five, of Boston, has suffered every spring from attacks of catarrh of the bile ducts and intestines. The attack for which she sought treatment began in latter part of March, with constipation, loss of appetite, mental depression, lassitude, fermentation of food, and headaches. The patient did not improve in spite of medicinal treatment

and daily exercise consisting of walking and horseback riding. She arrived at Glenwood on June 9th, somewhat jaundiced. Treatment consisted of drinking the water before breakfast, daily cabinet baths, douches over the region of the liver, and massage.

June 18th the patient left entirely well. Her sallowness was all gone, and she had regained her natural cheerfulness.

D. C. S.—, aged thirty, of Philadelphia. His trouble began in August, 1894, with severe pain in the right iliac region and constipation. The stools contained a great deal of mucus and flatulence was marked. He had lost thirty pounds. He had tried lavage and had taken hydronaphthol, bitter tonics, and laxatives, yet there was no appreciable improvement.

Treatment at Glenwood commenced on July 3d, and consisted of two glasses of the water before breakfast, cave baths every other day, and moderate exercise.

August 10th the bowels were regular; he had had no flatulence for some time and felt invigorated and healthy; the complexion was clear.

Diseases of the Skin.—The waters and vapor of Glenwood possess to a remarkable degree the property of unctuousness. While immersed and for some time after taking the baths, the skin has a peculiar feeling of smoothness, as if it had been anointed with some very fine bland oil.

Hot sulphur baths should never be used in acute cases or in acute stages of chronic cases. The best results are obtained in the torpid or terminal periods of chronic cutaneous disorders. Sulphur seems to have a real influence over the functions of the skin. Aside from its use as a parasiticide, it is beneficial in those affections in which general excitement is wanting and the local disorder has subsided into the obstinacy of habitual wrong action with very little or no tendency to acute inflammation. The hot baths soften, macerate, and cleanse the scales and crusts of the epidermis, stimulate the production of healthy skin, and improve the functions of the tissues. Not only are the local disorders relieved, but the functional and other disturbances causing them are removed or improved by the general tonic effects of the treatment. Senator especially recommends hot sulphur baths when the gouty state is complicated with affections of the skin. The cutaneous disturbances which have received most benefit at Glenwood are chronic eczema, acne vulgaris, psoriasis, seborrhœa, and the chronic scrofulous exanthemata.

Mrs. J. F.—, aged fifty-three, of Des Moines, Ia., had had occasional slight attacks of rheumatism and periods of nervous depression. Last winter the skin of her hands became red, scaly, thickened, and cracked, and continued so, notwithstanding many attempts to overcome this condition. She was constipated and subject to flatulence.

June 3d she came to Glenwood and was put under treatment which consisted of a tub bath daily at a temperature of 105° F. and the drinking of the water before breakfast.

June 29th she said this was the first time she had used any water that would regulate her bowels, although she had spent some time at Carlsbad.

July 15th the skin of her hands had become smooth and soft and her general complexion was much clearer than when she came.

Dr. Hobhouse when resident physician suffered from a prolonged attack of boils, lasting over two months, which he thinks was due to the neglect of some small acne pustules. He finally resorted to the baths himself and was thereafter free from the trouble. According to his experience, treatment by the baths and vapor was most valuable in the severer forms of chronic acne, associated with the formation of large comedones

and a good deal of surrounding inflammation, as well as in other morbid processes affecting the sebaceous and sweat glands.

Bulkley believes that many cases of psoriasis have been greatly benefited by the use of remedial waters, but in order to obtain relief the visit must extend over a considerable length of time, as such treatment for a brief period, though possibly of temporary benefit, will not so modify the system of the patient as to prevent a return of the eruption when active measures are no longer employed.

Syphilis.—This disease cannot be cured by the water and vapor alone at Glenwood; nevertheless, they are powerful adjuncts to the regular forms of treatment. All the experience at Glenwood tends to prove this statement and coincides with the views of Leichtenstern, whose conclusions concerning the action of hot sulphur waters are as follows:

1. They excite the retarded eruption of roseola.
2. They give support to the specific cure and increase the power of the skin to take up mercury that is rubbed in. They raise the temperature of the body and assist the action of the mercury by increasing the decomposition of the albuminates.
3. They have a favorable influence in hastening the cure of certain affections of the skin, and also favor disappearance of affections of the glands, periosteum, bones, and nerves.

4. They are useful in cases of inveterate syphilis when patients are suffering from injudicious administrations of mercury and iodine, too long continued cures, chronic mercurialism and iodism, and in those cases in which there is not constitution enough to respond further to mercury and iodine.

We may add to the above conclusions that these waters and vapor have been very useful in those cases in which mercury and iodine were not tolerated in sufficient doses. The efficacy of the Glenwood waters, and more especially of the vapor, in eliminating metallic poisons have long been known to physicians in all parts of Colorado, who have been in the habit of sending their intractable patients suffering from lead-poisoning incurred at the numerous smelters to these springs, where they invariably obtain relief. Mironovitch has experimented to ascertain the amount of excretion of mercury through the sweat glands, and has found it much greater than was formerly supposed. He believes that when it is necessary to relieve the system of an excess of mercury, a relatively larger amount can be eliminated by means of the perspiration than through the kidneys. The powerful excitation of diaphoresis and the consequent excretion of mercury probably explains some of the beneficial effects obtained by the treatment of syphilis at Glenwood. Dr. Hobhouse secured some gratifying results in treating obstinate cases, one of the most interesting of which has been reported by Dr. Morris in his article. There are no cases on my books that would be appropriate as illustrations, as the patients who came under my care were all suffering from tertiary forms and unfortunately could not remain long enough to get the full benefit of the treatment. But from the improvement noted in these instances, I felt certain that the disease would have been completely overcome if they had remained for a reasonable length of time.

In presenting this article, I have confined myself closely to those diseases with which I have had personal experience at Glenwood, but good results have been reported by others in the treatment of certain nervous troubles, naso-pharyngeal catarrh, some forms of kidney disease, diabetes, obesity, and alcoholic and tobacco poisoning. All medical men occasionally meet with aggravated and obstinate cases of chronic disorders which baffle every attempt, no matter how

skilful, directed toward the restoration of health. Let me conclude by urging the discouraged physicians to send a few of their discouraged patients to this sanatorium of nature, and decide for themselves as to its merits.

230 WEST ONE HUNDRED AND THIRTY-FIFTH STREET.

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THE VIS MEDICATRIX NATURÆ.¹

BY ALEX. C. EWING, M.D.,

SALT LAKE CITY, UTAH.

GOD having made man, he gave him this earth for a habitation and at the same time placed within him countless workshops wherein is manufactured material designed for his growth and preservation. These workshops are nothing more or less than minute cells, a grand aggregation of which make up the human body.

That there is in man a vital principle, a something by which life is preserved if not prolonged, is, I think, not questioned. None who have familiarized themselves with disease and solution of continuity can fail to note the rapid repair of bone injuries, the closing of an incised wound, and the overflushed and fevered cheek assume in a short time the color of returning health. That we may not lose sight of this remedial impulse of nature in our treatment of disease is the object of this paper, and of what this wonderful power is and how brought into action shall be my province to essay an explanation during the few moments kindly allotted me in this convention.

Disease is the absence of or deviation from health. Some one has termed it "the lack of adjustment between the body and its environments." From time immemorial man has been endeavoring to find out the secret of health and disease, and from the early dawn of medical history physicians' minds have been busy unravelling the mysteries relating to the nature and cause of diseased conditions. In primitive times disease was attributed, as you well know, to causes the most absurd, *e.g.*, that the body was possessed of an evil spirit, the cure consisting of certain incantations; it was also believed that the remedy should as nearly as possible resemble the special organ affected; that, and later on, the blood was undergoing fermentation, with the formation of acids and alkalies in the body, etc. Of course, as would be expected, the most diverse means were used for relief, and if the patient recovered in spite of the empirical, if not to say dangerous treatment, it was heralded as a "cure."

¹ Read before the Utah Medical Society, October 2, 1895.

But for absurdities in the treatment of diseases one need not revert to the ancients, for almost in our own day Hahnemann, the founder of homœopathy, ascribed the therapeutic effects of drugs to the "spiritual power which lies hid in the inner nature of medicines." He taught that medicines became more powerful the more they were weakened, or "attenuated," as he called it, and did not hesitate to make the assertion that he had treated many cases with perfect satisfaction solely by means of "olfaction"—even if the patients so treated were destitute of the sense of smell! Was this medication the cause of the cure, or was it the *vis medicatrix naturæ*?

It was not until a much later period that physicians recognized that there is something, and they know not what it is, aside from drugs, which plays an important rôle in the eradication of disease; and the brightest minds of the present day are earnestly seeking a solution of this mystery. Have they found it and can it be explained by the "exhaustion" theory of Pasteur; the "excretory" theory of Chauveau; the "ozonized oxygen" theory of Traube; the "tolerance to poisons" theory of Sternberg; the "phagocytic" theory of Metschnikoff; or the "immunizing nuclein" theory of Vaughan? I shall let them answer.

Pasteur, having noticed that when an animal recovered from a "germ-caused disease" the germ could no longer be found in the blood and tissues, accounted for the death of the germs and consequently the cure of the disease by the exhaustion of some substance in the blood necessary for their subsistence. Chauveau's theory was that the bacteria causing the disease died from the effects of their own excretion—an antitoxin. It was this antitoxin-excretory theory which led Koch to use tuberculin in tuberculosis, Klebs to expect favorable results from diphtheridin in diphtheria, and, since Friedlander's discovery of the pneumococcus, pneumotoxin is being used in pneumonia. I will say here in parenthesis that I am not overconfident in the belief that a substance which causes a disease will ever prove to be a remedy for the same. If so, Pasteur's hydrophobic matter should be used in the treatment of hydrophobia and vaccine virus in small-pox. Neither can I believe that there is such a thing as an antitoxin in the sense that poisonous bacteria excrete or secrete a toxin which produces a disease, and then at leisure set about to manufacture or secrete an antitoxin designed to counteract the effects of their former secretion. I do not wish to be understood as not favoring the use of antitoxin, for the wonderful reduction in the death rate since its discovery and use in diphtheria has proved it to be a veritable godsend to suffering childhood. I am only criticising the supposed manner of its production in the system. Lewis and Cunningham found that bacteria injected into the blood current rapidly disappeared, and concluded therefore that the blood or something in the blood is destructive to germ life. Traube observed the same phenomenon and attributed their disappearance to the blood's ozonized oxygen. Diligent research has been made along this same line by such noted men as Behring, Foder, Gschiedler, Haliburton, and many others; their conclusions being that the blood possesses germicidal properties outside as well as within the body.

All of you are familiar, no doubt, with the phagocytic theory of Metschnikoff, who, when his theory was first enunciated, believed that the white corpuscles which collect in such great numbers wherever pathogenic germs are gaining access to the system, are gathering for the purpose of warfare, and that they accomplish the destruction of the germs finally by a process of deglutition! The definition of inflammation according to Metschnikoff's theory is a very simple thing; indeed, nothing more nor less than an encounter between the leucocytes or phagocytes on the one side and micro-

organisms on the other. The fiery red cheek of pneumonia, the 106° F. temperature in typhoid fever, and the swollen and painful joint as a result of injury, are but evidences that a struggle for supremacy is going on in the system between the invaders from without and the defenders within.

And, indeed, if one but watches from day to day the closing of an external wound, he will become almost converted to this theory, for we do see unmistakable evidences of strife. How they do repel the invaders which are clamoring to get in through the open wound by throwing up their breastworks within the gap! And should we fail to come to their assistance with our antiseptics, how very many of them die upon the ramparts, the dead bodies falling off in the shape of pus corpuscles, showing how fearless and earnest is the struggle.

That there is an increased number of white corpuscles in and around the point where the body is struggling against disease or injury is a well-known fact, but just how the increase is brought about is not as yet fully understood. It is supposed to be due to a certain "psychical activity of their own," whereby the nucleolus becomes a nucleus, and the nucleus in turn is transformed into a leucocyte; or to a stimulus imparted to them by the nervous system, by which "they are swept out from the capillaries and tissues into the circulation," and then, I suppose, are transferred as a reinforcement to the parts most needing their assistance. The latter theory might explain their great increase after a cold bath, as first observed by Winternitz. But if we explain the raising of the arm for the defence of the body in response to a nerve telegram, why can we not as readily understand that the influx of white corpuscles at a given point, also for defence, is in answer to a similar communication from the brain? This theory, defining the office of the white corpuscles to be that of the defenders of the system against animal and vegetable parasites, was a great stride in the right direction; but a greater one was the discovery of "nuclein" by Vaughan, demonstrating beyond a doubt that it is this substance (evidently a product of the leucocytes) which gives to the blood its germicidal power. Metschnikoff had already shown us how the *vis medicatrix nature* was brought into action, but it remained for Vaughan to reveal to us the long-hidden mystery—what the *vis medicatrix nature* really is.

His discovery was to us as the brightness and warmth of the sun on a foggy morning, clearing the atmosphere of our minds from the accumulated mists of centuries. It seems there can be no doubt but that nuclein, proto-nuclein, spermin, antitoxin, or whatever you choose to call it—all being, I aver, one and the same substance—whether secreted by the leucocytes or not, is at least carried by them to the *locus lesionis*, or point of attack, and there used as powder and ball against the invasion of poisonous germs; that when given as a medicine it increases the number of white corpuscles and stimulates as well their natural alertness and aggressiveness. Added to this, our knowledge that leucocytosis is the first physiological step nature takes in defence of the body against pathogenic organisms certainly gives us reason to hope that the days of scientific treatment of at least zymotic diseases is at hand.

That a temporary leucocytosis is observed also during digestion would lead to the supposition that the white blood-cells, owing to their amœboid propensities, enabling them to traverse blood-vessels and tissue without disturbing their integrity, are designed to perform a double office, viz., as domestic laborers, to carry the nutriment from the digestive tract to all parts of the body in such quantities as are needed for growth and repair; and are, in a certain sense, warriors, in that

they secrete or supply a germicidal substance called nuclein, which is antagonistic to, and protects the system against, the toxins emanating from poisonous bacteria.

In this connection you might ask, if leucocytosis is absolutely necessary for successful termination in the bodily struggles against disease, why is it that one does not speedily recover from that most obstinate of diseases, leucocythæmia, seeing that the white corpuscles are present in such superabundance? I shall try to answer by saying that a "leucocyte must be in full physiological activity before it can become a phagocyte"; that leucocythæmia should be looked upon only as a symptom of a systemic glandular disease, the white corpuscles representing a once mighty army, but now, alas! only a straggling host of vanquished heroes—being left with scarcely enough nucleinic strength for sluggish motion. They are here, in a word, mostly as dead or dying cells, incapable, in consequence, either of defensive action or of exercising their office as carriers of nutriment to the tissues—the inevitable result being general malnutrition, with pyæmia and abscesses in various parts of the system. As Metschnikoff has abandoned his "deglutition" theory, or so modified it as to agree with that of Vaughan, it is only in the sense of supplying the nuclein to the seat of disease that the leucocytes are to be looked upon as warriors. The only personal encounter likely to take place would be when the delicate cell membrane, being irritated by a bacterial cell, bursts and scatters its contents in the shape of nuclein into the very eyes, as it were, of the rapidly increasing enemy. By the personal encounter of the elements of the opposing cells, various diseases may not unreasonably be accounted for; thus, when the toxin of the bacterial cell is of sufficient strength and quantity to neutralize the nuclein of the leucocyte, disease sets in, and the place where the barriers give way and the line of defence is broken gives a name to the disease; e.g., should micro-organisms gain access to the uterus after parturition, and the nuclein-carrying leucocytes guarding the apertures of the veins and lymphatics, laden with toxins, be overpowered, we have puerperal septicæmia; and should the typhoid bacilli with their toxins be of sufficient strength and virulence to repulse the leucocytes colonizing in and around Peyer's patches, typhoid fever is the result, etc.

The discovery of the past and present in etiology, pathology, and prophylaxis certainly gives a roseate hue to future medicine, and the time may come even in our own generation when Pasteur's prophecy shall be realized: "It is possible," said he, "for man to eradicate every contagious disease from off the face of the earth." Yet, methinks, the day is still far distant when we shall be able to dispense with morphine in pleurisy and renal colic, to discard mercury and iodide of potassium in syphilis, to treat malarial troubles with anything else so successfully as with quinine, to apply any remedy that will so relieve the painful symptoms of acute rheumatism as do the salicylates, or to find anything that will so modify arterial pressure, and give to a panting, dying soul the breath of life, as does the subcutaneous injection of nitroglycerin in the red hepatization stage of pneumonia.

You will readily see by the foregoing that this subject was not selected because I have lost faith in the efficiency of medicine. Nature does sometimes throw off disease, but how liable are we to have fibrous consumption as a result of an unassisted pneumonia and cardiac affections follow in the wake of rheumatism and diphtheria! There is no science in the "expectant" plan of treatment, except "Christian science."

Looking at the various infectious and contagious diseases from an etiological standpoint, we get an encouraging view of a scientific line of treatment by the

exhibition of an artificially collected nuclein, the chief object being to reinforce deficiencies in the *vis medicatrix nature*, and thus turn the battle from probable defeat to positive victory.

The millennium, however, will not be ushered in by the discovery of scientific medication. But it will come. A faint illumination is observable on the eastern horizon, and when the day finally breaks and we "behold the gates of light unbarred," we shall see standing therein a maiden, dressed in spotless raiment, as old as "She," yet young and far more beautiful, and her name shall be the beautiful name, "Hygiene."

In the preparation of this paper I have derived much help from the perusal of articles written by Drs. Charles G. McClintock, of Ann Arbor; Roswell Park, of Buffalo; and Frank C. Wilson, of Louisville.

THE CLIMATE OF NEW MEXICO.

By FRANCIS W. GALLAGHER, M.D.,

LAS CRUCES, NEW MEXICO.

THE conditions throughout the arid regions of the Rocky Mountains generally are such as to promote constructive metabolism, and for this reason are adapted to various debilitated states of the system, but it will probably be a long time before many physicians in the populous centres think of this section in relation to any except tuberculous cases and those exhibiting a tuberculous tendency. This article will, then, only consider the climate of the Rocky Mountains with reference to the amelioration or cure of consumption and conditions of ill-health favoring the development of this disease. Let us briefly consider, in the first place, what attributes of climate are by the best authorities considered essential in the climatic treatment of consumption; and, secondly, where are these requisites best supplied. The climatic conditions which the experience of years has confirmed as giving the best results in the treatment of phthisis are atmospheric dryness, altitude, and sunshine. I will not undertake to more than state this proposition, as, so far as I know, no one of authority and observation attempts to dispute it.

Where in the United States, then, are these essentials to be found in the greatest bounty? The observation and experience of years have demonstrated that the great rainless plains and tablelands of the Rocky Mountains alone adequately fulfil the indications. Anywhere within this region the invalid is under infinitely better conditions than in the Mississippi Valley or the valley of the great lakes, but in this vast territory—an empire in extent—some sections seem particularly selected by nature for the rescue of organisms attacked by the bacillus, and I would like briefly to direct attention to that land of perpetual sunshine, New Mexico, within whose boundaries is found almost every variation of climate which the taste and physical state of the health seeker may suggest. The possibilities of New Mexico for recreation and health are scarcely at all appreciated.

Lying within easy reach of busy little cities and comfortable and homelike villages scattered here and there in the valley of the Rio Grande, stretch chains of towering mountains, here snow capped and there clothed with picturesque cedars and tall pines, down whose rugged sides tumble snow-fed streams. The hunter, the fisherman, and the student of nature in her solitary moods, is each here afforded opportunity according to his kind. Unfortunately, the tuberculous patient, either from obstinacy or faulty diagnosis, does not seek change of climate while he is physically able to court the goddess Hygieia by brook and moun-

tain trail, where she is most exuberant in the bestowal of her favors. For such the towns and villages must suffice. New Mexico has many charming places where every comfort is easily procured. Individual taste as to expense and social surroundings must govern choice of location. From a social point of view, the larger towns afford, of course, greater advantages.

Las Vegas has an altitude of sixty-five hundred feet. It is a busy modern city and the largest town in the mountain country between Denver and the Texas line. It is in the area of least rainfall and its conveniences for the entertainment of visitors are necessarily greater than those of any town within the territory named. Las Vegas is a city of pleasant homes, and many people of means have, because of its salubrious climate, made it their place of residence. There is winter in Las Vegas, and snow, which, however, does not last, but, on account of the porous and sandy soil and the dry air and sunshine, disappears rapidly, leaving the streets dry—a surprise to those who, accustomed to Eastern experiences, associate snow and sunshine with slushy streets and mud. The summers here are delightful, and I do not think any spot in America can offer a July and August to compare. With cloudless skies, delightful coolness, trees, lawns, and flowers, Las Vegas needs only to be better known to be appreciated. Six miles of a mountain ride brings one to the famous Las Vegas Springs, renowned for its baths and the excellent quality of its waters for internal use. This spot has been called the Carlsbad of America by an eminent chemist who analyzed the waters. The hotel accommodations here are excellent.

However, from any other than a social aspect, Las Vegas is no better than other towns to the south. Mention may be made of Santa Fé, Albuquerque, Socorro, Las Cruces, and others, in the order in which they are reached as one proceeds south along the Rio Grande.

One night out by railroad train brings one to Santa Fé. It is situated on a tableland at an elevation of eight thousand feet. It is a delightful place for summer residence, and for many cases of early lung involvement with apex infiltration and collapse of air-vesicles affords the condition required for restoration of function. The many historical associations and extant monuments of Aztec and early Spanish life will elicit interest and help to make the time spent here entertaining and instructive.

Not far from Santa Fé lies the busy little city of Albuquerque. Its elevation is five thousand feet, said by some authorities to be the ideal elevation for the best development of the human form. It is a city with all modern comforts and affords first-class entertainment for visitors, and during the fall, as the winter farther north grows colder, invalids go there in numbers and profit by the many advantages it offers.

One hundred and twenty-five miles south of Albuquerque lies the neglected and almost unknown Mexican village of Socorro, which, I believe, has the possibilities of the finest health resort in the Southwest. The town is situated on a plain which slopes from the base of the Socorro Mountain a mile distant to the Rio Grande. The water supplying the town comes from two hot springs in the Socorro Mountain, with volume sufficient to supply a town of thirty thousand persons with water for household use. The water is free from mineral ingredients or organic matter, and is delightfully soft. The elevation of the town is forty-five hundred feet. Only an occasional health-seeker goes to Socorro, because its advantages are unknown and it affords no adequate accommodations. Capital will some day discover Socorro and its exceptional possibilities, and it will grow to be for all the West and South what Colorado Springs is to certain sections of the East.

About one hundred and thirty miles south of Socorro we enter the beautiful Mesilla Valley and its capital, Las Cruces. Las Cruces already has a reputation which brings each winter many health seekers to its doors. It is delightfully situated in a most fertile valley at an altitude of four thousand feet. It is already quite famous for the abundance and quality of its fruits and a large quantity of excellent wine is also made here yearly. It is beyond doubt the best winter point in the Territory. The town is surrounded at some distance by mountains which protect it from the winds, and winter here is a long, delightful autumn, which permits constant out-of-door country life, free from many objections incident to residence in a city.

I have attempted only a very hurried and cursory view of New Mexico and some of its towns, with the object of affording some information which may help the invalid. I wish merely to direct the attention of those of the profession who may be seeking information about the Rocky Mountains to the incomparable advantages of this land of perpetual sunshine, and particularly to its southern half, where the summers are pleasant and the winters without the sting of the colder North which drives the invalid from out-of-door life to the confinement of ill-ventilated rooms. Other States and Territories have their distinguishing qualities, but New Mexico stands unrivalled as nature's great sanatorium for the consumptive, where she dispenses with the hand of bountiful providence those blessings of altitude, dry air, and sunshine, without which the climatic treatment of consumption would join the procession of rapidly coming and rapidly going laboratory failures.

May 19, 1896.

SOME ANCIENT SANITARY AND HYGIENIC RULES.

BY F. OVERHOLT, M.D.,

DMS MOINES, IOWA.

It has ever been the struggle of "science," since its birth, to search for something new. It has ever been the policy of "dogma" to adhere to tradition.

Science is always searching for new facts, new theories, and new plans, and is constantly changing the order of things in an effort to better conditions.

Dogma, on the other hand, is always pointing to the record of the past and saying that the fathers knew better than we, hence we should follow the teachings of the fathers.

Science is showing us the influence of germs in health and disease and adding to that knowledge day by day. Germs, it says, explain all phenomena of disease except perhaps tumors, syphilis, and rheumatism, and it is likely that at no distant day these will also be explained on that hypothesis. But now comes another school of investigators, who insist that predisposition and natural resistance to disease germs form a large element to be reckoned with. These investigators are looking to heredity, atavism, and reversion for a basis of predisposition and immunity. They tell us that the new growths are the result of the atavistic change in the cells whereby they take on the characteristics and functions performed by the particular tissue they form a part of in its more primitive state; that rheumatism for instance, is a reversion of our functions of metabolism to the bird or reptile stage of our development, when we excreted uric acid instead of the more elaborate product of our more highly developed organism, urea.

Of a necessity science must change her sanitary rules to meet change in theory, but dogma sticks to her tradition and insists that the old rules were estab-

lished by a higher authority than science and must be right. The Jews have followed the one dogmatic set of rules in matters sanitary and hygienic for six thousand years. The results arrived at and the mass of evidence as a result of this action cannot be ignored, and it seems to me cannot help being of considerable value to sanitary and hygienic medicine if approached in the right spirit.

True, the rules are founded on anything but scientific grounds, and yet many of them can be defended with the facts and theories of the very latest scientific research. The Jews claim greater immunity from syphilis and tuberculosis and a less percentage of sterility than other races. I say they claim it. I don't know that this claim rests on any true scientific basis, but it is reiterated by some of the best medical authorities we have.

One of the lecturers at Owens College, Manchester, asserts that no Jew or Jewess ever has been known to suffer from cancer and that the immunity is due to their abstinence from swine's flesh; but this explanation cannot hold even if the first part of the statement be true, for the Mohammedans have cancer, and they also abstain from pork, though whether they are as often attacked as others or not, I have no information.

The essential part of the Jewish law, so far as this subject is concerned, has to do with circumcision, the rules of the relations of the sexes, the sorts of food allowed and proscribed, and the method of slaughter.

The male Jew is circumcised at eight days, and he ascribes his comparative immunity from venereal disease largely to this cause.

The Jewess is forbidden to have intercourse until seven days have elapsed since a "show" of blood. This rule I am told is strictly adhered to, and not to the effect of reducing the size of the family, as would naturally be supposed from a common notion on this point. "If a woman have borne a man child then she shall be unclean seven days and she shall then continue in the blood of her purifying three and thirty days. But if she bear a maid child then she shall be unclean two weeks and she shall continue in the blood of her purifying threescore and six days (Lev. xii. 2)."

Adultery was punishable with death according to the old law.

A Jew may eat of any animal which has a cloven foot and chews its cud, provided it has been properly slaughtered, or of any fish that has fins and scales. I shall now quote from Leviticus:

"Ye shall eat no manner of fat, of ox or of sheep or of goat" (vii. 23).

"Ye shall eat no manner of blood, whether it be of fowl or beast" (vii. 26).

"Whatsoever parteth the hoof and cheweth the cud among the beasts, that shall ye eat" (xi. 3).

"Whatsoever have fins and scales in the waters in the seas and in the rivers, them shall ye eat" (xi. 9).

"Yet these may ye eat of every flying creeping thing that goeth upon all four which have legs above their feet to leap withal upon the earth" (xi. 21).

"Even these of them ye may eat: the locust, beetle, and grasshopper, but all other flying creeping things which have four feet shall be an abomination unto you" (xi. 22).

"And these are they which ye shall have in abomination among the fowls; they shall not be eaten: eagle, ossifrage, osprey, vulture, kite, raven, owl, night-hawk, cuckoo, hawk, cormorant, swan, pelican, stork, heron, lapwing, and bat" (xi. 13).

It is interesting to note what the Koran says in this connection, viz.: "Ye are forbidden to eat that which dieth of itself, and the blood, and swine's flesh, and that which has been slaughtered or killed by a blow or by a fall or by the horns of another beast, and that which has been eaten by a wild beast."

The Jews eat nothing that has been shot or trapped; in fact none but domestic animals, and only those that are properly slaughtered. This brings us to the most important part of our subject, except perhaps the prescription of pork, namely, the method of slaughter.

A Russian by the name of Dembo has investigated this question, in its relation to cattle more particularly, and I shall quote quite extensively from him. Before taking up Dr. Dembo's work I will quote from Prof. Dr. W. Preyer, of the University of Berlin: "As I have declared in a report based on observations and experiments in the laboratory and in the slaughter house, the method of *shechita* which is practised by the Jews with remarkable success is superior to all other methods of killing, because it is the safest and most expeditious, because the animals killed by it are subjected to the least amount of pain, and by it the removal of the blood is effected in the most complete manner."

I am too little acquainted with the history of the Jews and with the Jewish ritual law to understand why they have for centuries adhered to the latter with astonishing pertinacity; but that this consistency is well justified from the standpoint of physiology, that it much better answers the humane purpose of the protection of animals than the uncertain methods of the Christian butchers, and that it is better calculated to further the well-being of the nation than the other, is proved and established.

Dr. Dembo claims that the Jewish method of slaughter is more humane, more hygienic, and more economical than any other method, and he proceeds to prove his claim in a lengthy monograph. The matter of determining which of the methods of slaughter is most humane is of great importance and is gone into at considerable length by Dr. Dembo, and as a result of many personal observations in the slaughterhouses of England, France, Germany, Switzerland, and Italy, he concludes that the Jewish method is most humane, because consciousness on the average is lost sooner than by any of the other methods, as, for instance, transfixion, stunning with a mallet, with a poleaxe, Bruneau's mask, shooting, or the neck stab; consciousness is lost in from three to five seconds by the first-named method.

Approaching the subject from a hygienic standpoint, I shall first give a butcher's reasons for using the Jewish method:

"Because it combines the most humane treatment of the animal with the greatest safety in killing it. The *shechita* cut is indisputably the most rapid and safe mode of slaughtering. The fact that the cut is made with a sharp knife, which occasions no swelling of the arteries and allows a great outflow of blood to take place in a few seconds, shows this to be the most rapid and at the same time least painful mode of slaughtering, for the sharper the instrument the less painful the cut. Stunning is attended with much more danger and too often with much more pain to the animal.

"It often, when the hand that carries it out is not a thoroughly practical one, results in torture to the animal. The slightest movement of the head by the animal at the moment of striking will cause the blow to fall wrong, the most skilful slaughterman being unable to prevent this, and no matter whether the ill-falling blow cause the animal pain or whether it be only frightened and excited to movement by it, the result in any case is that the killing is protracted and made more difficult.

"Viewed from the standpoint of economy the stunning methods are unquestionably more advantageous to the butcher, for every stunned animal yields a greater weight of meat; this is because the blood remains stagnant in the veins as the result of the blows,

and when the arteries are afterward cut the blood flows out very slowly, the total loss of blood being always less than in the case of throat cutting direct, and the weight of meat consequently greater. But the consideration of the few pounds of meat less by the Jewish method is many times outweighed by its hygienic advantages.

"Every animal stunned and then cut must afterward be washed, especially in the cavity of the chest, with pure water. But it is well known that water has the worst possible effect on meat, especially during the hot summer months, when a great deal of meat spoils through this washing.

"The meat of animals killed in any way with blows is also much darker and always softer than that of cut animals, the flesh of which is in every case light in color, free from blood, and firm. Every animal killed by the cutting method is clean in the cavity of the chest, and there is no need to touch the flesh there or elsewhere with water. The flesh of cut animals is as firm in two hours as that of stunned or felled animals in ten, and the latter indeed never attains the firmness of the former."

Now the main reason for the better bleeding by the *shechita* method is that during the whole time of bleeding the nerve centres regulating the flow of blood in the vessels are not interfered with. Whereas, in the case of stunning and particularly in the case of the neck stab with injury to the spinal cord, as in all other methods depending for their effect on injury of the brain, the case is altogether different, since, as Koch, Wittkowsky, and others have proved scientifically, destruction of the brain causes paralysis of the vaso-motor centres, and this paralysis in its turn would entail a stoppage of blood within the blood-vessels. The reason for the quicker rigor mortis, greater firmness, and hence more pronounced keeping qualities in cut meat is that a great and rapid loss of blood promotes the formation of lactic acid in the meat and decreased alkalinity in what blood remains; or, to quote again from Dembo: "Keeping in mind that the blood forms an excellent nutrient medium for the lowest forms of vegetable life, that germs that have accidentally found their way into it multiply with an extraordinary rapidity, that these micro-organisms cannot grow in acid tissue as well as they do in alkaline, and further remembering that in the Jewish method not only is less blood retained in the meat, but also the alkalinity of the blood retained lessened by more than half by the violent convulsions, and finally that the same convulsions as well as rapid bleeding considerably advance and promote the formation of lactic acid; considering these facts it will be evident that no doubt whatever can be entertained as to the fact that the growth of micro-organisms will proceed (all other conditions being equal) much more slowly in the meat of animals killed in the manner of the *shechita* than in meat of those killed by any other method."

From an economical standpoint the stunning methods are more advantageous to the butchers and less so to the consumer, and on the contrary the Jewish method is more advantageous to the consumer and less so to the butcher.

Osteomalacia. — Dr. Guillaume (*Therapeutische Monatshefte*, 1895) suggests phosphorus in doses of from one-sixty-fourth to one-sixteenth of a grain. If this does not prove beneficial, then castration is to be considered. The results that have been obtained from the use of bone marrow in certain blood diseases suggest from the standpoint of changes in the blood and in the bones that it might be a useful remedy in this disease also.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MEDICAL CHARITY AND "THE CHURCHMAN."

OUR esteemed contemporary, *The Churchman*, takes us to task for "a rather impracticable article on the subject of free hospitals and dispensaries." With every desire to discuss the question with becoming calmness and impartiality, we are always inclined to listen to opposite opinions. We are willing to assert, however, at the outset that we entirely disagree with the position taken by *The Churchman* in the article named. It is fair to assume that, being practically acquainted with hospital and dispensary work for over a quarter of a century, during which time we have been brought in direct and daily contact with this class of charity patients, we may have some views on this subject which are founded on fact and experience and which should have some weight when balanced against mere suppositions and loose and unfounded assertions.

"We are inclined to think," says our amiable critic, "from our experience of an American population, that very few people accept free assistance in the case of sickness, excepting those who cannot afford to pay for the services of a competent physician or specialist."

We congratulate our good brother on his anomalous experience and would respectfully ask him to compare it with that of any dispensary or hospital physician or surgeon within his reach. This refreshing confidence in human nature must have been fostered by an exceptionally agreeable contact with a totally different class of people from that with which the charitable doctor has to do.

The medical profession can never be accused of want of charity for the really poor. Its freely volunteered services are as much at command as are those of the clergy, with perhaps a trifle more of tangible and practical application. The sick lamb in the deep pit has as much faith in the efficacy of the only hand that lifts him out as in the encouragement of the exhorters who sound the alarm from the safer distance above. We have no intention of discussing the relative merits of practical charity as applied to the respective professions, but merely wish to remark in passing that the clerical profession, with a full knowledge of what the doctor does for the sick poor, should be the last to cast a slur on his laudable intentions or in any way to impugn the motives of his purely charitable mission.

It is hardly fair to imply that the doctors look upon

the abuse of charity wholly from a selfish and pecuniary standpoint. The profession of this and other cities gives yearly hundreds of thousands of dollars in services to the poor, and is only too glad to do it when it can be done properly. It is equally jealous, however, of free services to those who can pay. It does not follow that because "a dispensary is free it offers aid to all who will take it," whether rich or poor. The man who can pay and does not, always takes advantage of the man who cannot. The great cry of all charitable institutions is poverty of funds. No hospital nor dispensary is rich enough to supply all who may apply. All are ostensibly for the poor alone. The money is contributed by the unsuspecting donors for a specific purpose, and any diversion of the gift by the laxity of managers or the pretension of unworthy recipients is open to the charge of very un-Christian-like and purely worldly motives. Every such institution is cheated whenever an unfit applicant is served, and every well-to-do man, "free citizen" or not, who accepts such services gratuitously is a sneak and a fraud, *The Churchman* to the contrary notwithstanding. Obviously, also, such a patient cheats the doctor, who must live as well as others. Even the clerical profession, so often proudly styled by itself the greatest of all, sets the example of caring for its own household in money matters. It is against all law and gospel that a rich man should occupy a free pew, or that the good clergyman should not be regularly paid for the work that he does. The clergy is noted for its appeals in support of the Church and its missions, and the prosperity of both is very apt to react favorably upon the advancement of the earnest and business-like pastor. Contrariwise, we seldom if ever hear of a minister who feels that he is called in the line of his duty to any position with a reduced salary. Whatever he does for rich or poor, he is, quite differently from the doctor, guaranteed an ordinary living. That "the laborer is worthy of his hire" applies very forcibly to the doctor when accused of "bad temper" in complaining against such of the well-to-do as openly and constantly defraud him of his just dues. The poor doctor is no worse than the poor clergyman when he asks for his own. Both owe a duty to the poor and both owe a duty to themselves. There never was a question concerning relative rights in these matters until it was raised by our innocent, well-meaning, and usually justice-loving neighbor. Naturally, but quite erroneously our good friend ventures to "suppose that there are not too many hospitals and dispensaries in New York City, with its thousands of poor and suffering inhabitants." And he would have them free to all who might choose to apply for treatment. With hospitals already so much in excess of actual needs, and with a still greater abuse of charity, what would be the fate of the doctor, and what could the hospitals do without him?

THE SUMMER HEALTH RESORTS.

THE present number of the *MEDICAL RECORD* will doubtless carry with it a certain suggestiveness of preparation for that much-needed recreation which all our readers have fairly earned. There is a something

about professional work of every kind which, at the end of certain periods, calls for that absolute rest which means alike the healthful renewal of wasted energies and the helpful relaxation of strained and anxious thought. An annual vacation is becoming so much of a necessity that few in any walk of life are willing to run the risk of omitting it. The American people above all others have earned the reputation of being a nation of travellers. This disposition to change place and scene is becoming more and more manifest every year, so that during the summer months more particularly, and to an increasing extent also in the winter season, few of the wealthier classes remain long at home. It is with a view of ministering to the needs of such pleasure seekers and health hunters, and of adding to the resources of the physician, who is so often appealed to for advice in the matter, that we have undertaken to collect as many facts as possible pertaining to the summer health resorts and such of their peculiarities of climate, surroundings, and comforts as may appeal to the largest variety of tastes and the widest range of necessities. No pains have been spared to obtain accurate descriptions of different localities, and every effort has been made to give the reader a perfectly trustworthy and absolutely impartial account of the leading features of each of the many and widely scattered summer health resorts. By so doing we are satisfied that all idea of special advertising can be eliminated and the information really needed by the reader can be easily and satisfactorily obtained upon the reliable basis of unbiassed judgment. Although it is obviously impossible to go into much detail, enough, we trust, is stated to enable the reader to make such selection as may suit his purpose. The publishers of the RECORD, in the interests of such as wish to avail themselves of opportunities, have consented to supply, on application, any additional information desired, as to routes, rates of fare, and other matters of necessary expense. In order to make this number more especially interesting to vacation seekers we have endeavored to group such articles as may bear in a suggestive way upon matters connected with the care of the general health and the influence of climate and environment on preventable diseases.

UNNECESSARY NOISES.

WE are much pleased to see that several of the influential dailies, notably the *New York Tribune* and *New York Sun*, have seconded our endeavors to abate the noise nuisances at present so prevalent in this city. With such powerful aids in calling popular attention to the subject, some reform may be possible. *The Tribune* in its earnest protest calls attention to some additional sources of nervous irritation occasioned by other noises than those already mentioned.

"In most American towns the pavements seem to be constructed with a view to making as much noise as possible. The recent adoption of rubber tires for carriages has shown what can be done in eliminating the noise of vehicles; but nearly all trucks are needlessly noisy. They are so loosely put together that

they rattle through the streets like a moving boiler shop. The same thing is true in a large measure of street cars, and there are few railway trains that are not run with a great deal more noise than is at all necessary. The New York Central Railroad has set a good example in this matter by ordering for its yard in this city a noiseless switch engine. But the strange thing is that public opinion has not long ago forced every railway company to do the same thing. In our patient endurance of evils that could easily be avoided we are a long-suffering people. We allow trucks to carry loads of loudly clanking iron rails through our streets, when we might, just as well as not, insist on their being packed so as to be noiseless. And we permit thousands of milk wagons to disturb our morning rest by noisy tintinnabulations that could easily be avoided by a little care.

"It is taken for granted that a city must be noisy. Doubtless some noises are unavoidable; but many even of such noises could be modified, and a vast number of other noises that we now endure without protest are wholly unnecessary. Of the many municipal problems that are to-day pressing for solution the elimination of unnecessary noises is by no means the least, though it has received little attention from municipal reformers."

The Sun very properly stigmatizes the "ol' clo'" men as the worst offenders in the more exclusively aristocratic quarter.

THE WASTE OF LIFE IN CUBA.

To whichever side of the present deplorable contest in Cuba one's sympathies may incline, no one can contemplate the terrible sacrifice of human life in the island without a feeling of horror and of the deepest commiseration for the poor victims and those who mourn for them in the mother country. Although the rainy season has but just begun, the loss of life in the army of occupation is already appalling. According to the reports received by the Marine Hospital Service in Washington from the sanitary inspector in Havana and by the State Department from the United States Consuls in Cuba, both yellow fever and small-pox are epidemic in nearly all the seacoast cities and in many of the interior parts of the island. The number of deaths due to them during the past few weeks has been very large, and not less than seven per cent. of the Spanish troops were sufferers from them in the first three weeks of the month of May. Of three thousand eight hundred and seventy-seven deaths in the Spanish army in the island since the beginning of March, no fewer than three thousand one hundred and ninety, it is said, were caused by the vomits.

In consequence of the insanitary conditions which necessarily exist in the army, the soldiers are even more liable to suffer from yellow fever than are the unacclimated civilians, and few of the latter escape during an epidemic. General Vicuna died May 18th of yellow fever, and many officers of lesser rank have fallen victims to the disease. General Weyler left Havana recently to take the field in person against

the insurgents, but returned the next day, having been so frightened, according to general report, by the accounts which were brought to him of contagious disease in the army, that he abandoned his project. In addition to yellow fever and small-pox, which chiefly attack the soldiers in garrison towns, although those in the field do not escape entirely, the soldiers in the country, those forming the trocha across the island, are suffering severely from pernicious malarial fever, and many deaths from that disease occur every week. In addition to the crowding and to the exposure, another powerful predisposing cause of disease exists in the despondency which reigns among the Spanish soldiers. Many of them are young men, hardly more than boys, who are out of their native villages perhaps for the first time in their lives, and they are suffering from nostalgia, depressed by the almost certainty that they themselves will soon fall victims to one of the scourges whose ravages they see all about them, and overworked in a hot climate, now drenched with a tropical downpour and then scorched by the vertical rays of a tropical sun. And the worst part of the long rainy season has yet to come.

The god of pestilence is fighting harder than he of war for the independence of Cuba, and that he will come off victor in the end can scarcely be doubted. The question of right or wrong of the Cuban revolution aside, for the sake of Spain herself, for the sake of her noble sons, who are spending their strength and giving up their lives—not on the field of battle, but in the barrack hospitals—we can but long for the day when this slaughter shall cease.

THE BLESSINGS OF "UNSEASONABLE" WEATHER.

WHENEVER the temperature during any of the winter months rises to an endurable height and it is possible for one to go out-of-doors without acute suffering, we always hear prognostications of sickness and death which are sure to result from a green Christmas and an open winter. But the truth is, it is the "good old-fashioned winter," the "seasonable temperature," that kills. The incorrectness of the popular idea is well shown by the vital statistics for the first quarters of 1895 and 1896 in England and Wales, which we find summarized in the *British Medical Journal* of May 16th. These two periods of time "formed a great contrast in so far as the general temperature of the air was concerned. In the former year the mean temperature of the three months was 35.2° F., which was 3.7° F. below the average, while in February it was no less than 9.9° F. below the mean of that month. In 1896 the temperature of the three months was 42.3° F., or 3.4° F., above the average. The public health fully reflected these noteworthy differences in temperature. In 1895 the deaths in the first quarter amounted to 170,501, and the death rate was 22.8 or 1.1 above the average. In 1896 the deaths in the corresponding period numbered 136,809, and were in the proportion of 17.9 deaths annually per 1,000 persons living, which rate was 3.9 below the average.

The increased mortality in 1895 was chiefly among persons aged sixty years and upward, of whom 60,454 died, giving a death rate among such persons of 10.90, or 15.4 in excess of the mean. In 1896, 39,208 persons aged sixty and upward died in January, February and March, and the death rate was 69.2, no less than 26.2 below the average."

These statistics furnish fresh evidence of the killing power of frost and of the beneficent influence of a mild temperature. But popular beliefs are not to be overthrown by statistics, and if we are blessed next winter by a mild atmosphere and absence of snow, there will be plenty of physicians whose surprise will be equalled only by their disappointment that there is not more for them to do.

News of the Week.

Cholera has appeared among the Turkish troops in Bitlis, on the shores of Lake Van, in Turkey in Asia.

Dr. C. J. MacGuire has been appointed consulting physician to the City Hospital, to represent the University Medical College division, upon the recommendation of the faculty of that institution.

The Montana Medical Law requires, as a preliminary to practice in that State, both the registration of a diploma and an examination before the State board. The examinations are held on the first Tuesday of April and October and at such other times as the board may determine. The president of the board is Dr. W. C. Riddell, of Helena, and the secretary Dr. W. M. Bullard, of Wickes.

The Plague in China.—According to the reports of passengers by the steamer *Pernu*, which arrived in San Francisco on June 5th, the plague is gaining alarming proportions in the Orient. The disease is spreading in all quarters, and communication with many places is entirely cut off. The Japanese officials are doing all in their power to keep the disease out of that country, and so far seem to have met with success. In Hong-Kong, during the week ending May 19th, there were seventy new cases of the disease reported and ninety-two deaths.

Dr. Emma Ward Edwards, of Newark, N. J., who died of dysentery at Clear Water, Fla., on March 28th, in the fifty-first year of her age, was graduated in 1870 from the Woman's Medical College of the New York Infirmary. In 1872 Dr. Edwards, then Dr. Ward, was married to Dr. Arthur Mead Edwards, when she gave up active practice. In 1876 she removed with her husband and two children to Berkeley, Cal., where her husband began practice. Two years later the family returned to Newark, and Dr. Edwards resumed her professional work, which she continued to within a few weeks before her death. A very large and successful general practice, the esteem and admiration of her medical associates, and the affection of a wide circle of friends and patients, bore testimony to her ability and her integrity, as well as to the sweetness and charm of her character. Dr. Edwards was

one of the attending physicians of the Newark City Dispensary, visiting physician to the Home for Incurables and the Home for Aged Women, and examining physician for the Working Girls' Club. She was also one of the managers of the Society for the Prevention of Cruelty to Children.

Sir George Johnson, M.D., F.R.S., F.R.C.P., died in London on June 3d, at the age of seventy-eight years. He was born in Kent and studied medicine at King's College, receiving the M.D. London in 1844. His entire medical life was identified with King's College. Soon after receiving his degree he was appointed the first medical tutor of that institution, and in time became professor of materia medica and of the principles and practice of medicine. In 1876 he was made professor of clinical medicine, and in 1886 he was elected emeritus professor of clinical medicine and consulting physician to the hospital. From 1884 to 1886 he was president of the Royal Medical and Chirurgical Society. In 1889 he was appointed physician extraordinary to the Queen, and in 1892 he received knighthood. He was a recognized authority on diseases of the kidneys, on which subject he wrote two treatises and many journal articles. He was also the author of a work on the laryngoscope and of several essays on laryngological subjects, and was honorary consulting physician to the Royal College of Music.

New State Hospital Buildings.—A dispatch to the *Evening Post* from Albany says that State Architect Perry has completed plans for a large addition on Ward's Island to the Manhattan State Hospital. The building will contain one hundred and fifty beds. Another building to be connected with the hospital with accommodations for one hundred patients is to be erected at Central Islip, L. I. Plans for additional cottages at this place for the institution are being prepared. The cost of all these improvements will be about \$600,000. A site has been chosen at King's Park by the State architect for a group of three cottages which are to surround a commodious dining-hall. They will be connected with the Long Island State Hospital and will accommodate seven hundred beds. These improvements will cost \$380,000.

Small-pox in Havana.—It is reported that small-pox has broken out among the prisoners confined in Morro Castle, sixteen patients having been removed from there to the small-pox hospital on May 24th.

The Cholera in Egypt.—The disease in Cairo and Alexandria is increasing in spite of the feeble efforts of the authorities to stay its spread. As usual, the physicians have to contend against the ignorance and prejudice of the natives, not only those of the lower classes but also some among the officials. The local press refuses to acknowledge the existence of cholera and is stirring the people up to resistance against the efforts of the doctors to keep the disease in check. It was even asserted in the council of ministers that the medical men were in the habit of throwing a yellow handkerchief over the face of a suspected cholera patient, of rendering him insensible, and of thus conveying him to the hospital. A consequence

of such statements as this was that in Alexandria an ambulance was overthrown by the mob and the patient, who was ill with cholera, was taken away and concealed. In Cairo serious disturbances have taken place at the Moslem University Mosque. Some sanitary officers attempted to visit the school, where a case of cholera had been reported, but the students opposed their entry and stoned the police and the governor, wounding the latter. The police fired on the students, killing one and fatally wounding three others.

Mr. William Reynold Salmon, of Pennlyn Court, Glamorganshire, England, the medical centenarian, the celebration of whose one hundred and sixth birthday was noticed a few weeks ago in these columns, died the middle of May. He was born in Suffolk on March 16, 1790, and was admitted to membership in the Royal College of Surgeons the year of Mr. Gladstone's birth, and was therefore the oldest member of that body, as well as the oldest medical man and the oldest freemason in England, having been one of the original members of the Jerusalem Lodge of London. In early life he was an army surgeon and was on the field of Waterloo soon after the battle was concluded. When but twenty-six years old he married an heiress and thereafter spent most of his active years in travel, retiring to his estate in Glamorganshire at the age of seventy. He took up smoking when ninety years old, but did not like it very well, and gave it up a year or so later. He always took wine with his dinner.

An Honorable Rival.—The French Academy of Medicine has divided the Prix St. Paul of \$5,000 between Dr. Roux, of the Pasteur Institute, and Dr. Behring, of Berlin, for their discovery of the antidiphtheritic vaccine. The *Figaro* says that a large number of German and English savants have accused Dr. Roux of having wished to take to himself all the credit of this discovery. The truth is that Dr. Roux has constantly refused every prize or reward, unless a part thereof shall have been granted to Dr. Behring.—*Journal of the American Medical Association*.

The Twenty-Fifth Congress of German Surgeons was held on May 27th–29th.

Dr. Amos Howe Johnson, of Salem, Mass., died at his home in that city on May 12th, after a long illness. He was born in Boston and was graduated from the Andover Theological Seminary in 1857. At the end of five years he was forced to retire from the ministry on account of a throat trouble. He then entered the Harvard Medical School and was graduated in medicine in 1865. He immediately began practice in Salem, in which town he resided for the rest of his life.

The Same Old Story.—A writer in the *Medical Times and Hospital Gazette* recently made a tour of inspection of the West End hospitals in London, and found that at a few an attempt was made to exclude persons who are not fit objects of charity, but at some no attempt whatever was made to prevent impostors from receiving the benefits intended for the poor. At one hospital the secretary said: "We welcome everybody who chooses to apply, without asking questions

as to their ability to pay for medical and surgical advice." The consequence is that the physicians and surgeons are kept for several hours daily ministering to the necessities of patients many of whom are well able to pay half-a-crown fees. He gathered in the course of his investigations that some doctors prefer to see well-dressed persons as patients, as, with a keen eye to business, they are able to make private patients of some of them.

Defective Sanitation in the Transvaal.—A Johannesburg correspondent writes to the *Medical Press* that the last annual report of Dr. Visser, health officer, on the general health and sanitation of the town, just issued, gives the percentage of deaths from typhoid as very great, due chiefly to bad water; the deaths from typhoid during 1895 are given as upward of one thousand. Pneumonia, also, was very prevalent during the winter months. A repetition of this can be obviated only by the sufficient and effectual watering of the streets so as to completely lay the dust, which is the chief cause of the annual epidemic. The sanitation of Johannesburg is altogether in the most primitive state, the disposal of its sewage being at the present time but little in advance of that which obtains in semi-barbarous states.

Photographing the Viscera.—The General Electrical Society of Berlin announces that an improvement has been made in the Roentgen process, by which one may see the brain or study the action of the lungs, the larynx, and the heart, in the picture thrown out on a fluorescent screen.

Pennsylvania State Medical Examinations.—The next examinations of the Pennsylvania State Board of Medical Examiners will be held at Harrisburg on June 16th.

The Medical Society of the State of Pennsylvania held its forty-sixth annual session at Harrisburg on May 19, 20, and 21, 1896, under the presidency of Dr. W. S. Foster, of Pittsburg. After prayer addresses of welcome were delivered by Governor Hastings, by City Solicitor Seitz on behalf of Mayor Patterson, and by Dr. W. T. Bishop, chairman of the committee of arrangements and credentials. A committee, consisting of Drs. H. S. McConnell, G. B. Sweeney, and John J. Buchanan, was appointed to take measures to prevent the passage of a bill before Congress providing for the abolition of vivisection in the District of Columbia. The usual addresses and a large number of papers were read and discussed. Among the social events of the meeting was a reception held at the Pennsylvania State Lunatic Asylum by the superintendent, Dr. H. L. Orth, and the trustees; another by the governor at the executive mansion; a dinner by the Dauphin County Medical Society; and an excursion to the vaccine farm at Marietta. The following officers were elected for the ensuing year: *President*, Dr. E. E. Montgomery, of Philadelphia; *First Vice-President*, Dr. C. S. Shaw, of Alleghany; *Second Vice-President*, Dr. B. F. Ball, of Clinton; *Third Vice-President*, Dr. F. M. Livingston, of Lancaster; *Fourth Vice-President*, Dr. A. C. Wentz, of York; *Secretary*, Dr. W. B.

Atkinson, of Philadelphia; *Assistant Secretary*, Dr. Adolph Koenig, of Alleghany; *Treasurer*, Dr. G. B. Dunmire, of Philadelphia. The next meeting will be held in Pittsburg in September, 1897.

Obituary Notes.—DR. P. B. BREINIG died at Bethlehem, Pa., on June 21st, at the age of sixty-eight years. He was graduated from the New York University in 1856 and began the practice of medicine in Hellertown, moving to Bethlehem in 1873. He was the founder of the Lehigh Valley Medical Association and was a member of the American Medical Association—and one of its vice-presidents—and of the Medical Society of the State of Pennsylvania.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the medical corps of the U. S. Navy for the week ending June 6, 1896: June 2d.—Surgeon L. L. von Wedekind ordered to the Naval Academy. June 3d.—Surgeon C. A. Siegfried detached from the *Columbia* and ordered to the *Massachusetts*. June 3d.—Surgeon E. Z. Derr detached from the *Raleigh* and ordered to the *Columbia*. June 3.—Surgeon H. G. Beyer detached from the Naval Academy, June 5th, and ordered to the *Raleigh*, June 6th. June 4th.—Passed Assistant Surgeon M. S. Guest detached from the *Constellation*, June 8th, and ordered to the *Massachusetts*, June 10th.

Health Board Examination.—On June 15th the New York City civil service boards will hold an examination at 10 A.M. for the position of assistant resident physician, board of health. Citizens of the United States holding the degree of M.D. are eligible to this examination, and may obtain application blank by addressing S. William Briscoe, secretary, new criminal court building, New York City.

Headquarters of the American Medical Association.—According to a resolution adopted at the Atlanta meeting of the American Medical Association, the members are to determine by vote where the permanent home of the association shall be located. The ballots have now been distributed to the members, who have until July 31st to cast their votes. As soon as the count is completed the result will be announced in the *Journal*. Members may vote for any place they desire, but it is probable that the choice will be practically limited to either Washington or Chicago. Certainly the former would seem to be the appropriate home for a national organization. The other representative association of the practitioners of America, the Congress of American Physicians and Surgeons, has always held its triennial reunions in Washington, and this society would be wise to follow suit.

Dr. Gerard Rohlfs died at Godesberg, Prussia, June 3d, at the age of sixty-two years. He had received a medical education, but did not practise, his life having been spent in travel and exploration.

The Duchess of Marlborough was present at a dinner given at the Hôtel Métropole, London, on May 14th, in aid of the funds of the National Orthopædic Hospital. The Duke of Marlborough is president of the hospital board.

Summer Health Resorts.

(Specially Prepared for MEDICAL RECORD.)

At this time when so many families throughout the land are struggling with the annual and often perplexing question of where and how the hot summer months shall be spent, the same question is being put by patients to busy physicians all over the country, and these latter are often sorely tried in their attempts to find a location suitable alike to the character, inclinations, and means of the individual patient.

It is with the hope of rendering some practical aid in the solution of this problem of where patients shall be sent for the summer that this article has been prepared.

In approaching such an extensive subject as the summer health resorts of this country, it is manifestly impossible, in an article such as this, to discuss, or even mention, all of the myriad of attractive, health-giving summer places with which the continent abounds.

We can, at best, only take up in turn the different regions; giving, in a general way, the salient features of each, and then, in a more or less sketchy way describe some of the more desirable places in each region.

Such famous resorts as are well known to all our readers will be omitted, or only very briefly touched upon, in order to make room for those less widely known.

A "change" is, in almost every case, the object sought for by the physician. In one case it is a change of air; in another a change of scene and occupation; in a third a change of elevation and temperature, etc. Very frequently it must be a change in all these particulars—a "complete change," in other words.

To obtain the best result, then, the patient must be studied as an individual with individual peculiarities and whims rather than as a member of some particular morbid family. All consumptives do not do best in the dry, piney air of the Adirondacks, any more than do all convalescents from acute illnesses or from surgical operations flourish in the strong, moist breezes of the seashore, although, in general, this may be said to be true. Moreover, the inclinations of the patient as regards exercise and diversions will necessarily have weight in deciding the matter of his summer home. In one set of cases difficulty of access and inadequate telegraphic and rail communication will be sufficient to exclude a place from the list of eligible ones. In another set these very features may be the *sine qua non* of the whole situation. The overworked professional man, the nervous, exhausted banker or merchant will often want to go where the sound of the telegraph key and the sight of the daily paper with its columns of stock quotations cannot possibly reach him to disturb and interrupt his period of recuperation and rest.

In many instances the matter of expense is often a determining factor in the selection of a summer resort. The patient of moderate means living in the middle West, for example, who is in need of the strong, moist air of the seashore, may often find it inconvenient or impossible to take the long and expensive journey to the better-known resorts of the seaboard. Are there not less expensive places nearer home where the same end may be attained and the same good be accomplished?

To answer, if possible, some of these perplexing questions; to put briefly before medical men throughout the country the resources of the different regions, are the objects hoped for in these pages.

In the following account it has seemed desirable to take up in turn the different classes of health resorts,

and before going on to speak of the individual places to devote a few lines to the general character of the class of resorts in point and to the character of the patients usually most benefited thereby.

In following, then, this somewhat arbitrary plan, we shall consider in turn seashore resorts, mountain resorts, mineral springs, the region of the great lakes, and inland resorts of miscellaneous character.

Seashore Resorts.—The climate of the seashore in summer approaches, in a general way, closely to that of the ocean itself. As compared with the interior the temperature is apt to be lower and is much less liable to sudden variations; the air is dense, in consequence of the low level, and it therefore contains more oxygen. The air, moreover, is heavily charged with moisture and the quantity of ozone is greater than that contained in other air. As regards the salt in seashore air it may be well to say that it has been demonstrated that salt exists as an ingredient of the air only in the immediate neighborhood of the water, where the wind catches up the finely divided spray of the breakers and carries it a short distance up the shore. It is questionable, then, if the salt in the air plays an important or even appreciable part in producing the therapeutic effects of seashore life. The dense air, the large proportion of moisture, the freedom from dust particles, and the equable temperature are probably the essential factors. To these, however, must be added the wonderfully stimulating effects of salt water and, more especially, of surf bathing, and the vigorous, healthy out-of-door sports of sailing, boating, etc.

A seashore resort, therefore, is indicated where a strong, stimulating, moist, and equable climate is desired. It is to be recommended in many cases of anæmia and chlorosis, of scrofula, of convalescence from acute diseases, such as typhoid fever, and from surgical operations. Many victims of neurasthenia thrive there as nowhere else. The same is true of a certain number of cases of chronic pulmonary tuberculosis of mild degree and of many cases of hay fever, of spasmodic asthma, and of emphysema and chronic bronchitis. Diseases of the heart and blood-vessels and of the kidneys do better, in general, at the seashore than in the mountains.

St. Andrews, N. B.—St. Andrews, a charming old resort situated in the southwest corner of New Brunswick upon Passamaquoddy Bay, has been a quiet but favorite summer retreat for generations. During the past few years its charms have become more widely recognized, and now it ranks among the most popular places of the northeast coast. The hotel accommodations are excellent. The visitor has before him a beautiful panorama of mountain, bay, and island. The fine roads invite cycling, and the picturesque bay offers every facility for yachting and fishing. The immunity from hay fever is said to be complete.

Grand Menan.—South of Passamaquoddy Bay at the entrance to the Bay of Fundy and lying a few miles off the coast is the island of Grand Menan. This is about twenty miles long, presenting on its western side a rugged shore line of high cliffs, but on its eastern side a series of little harbors and coves, in which are nestled quaint fisher villages. The island has long been, from its wildness and splendor of scenery, a favorite resort of artists, and of late years has, very properly, gained greater prominence as a wild and secluded seashore resort for tired brain-workers. Tramping, riding, sailing, and sea fishing are the chief diversions. As yet there are no large settlements upon the island and no swarm of summer tourists. The hotel accommodations are accordingly modest and primitive. The atmosphere is wonderfully soft and moist, much resembling that of Scot-

land, but without its sudden changes. Fog is less common than at Mount Desert, but is occasionally troublesome.

Eastport, Me.—A few miles across the frontier, in the southeast corner of Maine, and lying on the western shore of Passamaquoddy Bay, is the pretty town of Eastport—a place of some four thousand people, and a favorite among the many delightful resorts of the Maine coast. The place has many of the natural features of St. Andrews, but with them the advantages and disadvantages of a town residence.

Mount Desert Island.—The fame of Mount Desert as a place of summer residence is now so wide that a detailed description of the place seems almost unnecessary. The island is fourteen miles long and eight miles wide, and has an area of about one hundred square miles. It lies in Frenchman's Bay, one hundred and ten miles east of Portland, and its northern coast approaches so closely to the mainland as to be connected to the latter at one point by a bridge. It is made up of a mass of mountains, some of them rising abruptly from the sea, which terminate in a series of thirteen peaks; the highest, Green Mountain, reaching an altitude of fifteen hundred and twenty-seven feet. On the west the mountains rise in a gentle slope from the water, but on the east they form a range of towering cliffs rising perpendicularly from the sea. The mountain slopes are heavily timbered, and hidden away high up among these are many beautiful mountain lakes, whose wonderfully clear waters reveal the presence of the wary trout far below the placid surface. The superb picture of ocean, mountain, forest, and lake lends a charm to the place which is irresistible. As one writer says of it: "Certainly only in the tropics can the scene be excelled—only in the gorgeous islands of the Indian and Pacific oceans. On the coast of America it has no rival except, perhaps, on the Bay of Rio Janeiro."

The air of Mount Desert is strikingly fine and exhilarating. It combines with the strong air of the sea the purity and crispness of that of the mountains. Equability is the feature of the temperature. Extremes of heat and cold are almost unknown. Government records show the average during the summer months for the warm hours of the day to be 70° F., and that for the night to be 64° F. The fact that during the summer it is not uncommon to have fog during the morning and evening hours may, with certain patients, prove an objection to the place.

As for diversions, they are simply numberless. The many indentations of the coast and the number of cozy harbors, together with the grandeur of the scenery, make it an especially attractive place for yachtsmen. There is besides every facility for boating, canoeing, sailing, fishing, and, for those who do not mind the somewhat chilly water, salt-water bathing. Among the land sports may be mentioned climbing, walking, riding, driving, tennis, etc.

Mount Desert may be recommended for cases of overwork, anæmia, and debility, for neurasthenia, hay fever, spasmodic asthma, etc. Many bronchial and pulmonary sufferers do remarkably well there for the summer. For those cases of chronic valvular disease in which Oertel's treatment of carefully graduated hill climbing seems desirable, the island would seem to be especially suitable.

Bar Harbor.—Bar Harbor, on the eastern shore of the island, is the most widely known and most fashionable of the resorts. Here one will find magnificently appointed hotels and every luxury that can be desired. Northeast Harbor, Southwest Harbor, Seal Harbor, Sorrento, Winter Harbor, and Sullivan Harbor, though smaller and less widely known than Bar Harbor, are all attractive, high-class resorts.

Penobscot Bay.—A few miles to the westward from

Mount Desert lies the beautiful Penobscot Bay, and upon its shores are to be found a number of quiet, charming retreats—among them Castine, a pretty and wealthy village, situated on a narrow peninsula projecting into the bay; Northport, Fort Point, and Blue Hill.

Islesboro.—Islesboro, at the entrance of Penobscot Bay, is a narrow, well-wooded island, thirteen miles long, with charmingly picturesque scenery and much about it that is interesting in history and tradition. There are good hotel accommodations.

Camden.—Camden, lying eight miles north of Rockland, combines the charm of mountain and sea, and is steadily growing in favor among the Maine coast resorts.

Popham Beach.—At the mouth of the Kennebec River is situated Popham Beach—a semi-fashionable resort, with a fine, hard, white beach, and interesting fort ruins. There is every opportunity for aquatic sports. The hotels are comfortable and commodious.

Portland.—The commercial metropolis of Maine and "one of the most beautiful cities in the country," is also the centre of a group of delightful seaside places. Situated on a peninsula at the southwestern extremity of Casco Bay, its summer climate is made delightful by the cool, fresh sea breeze which blows with great constancy.

Casco Bay.—The great bay is dotted with hundreds of small islands, some of which present scenes of wild beauty. Many of them are occupied by attractive summer hotels and cottages. There are many excellent bathing-beaches, as well as good sea fishing, sailing, boating, etc. Cushing's Island, the largest of the islands, lies three miles off from Portland and is reached by steam ferries. It furnishes excellent hotel accommodations. Cape Elizabeth, at the southern side of the bay, is another attractive place.

Scarboro Beach.—A few miles south of Portland lie Scarboro Beach and Pine Point, two popular seaside places, offering excellent bathing, boating, fishing, and shooting. They possess a number of comfortable hotels and boarding-houses and are especially patronized by Canadians.

Old Orchard Beach.—The next point of importance in following down the coast is one whose name has been for many years a familiar one throughout the land. Old Orchard has perhaps the most magnificent beach to be found along the whole length of the Atlantic seaboard. It extends in the form of a crescent for a distance of ten miles, slopes very gradually to the water, and is composed of dazzlingly white, compact sand, upon the smooth hard surface of which the fine surf dashes unceasingly. The gradual slope of the beach makes it an especially safe one for bathing. There are, besides, good fishing and shooting in the vicinity. Many hotels, large and small, boarding-houses, and cottages make up the settlement. A camp-meeting ground, where meetings are held each summer, is also near at hand.

Kennebunkport.—About midway between Portland and Portsmouth lies the pleasant old village of Kennebunkport, once famous for its ship-building. It is situated about one mile from the mouth of the Kennebunk River, and has of late found much favor as a place of quiet summer residence.

Wells Beach.—Wells Beach, reached by a stage ride of six miles from the station of Wells, is very popular with sportsmen by reason of the good fishing and shooting to be had there. The beach supplies many snipe and curlew and the adjacent woods partridge and woodcock. A large trout stream is also in the immediate vicinity.

York.—A few miles farther south and nine miles north of Portsmouth, N. H., is the village of York, with its neighboring York Beach and York Harbor.

These are attractive resorts, with good hotels and good bathing, boating, canoeing, and fishing.

Portsmouth.—Portsmouth, the seaport of New Hampshire, is a charmingly old-fashioned town of ten thousand people, with wide, finely shaded streets, large gardens, and comfortable old residences, and with much of historic interest about it. The town lies two miles from the mouth of the Piscataqua River and is almost entirely surrounded by water. There are several good hotels.

Isles of Shoals.—Portsmouth is the starting-point for steamers which run daily to the famous Isles of Shoals, which lie some nine miles off the coast at this point. These islands, so widely known through the writings of Lowell, Celia Thaxter, and others, consist of eight small rocky ledges, bleak and barren in aspect, and with ugly jagged reefs extending from them in all directions under the water. There is, however, much that is attractive about them for those who love their severe, rugged beauty. Several of the islands possess good hotels and pleasant cottages, and they are much frequented during the summer.

New Castle.—Two miles from Portsmouth at the mouth of the harbor and on an island of the same name is the historic old village of New Castle. The island affords fine land and water views, and there are excellent bathing, boating, fishing, and driving. There is near the village a large, finely appointed hotel.

Rye Beach.—Rye Beach, the most fashionable, perhaps, of the many New England seashore resorts, is situated seven miles south of Portsmouth. The beach itself is a beautiful one and the surf bathing unexcelled. The place contains several high-class hotels and many charming cottages.

Hampton Beach.—Only a few miles to the south of Rye is another attractive though less widely known resort. Hampton Beach offers capital surf bathing, fishing, driving, etc., and good hotel accommodations.

Newburyport.—Built upon the steep Massachusetts shore of the Merrimac River, three miles above its mouth, is the historic old town of Newburyport, now a place of some fourteen thousand inhabitants. There is much that is quaint and interesting in the old place, and steamers ply constantly between it and the two neighboring ocean resorts, Plum Island and Salisbury Beach.

Cape Ann.—Cape Ann, with its peaceful fishing-village, has long been used as a place of summer residence by the many who prefer to enjoy their seaside life in restful quiet and seclusion rather than amid the excitement and conventionalities of the fashionable summer hotel.

Plymouth.—Still farther south lies ancient Plymouth, the "Mecca of the New World," with its wealth of historic interest and charm. It possesses, moreover, many attractive natural features. The diversions of a watering-place are all there, and there are besides many charming excursions and drives in the surrounding country.

Cape Cod.—Cape Cod, with its hundreds of miles of coast line, its barren sand wastes, its constant association with storm and shipwreck, its famous sea fisheries, and its quaint, interesting fisher-folk, stands unique among seashore resorts. The absence of hills and rocks and woods over a great part of the cape offers to some a serious objection to the place, but, on the other hand, there are many who affirm that for those who really love the sea Cape Cod has an indescribable charm not to be found at any point along the coast. The places along the shore of Buzzard's Bay are perhaps the most attractive. Sea fishing of every variety, surf and still-water bathing, sailing and boating are all to be had in perfection on the cape. Near Bourne on Buzzard's Bay are "Gray Gables," the summer home of President Cleveland, and "Crow's

Nest," Mr. Joseph Jefferson's charming place. Wareham, Bourne, Monument Beach, Cataumet, Sandwich, Barnstable, Hyannis, Yarmouth, Dennis, Harwich, Chatham, and Provincetown, are the chief centres for summer visitors.

Wood's Holl.—Wood's Holl, at the southeastern extremity of Buzzard's Bay, is an attractive resort and the headquarters of the United States fish commission.

Martha's Vineyard.—Lying some ten miles south of the Massachusetts coast and separated from it by Vineyard Sound is Martha's Vineyard, an island twenty miles long and six miles wide. This has long been a popular summer retreat, and of late has become known as the place of the great Methodist camp-meeting ground, where twenty thousand to thirty thousand people gather every August. The island furnishes delightful still-water bathing and good fishing, sailing, driving, and wheeling. There are good hotels and many attractive cottages. Cottage City, pleasantly situated on the north shore, is the chief town. Oak Bluffs and Edgartown are popular places.

Nantucket.—Some thirty miles eastward of Martha's Vineyard, and far out in the Atlantic, lies Nantucket, once the headquarters of the whaling industry in this country and now recognized as one of the most charming of the quiet watering-places along the coast. The island lies so far out that the strong, moist air is exactly that of the ocean itself. The proximity of the Gulf Stream tempers the water so as to make the bathing especially pleasant. The island is almost treeless, but the low hills are covered to a great extent with heather, and one is constantly reminded both by climate and landscape of the lovely Scottish moors. The quaint old town of Nantucket, lying on the western side of the island, furnishes excellent sailing, fishing, and boating. At Siasconset, a queer but charming old fishing-village on the eastern shore, fine surf bathing is to be had. The island contains a number of first-class hotels, but is chiefly occupied by cottagers. Martha's Vineyard and Nantucket are reached from New Bedford, by steamers running twice daily during the summer months and touching at Wood's Holl.

Newport.—This queen of watering-places is too well known to need detailed description. The place abounds in luxurious hotels and palatial "cottages." There are to be had fine surf bathing, good sailing, and land sports of every variety.

Narraganset Pier.—Narraganset is another fashionable and famous watering-place. It lies on the west shore of Narraganset Bay at its mouth, has a superb bathing-beach and many first-class hotels.

Watch Hill.—Situated on a bold promontory at the extreme southwestern point of Rhode Island is Watch Hill, another delightful shore resort. The scenery is bold and beautiful, the bathing and fishing are good and the hotels metropolitan in point of excellence.

Block Island.—Lying ten miles south of Rhode Island and at the eastern entrance to Long Island Sound is Block Island, reached by steamer from New London and Stonington. The island is seven miles long and along its southern shore is bordered by high bluffs. The northern shore furnishes good bathing-beaches and a fine surf. The island is patronized by a high class of visitors and offers many attractions both on land and water.

The Connecticut Shore.—The northern shore of Long Island Sound is lined with pleasant summer resorts where still-water bathing, sailing, fishing, and boating are to be had in perfection. The air lacks some of the freshness and coolness of the more northern resorts, but the nights are always cool and breezy. Lack of space forbids more than a mere mention of

the more important places. These are Stonington, New London, Saybrook, Guilford Point, Branford Point, Milford, Black Rock, Fairfield, Westport, Norwalk, Stamford, Greenwich, and Rye.

Long Island.—Long Island, by reason of its accessibility and its natural attraction, is so completely occupied during the summer by multitudes in search of relief from the heat of the cities and of rest and health among the innumerable watering-places, that it may be considered as one vast seashore resort. Both the northern and southern shores of the island afford a whole series of attractive places, although the latter has by far the greater number.

North Shore.—The north shore, washed by the sound, has many little bays and inlets and furnishes all the usual seashore diversions and many charming drives.

South Shore.—The south shore, although flatter and more monotonous in landscape, is fanned by the cool, strong breezes of the Atlantic, and is perhaps the more attractive. The shore is separated from the ocean by a line of dunes, extending for seventy miles, which form two long, narrow landlocked bays—Great South Bay and Shinnecock Bay—admirably suited for safe sailing and bathing and for fishing. Beyond the dunes excellent surf bathing is to be had. Riding, driving, wheeling, and tennis are all indulged in extensively. At certain points along both shores mosquitoes are sometimes troublesome.

Along the north shore from west to east the chief places are Glen Cove, Oyster Bay, Cold Stream Harbor, Northport, Port Jefferson, and Greenport. Shelter Island and Gardiner's Island are two popular island resorts reached by steamer from Greenport.

Along the south shore in the same direction are found Rockaway Beach, Amityville, Babylon, Bay Shore, Islip, Bayport, Patchogue, Bellport, the Moriches, West Hampton, Quogue, South Hampton, East Hampton, and Montauk Point.

New Jersey Resorts.—The coast of New Jersey presents a chain of flourishing watering-places, the most famous of which is, of course, Long Branch. These resorts are especially popular because of their ready accessibility from the large cities of the East and of the fine surf bathing to be had at most of them. The summer climate is, of course, not so cool and exhilarating as that along the coast farther north, but the weather is tempered most of the time by the fresh balmy ocean breeze, and the nights are always comfortable and refreshing. On Shrewsbury River and Barnegat Bay good sailing and boating may be had. The country abounds in fine roads, and driving and wheeling are popular diversions. Fine beaches and high surf exist all along the coast. Resorts of every character are to be found here, from fashionable and dissipated Long Branch to the great Methodist settlement of Ocean Grove.

From north to south the principal resorts are as follows: Highlands, Seabright, Monmouth Beach, Long Branch, Elberon, Asbury Park, Ocean Grove, Ocean Beach, Spring Lake, Sea Girt, and Manasquam. Along the shores of Barnegat Bay are Point Pleasant, Tom's River, Bayville, Barnegat, Manahawkin, Tuckerton, Beach Haven, Barnegat City, Seaside Park, and Bay Head.

Mountain Resorts.—The climate of high elevations differs, in general, from that of the lowlands in the following respects: The air is rarefied, as shown by the lessened barometric pressure; it contains a relatively small proportion of moisture and is therefore dry; as a result of this latter feature the air is cool, although the sunshine may be quite hot, because the

heat absorbed by the air from the sun's rays depends upon the amount of aqueous vapor in the air. There is, moreover, great freedom from both organic and inorganic impurities. Bacteria and kindred micro-organisms exist in very small numbers, probably because of the low humidity, the cold nights, the greater electrical activity, and the increased amount of light, all of which conditions are inimical to the growth and development of these germs. As a result of the above-mentioned peculiarities of mountain climate the activity of the skin is increased, the frequency of the heart beats is augmented, and the individual beats are strengthened; the respirations are usually somewhat quickened and each inspiration is deepened; the respiratory muscles are strengthened, the quantity of blood in the lungs is greater, and the elimination of water and carbonic acid is increased. Besides this, the appetite is usually improved and the assimilation of nourishment increased.

It has been found from experience that the elevated and dry climate of the mountains is particularly beneficial in the following classes of ailments: Exhaustion from overwork with anæmia, loss of appetite, insomnia, etc.; most cases of pulmonary phthisis, especially those in which the process is not acute and severe and in which hectic symptoms are not marked; cases with only an hereditary tendency toward phthisis; chronic catarrh of nose and throat, hay fever, spasmodic asthma not dependent upon emphysema or organic heart disease; many cases of functional liver disorders and chronic dyspepsia; some, but by no means all, cases of neurasthenia. The classes of diseases usually not favorably influenced by mountain life are arterio-sclerosis and senile conditions generally; organic disease of the heart, aneurism of the aorta, severe emphysema with chronic bronchitis, epilepsy, and, in general, rheumatic and gouty affections.

The White Mountains.—The White Mountains, the grandest and most picturesque of the mountain groups in the eastern half of the United States, rise from a plateau sixteen hundred feet above sea level, near the centre of New Hampshire. They cover an area about forty-five miles long and thirty miles wide, and are made up of about twenty separate peaks ranging in height from three thousand to sixty-three hundred feet. These are divided by deep, narrow valleys into two groups—the eastern the White Mountains proper, the western the Franconia group.

These mountains are extremely popular as places of summer resort, not only on account of the health-giving properties of their climate, but also because of their matchless scenery, which has won for them the title of the "Switzerland of America." The region is well supplied with large and finely appointed hotels, both on the mountains themselves and in the charming villages occupying the neighboring valleys and plateaus. There are also many small hotels, boarding-places, and cottages to be found.

The mountains are approached from the northeast through the village of Gorham, from the southeast through North Conway, from the south through Plymouth, and from the west through Wells River.

Bethlehem.—Bethlehem, "the highest village east of the Rocky Mountains," lies on the western side of the mountains. It is a famous place of summer resort and the meeting-place of the American Hay Fever Association.

Jefferson, Lancaster, Bartlett, and Jackson are some of the better known mountain villages.

Green Mountains.—Extending north and south through the western part of Vermont is the Green Mountain range. These mountains are for the most part only high, wooded hills. The country is beautiful and healthful, but the scenery much less rugged and the climate less truly mountainous than in the

¹Atlantic City, Cape May, and the seaside resorts of the southern coast will be considered in an article on winter resorts to appear in the autumn.

neighboring White Mountains. Mount Mansfield, forty-three hundred and forty-eight feet, is the highest peak of the range. Rutland, Waterbury, and Stowe are delightful places of summer residence and the centres of resort in this district.

The Adirondacks.—This great tract of mountain land, now so well known as the summer retreat of many thousands of healthy people from all over the country, is also famous for the multitude of consumptive patients who seek there, successfully, renewed health and prolonged and useful life.

These mountains, up to a few years ago a wild and savage wilderness unknown but to the hunters, trappers, and lumbermen of that region, lie in the north-eastern part of New York, between Lake Champlain on the east and the St. Lawrence River on the north-west. They rise from a great plateau, of some two thousand feet elevation, covering a region of one hundred and fifty miles long and one hundred miles wide, and are composed of several hundred peaks ranging in height from twenty-five hundred to fifty-three hundred feet. The mountains are everywhere covered with dense forests composed of trees of many varieties and afford shelter for all sorts of wild game. In the valleys among the mountains are found a vast number of beautiful lakes and ponds, and these are connected with one another by an intricate network of rivers and brooks which offer to the angler all sorts of delightful possibilities. The mean elevation of these lakes is about fifteen hundred feet and many have a much greater altitude.

The effect of the forests is to modify the climate of this region as compared with that of other mountain districts, in that the air contains more moisture because of the slow evaporation and the temperature is more equable because of the protection afforded against cold winds. Considering the wildness of the region, comfortable hotel accommodation is singularly abundant. At almost all the larger lakes are well-appointed hotels and good boarding-places, and no difficulty is experienced in securing camps, reliable guides, and camping-outfits. It will be quite impossible to mention in detail the many delightful resorts in these mountains; only the larger and better known can be spoken of, but it must be remembered that this whole region teems with wonderfully beautiful places far away from crowds and civilization, where the invalid, in canoe or hammock, with rod or gun, can dream away the long, cool summer days, inhaling with each breath of fragrant, resinous air new life and fresh vigor.

Scroon, Blue Mountain, Long, and Raquette Lakes in the southern part, Elizabethtown and Keene Valley in the east, Chateaugay and Loon Lakes in the north, Tupper Lake in the west, and Lake Placid and the Saranac Lakes in the central part of the mountains, are the favorite regions of resort.

The Catskill Mountains.—In the southern eastern section of New York and lying a few miles west of the Hudson River is this small group of mountains, whose easy accessibility and bold and striking beauty have made them a favorite summer retreat for many generations. They cover an area some thirty miles square and range in height from two thousand to four thousand feet. The region is replete with curious and picturesque scenes, and from the mountain summits views are to be had which for vast extent, grandeur, and beauty can hardly be surpassed by any east of the Rockies. The air of this region is characterized by its dryness, its purity, and its tonic qualities. A few of the highest and most beautiful situations are occupied by large and famous hotels. In the villages mentioned below are to be found many quiet, comfortable hotels and boarding-places and many charming colonies of summer cottagers.

Among the more prominent places of resort are Shandaken (1,060 feet), Pine Hill (1,650 feet), Prattsville, Stamford (1,800 feet), Hunter (2,000 feet), Tannersville, Onteora Park, Haines' Corners (2,300 feet), Kaaterskill, Pine Orchard (2,500 feet), Lexington, and Palenville.

The Shawangunk Mountains.—The Shawangunk Mountains form a small spur lying to the south of the Catskills and possess much the same climate and natural features of these latter mountains.

Lakes Mohonk and Minnewaska.—Situated near the summit of these mountains are two small lakes, Mohonk and Minnewaska, with an elevation respectively of twelve hundred and fifty and eighteen hundred feet. These little sheets of water lie in the midst of bold and picturesque scenery, and afford wide and beautiful views over the surrounding valleys. The region is supplied with good hotel accommodation.

The Delaware Mountains.—To the southwest of the Catskills and forming a link between them and the Alleghany Mountains in Pennsylvania are the Delaware Mountains, a group of hills lying chiefly in Sullivan County, N. Y., and ranging in height from twelve hundred to twenty-five hundred feet. The hills are covered with forests and enclose many beautiful lakes and streams, so that Sullivan County has long been a most popular locality with sportsmen, and especially with fishermen, who find there trout fishing of the most exciting kind. The climate is that of a high plateau, dry, cool, and bracing. The region has gained some repute not only by reason of its charming scenery and excellent sport, but also as possessing a climate eminently suited for consumptives. The summer resorts of this region are essentially quiet and modest in character, and are especially adapted for people of moderate means who wish to avoid the expense incident to life at the large and fashionable hotels. The district furnishes an immense number of small, quiet hotels and comfortable farmhouses, where summer visitors are well cared for at very moderate expense.

Liberty and Monticello are the two chief village resorts of this region, and these furnish excellent hotel accommodations. Four miles from the former place are the White Sulphur Springs, where hot and cold sulphur baths, etc., are to be had.

The following list includes the better known places of resort: Mountain Dale (1,000 feet), Kiamasha Lake (1,600 feet), Woodbourne (1,400 feet), Never-sink (1,450 feet), Monticello (1,500 feet), Loch Sheldrake (1,300 feet), Liberty (1,580 feet), White Lake (1,500 feet), Parkville (1,600 feet), and Livingston Manor (1,430 feet).

The Alleghany Mountains.—The great Alleghany system of mountains, of which the White Mountains and the Adirondacks are really outlying portions, extends in several parallel ranges southwestward through Pennsylvania, Maryland, Virginia into North and South Carolina and Tennessee. These mountains naturally furnish a vast number of health resorts of every character, of which only those of the more northern portion can be mentioned in this paper. The most eastern range, the Blue Ridge—known in Pennsylvania and Maryland as the South Mountains—furnishes perhaps the most attractive summer resorts.

The Delaware Water Gap.—On the boundary between eastern Pennsylvania and New Jersey, in the midst of wild and beautiful mountain scenery, is the Delaware Water Gap, a deep narrow gorge, at the bottom of which the Delaware River flows in passing through the Blue Ridge Mountains. The walls of the gorge rise almost perpendicularly to a height of sixteen hundred feet and are topped by the two frowning mountains, Minsi and Tammany. This place has

long been a well-known and popular mountain resort. The neighborhood is rich in picturesque tramps and drives and the summer climate is cool and bracing. The forests shelter small game and the mountain streams furnish excellent trout fishing.

Mauch Chunk.—In the heart of the Pennsylvania coal region and in the midst of the most rugged and beautiful mountain scenery of the East, lies the town of Mauch Chunk. The Lehigh River flows at its foot and the narrow gorge-like valley is surrounded on every side by high mountains. Here is the famous switchback railroad, now used only as a pleasure road. The immediate neighborhood of Mauch Chunk is much frequented as a place of summer retreat, and abounds in comfortable hotels and manifold diversions.

Glen Summit.—Thirty miles from Mauch Chunk is Glen Summit, another well-known mountain resort. It lies at the very crest of the great ridge, two thousand feet high, and offers a series of magnificent mountain views and many charming walks and drives. The place has a large hotel and many attractive cottages and is much patronized in summer.

Wilkesbarre.—The prosperous city of Wilkesbarre occupies the central part of the picturesque Wyoming Valley, lying on the bank of the Susquehanna River. The town itself has an altitude of only five hundred feet, but the neighboring mountains afford many attractive places for summer retreat. Shawanese Lake, a lovely sheet of water high up in the mountains, is growing rapidly into prominence as a popular resort. Lake Ganoga, also in the vicinity of Wilkesbarre, has an altitude of twenty-three hundred feet and lies in the midst of a great forest with wonderful mountain views all about it. Lake Carey, a few miles beyond, has an altitude of one thousand feet and abounds with black bass and pickerel. It has comfortable hotels and is very popular with sportsmen.

Cresson Springs.—A few miles west of Altoona on the very summit of the Alleghany range and three thousand and twenty feet above sea level is Cresson Springs, one of the largest and most visited mountain resorts in Pennsylvania. The high altitude insures for it in summer dry, pure air and low temperature. Aside from the delightful climate there are in the neighborhood entrancing mountain views.

Deer Park.—The last of the Alleghany resorts to be mentioned here is Deer Park. This is situated in the extreme southwestern corner of Maryland, in the very heart of the Alleghanies, at an altitude of twenty-four hundred feet. The scenery in this region is of surpassing beauty and the summer climate delightful in its freshness and coolness. There are many attractive walks and drives and good boating and fishing. The region affords excellent hotel accommodations and contains many charming cottages.

The Rocky Mountains.—The Rocky Mountains by their enormous area and high altitudes afford, of course, a multitude of health resorts, suitable especially for patients with pulmonary disease. Only a few of the more important regions can be mentioned here.

Denver.—The capital and chief city of Colorado lies at an altitude of fifty-three hundred feet and shares with all the other resorts of the eastern slopes of the Rockies a singularly dry, pure atmosphere. The value of its climate in pulmonary complaints has been attested by the thousands of invalids who have there regained completely their health or have at least won comparative freedom from the distressing symptoms of the disease.

Colorado Springs.—This famous and fashionable resort lies seventy-five miles south of Denver in the neighborhood of Pike's Peak and has an altitude of six thousand feet. It is used both as a summer and

winter resort. The town is pleasantly laid out and contains many handsome residences, large hotels, and good boarding-places. The region supplies many pleasant rides and drives and all sorts of outdoor amusements.

Manitou Springs.—Six miles west of Colorado Springs at the foot of Pike's Peak is the village of Manitou Springs, famous not only for its mountain climate, but as well for the mineral springs to be found here. These are six in number: two supply muriated alkaline water, two acidulous alkaline, one chalybeate alkaline, and one aperient. The climate has been found especially suitable for patients with asthmatic as well as tuberculous trouble, and the springs are useful in liver and kidney disorders and for their tonic effects. The region about Manitou supplies some of the most wonderful bits of mountain scenery on this continent. Pike's Peak, Glen Eyrie, the Garden of the Gods, and Monument Park are reached by short excursions.

San Luis Park.—San Luis Park, by far the largest of the four great natural parks of Colorado, lies in the southern part of the State, at a height of between six thousand and seven thousand feet. This enormous valley, covering an area of eighteen thousand square miles, is surrounded on all sides by high mountains, and this sheltered position and its southern location give it a climate wonderfully mild, genial, and equable. Near the centre of the park is San Luis Lake, a beautiful sheet of water, into which most of the many streams of this region flow. The country is, of course, wild and unpopulated and abounds in excellent hunting and fishing.

South Park.—In the central part of Colorado and some distance north of San Luis Park is South Park, the most accessible and most beautiful of the Colorado parks. Its average elevation is nine thousand feet. It lies surrounded on all sides by gigantic snow-covered mountains, and offers a delightfully mild, balmy summer climate and scenery of the utmost grandeur.

Middle Park.—Middle Park, situated directly north of South Park is separated from the latter by a branch of the Park range. It lies at a height of seventy-five hundred feet and comprises an area of some three thousand square miles. This vast district teems with every variety of big game and the streams are filled with fish. The climate, though less warm than that of the two above-mentioned parks, is still mild and dry and in every way suitable for invalids who can stand the fatigues of the journey thither. Hot Sulphur Springs is usually the objective point of visitors to this region. The sulphur baths here are recommended especially for chronic rheumatism, neuralgias, and chronic skin diseases. The hotel accommodations are fairly comfortable.

North Park.—In the extreme northern part of Colorado, at an elevation of nine thousand feet, is North Park, the wildest and least accessible of the four. The climate is cold, but the air dry and exhilarating and the region is one of the best hunting-grounds of the continent.

Yellowstone Park.—The great National Park is now perhaps the most popular inland summer resort of tourists and invalids in the West. Its grand mountains, wonderful geysers, beautiful lakes and streams, exhilarating climate, and easy approach conspire to make it one of the most attractive and interesting regions on the continent. It comprises an area of some thirty-five hundred square miles, lying at an altitude of from six thousand to seven thousand feet. Camping is much resorted to in the park, and reliable guides and complete outfits are readily obtainable. The park abounds with all sorts of big game and the lakes and streams with fish. Fishing with line and hook is permitted, but the use of firearms is prohib-

ited. Capital hunting, however, is to be had across the borders of the park. The climate is cool, dry, and invigorating.

Banff Springs.—Farther north in the Rockies in eastern British Columbia lies the Canadian National Park, and in this is situated Banff Springs, a mountain resort of much beauty, but best known by reason of the hot sulphur springs here. The spot lies in the midst of wild mountain scenery and possesses a dry, cool summer climate. Only a few miles away are the famous Lakes in the Clouds, three mountain lakes of surpassing loveliness. The climate at Banff is suitable for pulmonary diseases and the sulphur baths are useful especially in rheumatic affections. Hotel accommodations are excellent.

Mineral Springs.—The benefit derived from a visit to a spa is by no means altogether, or even chiefly, to be attributed to the mineral ingredients of the water there imbibed. The change of climate and scene, the freedom from care, the regular habit of life, the simple regimen, and the regular out-of-door exercise, all play an important part in producing the very satisfactory results so often seen from such a pilgrimage. And it may be said in general that just in proportion as these important features of the treatment are carefully and faithfully complied with can a satisfactory result be expected.

Mineral springs are classified in various ways and most of these classifications are open to objections of one sort or another. A simple and fairly satisfactory arrangement is the following one: alkaline, saline, chalybeate, sulphuretted, carbonated, and thermal springs.

Alkaline Springs.—That class of springs in which the chief mineral ingredients are the alkaline carbonates is called alkaline. The carbonates are those of sodium and potassium, and upon these the chief therapeutic action depends. These waters are often also strongly impregnated with carbonic-acid gas.

When taken before meals the physiological action is chiefly to stimulate gastric secretion. During and after meals the water tends in the stomach to neutralize free acids and the products of fermentation. When absorbed into the blood the alkalinity of the blood is increased, the excretion of urea made greater, and the functions of the various mucous membranes stimulated. These waters are useful especially in acid and atonic dyspepsias, in catarrhal conditions of the different mucous membranes, particularly those of the respiratory tract, bladder, and biliary passages.

Sheldon Springs, Vt.—Ten miles from St. Albans in the northwestern part of Vermont are the Sheldon Springs lying in an attractive country, with views of several of the Green Mountain peaks. There are a comfortable hotel and good bathing facilities.

Middletown Springs.—In Rutland County, of the same State, are the Middletown Springs—four alkaline springs located on the north bank of the Poultney River. The village lies at the foot of the mountains and affords fine views. There are comfortable accommodations for three hundred and fifty guests.

Orkney Springs, Va.—The Orkney Springs lie near Mount Jackson, in Shenandoah County, Va., at an elevation of twenty-one hundred feet. There are several hotels and numerous cottages and the place is well known as an attractive summer resort.

Jordan Alum Springs.—In the Mill Mountains in Western Virginia are the Jordan Alum Springs. The water is alkaline and astringent, and is useful in chronic diarrhoeas as well as in the list of ailments given above.

Perry Springs in Pike County and Versailles Springs in Brown County, Ill., are valuable alkaline waters, as yet not widely known.

Waukesha, Wis.—Waukesha is one of the popular

summer resorts of the West and lies in a valley famous for its lovely scenery. The village is in summer a gay and lively one. There are first-class hotels and many cottages. The Bethesda Spring is well known and much patronized.

Manitou Springs, Col., with its alkaline water, has been mentioned under mountain resorts.

Saline Springs.—These may be subdivided into two groups: First, the saline springs proper, or those in which sodium chloride is the chief ingredient, and second, the sulphated or bitter springs, which depend for their active properties upon the presence of sodium and magnesium sulphate.

Mount Clemens Springs, Mich.—One of the strongest saline springs of this country is that of Mount Clemens, Mich. The town lies on the Clinton River, a short distance above its entrance into Lake St. Clair. The region is admirably suited for a place of summer resort. The climate is cool and invigorating, the place affords pleasant drives, and the neighboring waters are filled with fish. Mount Clemens has, within a few years, grown to be a large and very popular health resort. The water, besides containing a very large amount of sodium chloride, is also impregnated with sulphuretted hydrogen gas and is used extensively both internally and in the form of baths. The best results have been obtained in rheumatism, gout, chronic skin diseases, and chronic catarrhal conditions of the gastro-intestinal tract.

The Sodium Chloride Waters.—The physiological effect of these waters is to stimulate the functions of all the mucous membranes, but especially those of the gastro-intestinal tract. In the stomach and intestines they dissolve mucus, stimulate the digestive juices, and hasten osmosis and absorption. Peristalsis is increased. These springs are useful in catarrhal processes of stomach, intestines, and bile ducts, in chronic congestion of the pelvic viscera, in obesity, and in syphilis.

Saratoga Springs.—Under this class come most of the springs at Saratoga. These contain large quantities of saline ingredients and have a distinctly purgative action. The following analysis is that of the Congress Spring, which may be taken as a type of these waters. One gallon contains:

Bicarbonate of lithium.....	4.761 grains.
Bicarbonate of sodium.....	10.775 "
Bicarbonate of magnesium.....	121.757 "
Bicarbonate of calcium.....	143.399 "
Bicarbonate of strontium.....	trace.
Bicarbonate of barium.....	0.928 grain.
Bicarbonate of iron.....	0.340 "
Chloride of sodium.....	400.444 grains.
Chloride of potassium.....	8.049 "
Sulphate of potassium.....	0.889 grain.
Phosphate of sodium.....	0.016 "
Biborate of sodium.....	trace.
Bromide of sodium.....	8.559 grains.
Iodide of sodium.....	0.138 grain.
Fluoride of calcium.....	trace.
Alumina.....	"
Silica.....	0.840 grain.

Total..... 700.895 grains.
Gas, carbonic-acid..... 392.289 cubic inches.

As regards Saratoga itself little need be said. It is the most famous spa of this continent. Its enormous hotels are filled each summer by a fashionable throng gathered there from all parts of the country. The climate is delightful and the surrounding country beautiful.

Ballston Spa.—Seven miles from Saratoga lies Ballston, another famous resort. This place, although much more quiet than Saratoga, is visited by a delightful class of people and contains excellent hotels and many beautiful summer residences. The springs resemble closely in character those of Saratoga.

Blue Lick Springs, Ky.—Blue Lick Springs is one of the popular summer resorts of the Southwest. It lies in Nicholas County, Ky., on the banks of the Licking River. The waters are sulphuretted and saline. There are good hotel accommodations.

Michigan Congress Springs.—At Lansing, the capital of Michigan, are the Michigan Congress Springs, whose water resembles that of the Saratoga Springs. Lansing is a town of fifteen thousand inhabitants, with comfortable hotels.

Borland Well and Kanawha Spring in West Virginia, and Sheboygan Well in Wisconsin, are springs of this type.

Sulphated or Bitter Springs.—These names are used to designate waters characterized by the presence of large amounts of the sulphates of sodium and magnesium (epsom and Glauber's salts). These waters produce profuse, watery discharges from the bowels, and are useful in obesity, congestions of the pelvic organs, hemorrhoids, etc. Their action in obesity depends partly upon the fact that food is hastened through the intestines and absorption is thus rendered incomplete.

Bedford Springs, Pa.—The Bedford Springs lie at an elevation of one thousand and eighty feet on the eastern slope of the Alleghanies and possess in addition to the curative water the features of picturesque mountain scenery, pure air, and a salubrious climate. The place has long been a favorite summer resort and affords commodious hotel accommodations. The analysis of the "Mineral," one of the five springs here, is appended. One gallon contains:

Carbonate of calcium.....	8.471 grains.
Carbonate of magnesium	0.591 grain.
Carbonate of iron.....	0.046 "
Carbonate of manganese.....	trace.
Sulphate of strontium	0.007 grain.
Sulphate of calcium	90.455 grains.
Sulphate of magnesium.....	38.683 "
Sulphate of sodium	0.608 grain.
Sulphate of potassium	0.295 "
Chloride of lithium	trace.
Chloride of sodium	0.534 grain.
Phosphate of calcium	0.022 "
Sulphide of hydrogen	0.005 "
Silicic acid	0.169 "
Carbonic acid (free)	1.273 grains.

Total..... 140.565 grains.

Crab Orchard Springs in Lincoln County, Ky., and Estill Springs in Estill County of the same State are well-known examples of this type of spring and are popular summer resorts.

Chalybeate Springs.—This name is given to those mineral springs which contain salts of iron in quantities sufficient to be of some therapeutic value. These salts are usually the carbonate and the sulphate. Alum is often present in conjunction with the iron salts. Waters containing the carbonate of iron are odorless, clear, of only slightly inky taste, and are usually highly charged with carbonic-acid gas. The sulphate waters, on the other hand, have a pronounced astringent taste, which often renders them unpalatable. This class of springs is used in anæmia, chlorosis, hysteria, neurasthenia, dysmenorrhœa, amenorrhœa, etc.

The following list includes most of the better known chalybeate springs suitable as places of summer resort: Columbia Springs, Richfield Springs, Sharon Springs, and Oak Orchard Springs in New York State; Cresson Springs in Pennsylvania; Bedford Alum Springs, Jordan Alum Springs, Orkney Springs, Rawley Springs, Rockbridge Alum Springs, and Sweet Chalybeate Springs in Virginia; Greencastle Spring in Indiana; and Schuyler County Spring in Illinois.

Sulphuretted Springs.—The characteristic which distinguishes these springs depends upon the presence

in them of sulphuretted hydrogen gas. They also usually contain alkaline and earthy sulphides and often considerable quantities of the salts of iron. Many of these springs are of high temperature and are useful especially as baths. The physiological action of these sulphur waters is not well understood. They probably act chiefly upon the intestinal tract, increasing the glandular secretions and producing mild catharsis. These waters are used internally in plethora, in hepatic and splenic engorgements, in chronic congestion of the pelvic organs, in hemorrhoids, and in chronic metallic poisoning. As baths they are used extensively in chronic rheumatism, gout, and in various chronic skin diseases.

Sharon Springs, N. Y.—One of the best-known examples of this type of springs is the Sharon Springs, which lie in the central part of New York, about sixty miles west of Albany. They are situated in a narrow valley at an elevation of eleven hundred feet and are surrounded by high hills which furnish charming drives and many beautiful views. Sharon is famous especially for its baths. The bathhouses are spacious and elaborate and have facilities for every possible variety of baths. The place is very largely patronized in summer, and possesses excellent hotels and attractions of many sorts. The following analysis is that of the White Sulphur spring at this place. One gallon contains:

<i>Solids.</i>	
Sulphate of magnesium.....	34.000 grains.
Sulphate of calcium	85.400 "
Bicarbonate of magnesium	24.000 "
Chloride of sodium, {	2.700 "
Chloride of magnesium, {	3.000 "
Sulphurets of calcium and magnesium	

Total 149.100 grains.

Gases.

Sulphuretted hydrogen..... 20.50 cubic inches.

Richfield Springs, an account of which is given under sulphated springs, are also famous sulphur waters.

Avon Springs.—Avon Springs are located in Livingston County, N. Y., eighty-five miles east of Buffalo. These are strong sulphur waters, and by reason of the presence of large quantities of sulphates of sodium and magnesium are actively purgative as well. There are adequate bathing facilities, and the village contains several good hotels.

Clifton Springs.—Clifton Springs is a popular health resort situated on Seneca Lake, eleven miles west of Geneva. It lies in a pleasant pastoral country and has a temperate, equable summer climate. The place has all the requirements of a first-class spa and is much patronized.

Columbia Springs, lying four miles from the town of Hudson, possess saline-sulphur waters and good accommodations for bathing.

White Sulphur Springs, W. Va.—The most famous of the many Virginia springs are the White Sulphur Springs, situated in Greenbrier County, W. Va. They lie in the midst of charming mountain scenery and have long been the favorite summer resort of wealthy and fashionable Southerners.

Estill Springs and Blue Lick Springs in Kentucky both possess useful sulphur waters and are popular resorts.

French Lick and West Baden Springs, Ind.—In the southern part of Indiana, in Orange County, are situated two springs, French Lick and West Baden, which are yearly gaining in popularity and repute.

They lie in a picturesque hill country, one mile apart, and possess saline-sulphur waters of similar character. There is a large and comfortable hotel at each place.

An analysis of the Pluto Spring at French Lick is given below. One pint contains:

Carbonate of magnesium	0.198 grain.
Carbonate of iron and aluminum	trace.
Carbonate of calcium	0.868 grain.
Chloride of sodium	17.567 grains.
Chloride of calcium	0.668 grain.
Sulphate of sodium	2.796 grains.
Sulphate of magnesium	2.264 "
Sulphate of calcium	7.573 "

Total..... 31.934 grains.

Gases.

Carbonic acid	1.87 cubic inches.
Sulphuretted hydrogen	3.18 "

Carbonated Springs.—These waters are characterized by the presence in them of a large amount of carbonic-acid gas and of comparatively little mineral matter. This gas is present in many mineral springs, but in most of them its effect is quite secondary to that of the mineral salts. In these waters, however, it is the chief therapeutic agent. The physiological action consists in a mildly stimulant effect upon the mucous membrane of the stomach, which increases peristalsis and hastens digestion. The urine is increased in quantity. The waters are useful internally in nervous dyspepsia, in neurasthenia, to increase appetite, etc. As baths they are used for their general tonic effects.

Old Sweet Springs, W. Va.—In Monroe County, W. Va., only a few miles distant from the White Sulphur Springs, are the Old Sweet Springs, a quiet, charming old resort lying in the midst of the Alleghanies and possessing many attractions besides the springs and the delightful swimming-baths which are the feature of the place. The hotel, of brick, is large and comfortable.

The Clysmyc Spring at Waukesha, Wis., and the Blue Lick Springs in Kentucky have both carbonated waters.

Thermal Springs.—The therapeutic effects of these springs are due to the high temperature of the water. They are used chiefly as baths and are recommended especially in chronic rheumatism and gout, in syphilis, in neuralgias, and in chronic skin diseases.

Almost all the examples of this class of springs lying east of the Rocky Mountains are situated in the South, and are used rather as winter than as summer resorts.

The Region of the Great Lakes.—For those patients living far inland, who need a moist, cool, and equable climate and with whom the long and expensive journey to the seacoast is not to be considered, there is fortunately, in this country, a happy alternative. The vast bodies of fresh water constituting our "Great Lakes" supply these close at hand with a seashore climate and seashore life, the importance of which can hardly be overestimated. Although differing in some particulars, it may be said that the climate of the Great Lakes in summer resembles closely that of the seashore. There is the same high proportion of moisture in the air, the same coolness, the same increase in ozone, and the same comparative freedom from dust particles and from bacteria. The chief difference lies in the somewhat lessened equability, since, although the Great Lakes are much less subject to sudden and extreme changes of temperature than are inland regions, they still possess hardly so equable and even a climate as does the seacoast. They supply, moreover, all the water sports and diversions that make seashore life in summer so attractive.

The thousands of miles of coast line of these lakes are thronged with summer resorts of all sorts, big and little, fashionable and primitive. We can only attempt in these pages to mention some of the better-known ones, but one of the great advantages of this

region is that it abounds in quiet, unpretentious but comfortable resorts where, at very moderate expense, patients can obtain a summer outing and lay by a store of strength and vitality by living the unconventional, healthful, out-of-door life of the lakeshore.

Lake Ontario.—Lake Ontario, the smallest of the great lakes, has a length of one hundred and ninety miles and an elevation of two hundred and thirty-four feet above sea level. On the Canadian shore the places of chief interest are Toronto, the capital of Ontario, an attractive city of one hundred and eighty thousand inhabitants; Hamilton, at the western end of the lake; and Kingston, a flourishing place of fifteen thousand people, located at the foot of the lake and at the entrance of the St. Lawrence River. On the American side, at the eastern end of the lake are Sacket's Harbor and Henderson Harbor, two pleasant summer places, with good fishing, boating, sailing, etc. Oswego, an attractive and prosperous city, lies at the southeast corner of the lake and is much used as a place of summer residence because of its cool climate and attractive location.

Charlotte, the seaport of Rochester, is a pleasant and picturesque village lying at the mouth of the Genesee River. Just below Charlotte is Ontario Beach, a large and very popular lakeshore resort, and much patronized by Rochester people. It possesses an excellent hotel and every variety of entertainment. Farther westward are Lakeside and Olcott, two pleasant summer places.

Niagara Falls is too well known to need more than simple mention.

Niagara-on-the-Lake lies at the mouth of Niagara River, fourteen miles below the falls, and is much patronized in summer.

Lake Erie.—Lake Erie lies at an altitude of five hundred and sixty-four feet and is the least attractive, scenically, of the five great lakes.

Buffalo, Erie, Cleveland, and Sandusky and Toledo all lie on its southern shore, and each of these cities has in its vicinity attractive shore resorts which are much frequented in summer.

Put-in Bay Island.—At the western end of Lake Erie, sixteen miles from Sandusky and sixty miles from Detroit, lies a charming group of some fifteen islands known as the Put-in-Bay group. These islands, on account of their easy accessibility, their delightful climate, fine scenery, and excellent fishing, bathing, and boating, have of late years become very popular as summer resorts.

Detroit, on the river of the same name, lies in the midst of some of the most charming river scenery of this country. Below it, twenty miles, is Grosse Isle, a beautiful island near the mouth of the river and a popular summer resort. Above it lies Lake St. Clair, a famous fishing-ground and resort of water fowl. From Detroit, in summer, daily steamers go to these and the various other popular water resorts, and many delightful water excursions may be made.

Lake Huron.—The western coast of Lake Huron is dotted with many places of summer retreat. The northern part in particular, in the vicinity of Cheboygan and Macinac Island, has recently gained wide repute as a cool and delightful place of residence.

Along the western shore are Port Huron, Sand Beach, Port Austin, Bay City, Au Sable, Alpena, and Cheboygan.

Macinac Island.—In the strait of Macinac between Lake Michigan and Lake Huron is the small island of Macinac, lying almost midway between Detroit and Chicago. Macinac resembles, both in climate and natural features, the rugged, beautiful islands of the Maine coast. The scenery is wild and bold, the air wonderfully strong and exhilarating, and the waters are clear as crystal and full of gamy fish. The place is

patronized by an attractive class of summer visitors, and has large and comfortable hotels.

Lake Michigan.—Lake Michigan has on its north-eastern shore two beautiful bays, known as Grand and Little Traverse Bays. Upon Little Traverse Bay is Petosky, a quiet but very attractive shore resort. As is the case with all the resorts of this region, this place is famous for the quality of the air, which is tonic and stimulating to a high degree. The waters abound with fish, there are attractive drives, fine beaches, and good boating. Harbor Springs and Bayview are situated quite near Petosky on the same bay. Charlevoix, a few miles farther south, is another very popular summer place.

Still farther south lies Great Traverse Bay, and upon it Traverse City and several other very pleasant resorts. Continuing down the coast one reaches in turn Frankfort, Manistee, Muskegon, Grand Haven, Ottawa Beach, South Haven, and Benton Harbor.

On the west coast above Chicago are Waukegan, Kenosha, Racine, Milwaukee, Sheboygan, Manitowoc, Two Rivers, and Kewaunee.

Upon Green Bay are several pleasant resorts, and the region is especially famous for its fishing.

Lake Superior.—Lake Superior, the largest of the great lakes, is also by far the wildest and most picturesque. The north side of the lake is dotted with numerous islands, many of which rise precipitously from the water to a great height. Almost the entire coast of the lake is rugged and rockbound, and affords views which in point of picturesqueness and grandeur can hardly be surpassed. This is especially true of the northern coast of the lake, where the mountainous, precipitous shore presents a series of the most awe-inspiring pictures. This whole region is a paradise to the fisherman, for the multitude of little streams entering the lake fairly teem with trout and other varieties of fish. The climate of Lake Superior in summer is exceedingly cool and bracing.

The chief centres for sportsmen and tourists along the southern coast are Munesing (near the famous "Pictured Rocks"), Marquette, The Apostle Islands (a beautiful group of twenty-seven islands), Bayfield, and Duluth. Along the northern shore are Fort William, Port Arthur, Nipigon Bay, Isle Royal, Saint Ignace, and Michipicoten Island.

In concluding with the region of the great lakes, a word must be said concerning one phase of summer life upon them which deserves a wider recognition. Passenger steamer travel has of late years increased to such an extent that steamer lines now run in every direction, which furnish comfortable and even luxurious accommodations. The longest trip is that between Buffalo and Duluth. This veritable inland ocean voyage occupies from five to six days, and offers, in addition to the features of an ordinary sea voyage, a series of the most beautiful and entertaining views. The steamers rival the trans-Atlantic ones in point of size and luxury.

Inland Resorts of Miscellaneous Character.—Under this head must be included regions and climates of such variety and dissimilarity that general statements cannot be made to apply.

Inland resorts present every variation in climate and character; it may be said only that, in general, the air is less moist, the temperature less equable, and the winds less constant in direction and force than those of the seashore.

The Forest and Lake Region of the Northeast.—This vast region includes most of Maine, New Brunswick, and Quebec. Almost the whole of this country is one great primeval forest, broken only by the myriads of lakes which dot the entire region. These lakes, many of them of surpassing beauty and wildness, are arranged for the most part in chains and

systems with connecting streams, so that one may, with a portable canoe, travel vast distances, going from place to place and from lake to lake as fancy dictates. While this region is pre-eminently one for the sportsman, it is by no means an uninhabited wilderness, devoid of all comforts and difficult of communication with the outside world. Railroads pierce it now in various directions and many invalids and families spend their summers here in comfortable camps or small hotels, breathing the fragrant, healthful forest air and enjoying the wholesome, open-air life, to whom shooting and fishing are by no means the chief end of man.

The Rangeley Lakes.—Of the Maine resorts perhaps the most popular and best known is the Rangeley Lake region. Here is a series of several charming lakes, all joined by a chain of narrows and streams so as to form a continuous waterway nearly fifty miles long. They lie in the northwest corner of Maine, at an altitude of over one thousand feet, in the midst of dense forests, and furnish exceptionally fine trout fishing. The forests abound with large and small game. Rangeley, a village at the head of Rangeley Lake, affords comfortable hotel accommodations. Small steamers ply during the summer season on the different lakes, and the region is by no means inaccessible.

A short distance to the northeast of the Rangeley Lakes is the Dead River region, another famous resort of sportsmen, and some distance to the north, across the frontier, in Quebec, lie Lake Megantic and Spider Lake, the site of the immense clubhouse of the Megantic Fish and Game Association.

Moosehead Lake.—North of the centre of Maine, at a height of one thousand feet, is Moosehead Lake, the largest of the Maine lakes. It is about forty miles long and from two to eighteen miles wide. Mount Kineo (two thousand feet) overhangs the water at one point, making a sheer precipice of eight hundred feet. Greenville, on the southern shore, is a small village with several good hotels. The lake affords excellent fishing, boating, canoeing, etc.

The Schoodic Lakes, just across the boundary of New Brunswick, form the source of the beautiful St. Croix River and lie in the centre of a famous fishing and shooting district.

Both New Brunswick and Nova Scotia, as well as the other maritime provinces, abound with lakes, streams, and forests, where fishing, shooting, and all the charms of camp life may be had in perfection.

St. Lawrence River.—The lower part of the St. Lawrence River, that below the city of Quebec, widens steadily until it becomes some twenty or thirty miles in width. The water is salt, but deep and clear. The shores are high and rugged, and the scenery imposing and beautiful. The region is very popular with sportsmen, but is also much frequented for its cool climate, stimulating air, and picturesque scenery. The better known places of resort are the Saguenay River, Trois Pistoles, Cacouna, Rivière du Loup, Murray Bay, and St. Paul's Bay.

Between Montreal and Quebec are many small summer resorts, but none of special note.

Thousand Islands.—The most popular section of the St. Lawrence is that of the Thousand Islands. These wonderful islands begin at the head of the river and extend from Lake Ontario downward a distance of forty miles. They are of every size and appearance, some of them mere bare rocks, others large, thickly wooded, and covered in summer with most brilliant foliage. Alexandria Bay, on the American shore, is the largest and most fashionable resort of this region. There are many other charming places, however, with good hotels and handsome summer cottages and where splendid fishing and boating are to be had.

Lake Champlain.—Lake Champlain is too well

known as a delightful place of summer residence to require detailed description. It lies in the valley between the Green Mountains on the east and the Adirondacks on the west, surrounded by magnificent scenery, and lined with pleasant villages and attractive watering-places. The lake is one hundred and twenty-six miles long and is navigated by commodious steamers and all sorts of pleasure craft. Pickerel, bass, muscalonge, and other fish abound. The lake has upon its shores several famous and luxurious hotels. The following list includes the chief towns and centres of summer travel: Ticonderoga, Shoreham, Port Henry, Westport, Essex, Burlington, Port Kent, Plattsburg, and St. Albans.

Lake George.—Lying just south of Lake Champlain, and emptying into it, is Lake George, equally famous as a summer resort and rich in lovely scenery. The shores are less rugged and the mountain views less extensive, but the lake is surrounded by high wooded hills and dotted with a multitude of small islands, and well deserves its long-established popularity as a watering-place. Caldwell, Crosbyside, Bolton, and Hague are the chief places of resort on the lake.

New York State contains, besides those already mentioned, a number of beautiful lakes which afford many attractive summer places. The more prominent of these are Oneida Lake, Skaneateles Lake, Cayuga Lake, Seneca Lake, and Canandaigua Lake.

Watkins Glen.—At the head of Seneca Lake near the village of Watkins is Watkins Glen, a spot long known for its wonderful gorge and picturesque scenery and now much frequented as a health resort and place of summer residence. The climate is cool and invigorating, the scenery is exceptionally fine, and the region abounds in delightful drives and walks. There are several first-class hotels in this neighborhood.

The Berkshire Hills.—The lovely Berkshire Hills, the continuation southward of the Green Mountains, occupy the western part of Massachusetts and cover an area fifty miles long and twenty wide. This region has for many generations been the favorite summer home of old and aristocratic New England and New York families, and is by far the most famous hill country of this continent. Nowhere is the air quite so pure and fine, the foliage quite so rich and deep, the hills so soft in outline, and the old villages so peaceful as in the Berkshires. The climate is dry and bracing, and many cases of pulmonary trouble do admirably here. The region is especially famed for its drives, and driving and wheeling tours through the Hills have become very popular. Great Barrington, Stockbridge, Lee, Lenox, Pittsfield, North Adams, and Williamstown are all charming old towns, containing the handsome summer homes of the wealthy classes of New York and the New England cities.

Wisconsin and Minnesota.—Among regions of medium elevation suitable for summer health resorts must be mentioned the many pleasant villages and pretty lakes of Wisconsin and Minnesota. The general elevation of this country is high, often over one thousand feet above sea level, the air is dry and pure, and the summers cool. Both States possess an immense number of small lakes and afford many charming resorts admirably suited for many cases of pulmonary phthisis, bronchitis, hay fever, etc. In Wisconsin among the better known places of this sort are Madison and Oshkosh.

In Minnesota, within easy distance of St. Paul, are White Bear Lake and Lake Minnetonka, with their two large and popular summer lake resorts, Fontenac and Winona. Farther north is Brainerd, situated in the midst of pine forests.

Litchfield, Detroit, Park Rapids, and Osakis lie in the so-called "lake and park region," a district thickly studded with beautiful lakes, where capital boating,

fishing, and shooting are to be had. These places are all much frequented as summer resorts.

Manitoba.—To the northwest of Minnesota lies the province of Manitoba, a vast, level country with an elevation of about eight hundred feet, in which are several large and beautiful lakes. The chief of these are Lakes Winnipeg, Winnipegosis, and Manitoba, and the Lake of the Woods. Manitoba possesses a climate of especial dryness, which has proved beneficial in many cases of tuberculous disease. The region has especial attractions for sportsmen, for the lakes teem with many varieties of fish and the forests with both large and small game.

Winnipeg, the capital, is an attractive town of twenty-six thousand people, with comfortable hotels and within easy distance of the lakes.

Society Reports.

ANNUAL MEETING OF THE AMERICAN SURGICAL ASSOCIATION.

Held at Detroit, Mich., May 26, 27, and 28, 1896.

LOUIS MCL. TIFFANY, M.D., OF BALTIMORE, MD.,
PRESIDENT.

First Day—May 26th.

The Operative Treatment of Trifacial Neuralgia.

—The president of the association, Dr. LOUIS MCLANE TIFFANY, of Baltimore, called the meeting to order and read an address with this title.

Dr. S. J. MIXTER, of Boston, read a short paper in discussion of the subject, which was then thrown open for general discussion.

Dr. W. W. KEEN, of Philadelphia, said he was very much disappointed to learn that the mortality of operations for the relief of trifacial neuralgia is ten per cent. Dr. Keen stated that he has had two deaths out of nine cases, one of which was due to sepsis and was avoidable. He explained the high mortality as being due in his opinion to the fact that the operations had been done by so many different operators, and he thought that special operations should be reserved for the hands of those who have had some special training. In three of the nine cases mentioned, trouble was experienced with the cornea, but in no case was the eye lost. The following is Dr. Keen's method of dealing with corneal ulcer: sew the lids together at the margin so as to prevent the opening of the eye, take a circular piece of rubber plaster, cut a circular hole in the centre a little smaller than a watch glass, insert a watch glass in the hole thus made, and place this shield over the eye, the non-adhesive surface being next to the patient's eye. Although the rubber plaster does not absolutely occlude the whole space, yet the inside of the watch glass is always moist.

Dr. J. EWING MEARS, of Philadelphia, said he would like to ask whether the president was clear in his own mind that the lesion exists in the Gasserian ganglion. If his experience with the operation upon the Gasserian ganglion demonstrates that the relief from pain is permanent, Dr. Mears considered it right to feel that the real lesion has been discovered.

Dr. GEORGE RYERSON FOWLER, of Brooklyn, stated that in one of his cases there was a recurrence of pain, even although he was absolutely certain that he had removed the ganglion. Post-mortem showed the existence of a neuroma upon the stump in that portion which occupied the foramen rotundum. Dr. Fowler fully agreed with Dr. Keen as to the necessity for keeping the eye protected, and mentioned an illustrative case. Concerning the sclerotic changes in the

vessels, it may be that these are at the root of the pathology of these cases. Dr. Fowler referred to a case operated upon by Dr. Morton, of Philadelphia, in which Meckel's ganglion was positively removed, and yet the pain returned with all its former violence in less than two years, when ligation of the common carotid gave the man permanent relief. The author mentioned other cases in which ligation of the carotid had produced excellent results, and in one of which there was a deviation of the tongue toward the side operated upon. In this case the patient was unable to straighten the tongue. Dr. Fowler referred to one patient who died during an epidemic of sepsis, and stated that he saw no reason why there should not be epidemics of sepsis as well as of small-pox and scarlet fever.

Dr. PARMENTER mentioned the case of an elderly woman who had had facial neuralgia, and also a small aneurism of the external carotid, in whom ligation of the common carotid had afforded complete recovery. He also mentioned a case in which he had operated successfully on a man who had been subjected to three previous operations.

Dr. H. S. WEEKS said he doubted if a surgeon is justified in resorting to intracranial operations before an extracranial had been done, in view of the large mortality. The speaker's plan of operating is to trephine through the ramus of the jaw, seize the inferior dental nerve, and pull it away, as he considers this method much better than cutting.

Dr. N. P. DANDRIDGE, of Cincinnati, mentioned a case in which he had operated two and a half years ago, since which time the man had been relieved from pain, but there is marked deformity of the face on account of atrophy of the muscles. There is also a small sinus leading down to dead bone.

Dr. CHRISTIAN FENGER said he prefers the extracranial operation, as he considers it less dangerous. He called attention to the fact that the mortality from ligation of the common carotid is eighteen per cent.

Dr. JOSEPH RANSOHOFF said he does not think ten per cent. a very high mortality under all circumstances, and that if all the cases are included it will be nearer fifty per cent. In Dr. Ransohoff's opinion the lesion is not located in the Gasserian ganglion, but is a central affection.

Dr. ROBERT ABBÉ said the members should not be daunted by a mortality of ten per cent., as in the next hundred cases it would be much less. In his opinion preference should be given to an anterior operation in the first place. Now that we know what to steer clear of, with the improvement of sepsis and the avoidance of operating on old people, the mortality should be considerably lessened.

Dr. W. W. KEEN said he had omitted to mention two methods of medical treatment which have been of great service, one recently suggested by Dr. Dana, of New York, that of giving massive doses of strychnine, and the other suggested by Esmarch, who has spoken of the value of purgatives.

Dr. MAURICE H. RICHARDSON said he thought that the operations could be taken up in order, and that attacking the ganglion should be done as a last resort, especially in old people and those who are unable to stand so formidable an operation as intra-cranial neurotomy. In many cases a simple operation will give considerable relief.

Dr. FOWLER explained that the mortality of eighteen per cent. in ligations of the carotids included cases of aneurisms, gunshot wounds, etc. In fifty-two cases in which the vessels were not affected by disease nor complicated by carcinomatous tumors, the mortality was less than five per cent.

Dr. P. S. CONNOR, of Cincinnati, said he considered that the two most important points are the cause of the

neuralgia and the results of operative interference. In a certain proportional number of cases the exemption from pain ranges from three months to three years, while in another proportion the exemption is scarcely worth mentioning, as the pain returns immediately after the operation. In some cases the loss of blood during the operation and the shock following it are important factors. In either event a man would rather take forty-nine chances out of fifty to get relief.

Dr. T. A. MCGRAW was of the opinion that sufficient investigation has not been made of the possibility of the neuralgic conditions being due as well to motor as to sensory nerves, and stated that he is not at all sure that a division of some of the motor nerves may not be a great benefit.

Dr. RICHARDSON stated that this operation had been performed and had resulted in considerable facial deformity, but no relief of the neuralgia.

Dr. S. J. MIXTER mentioned two cases in which merely a reopening of the old intracranial wound had afforded some relief.

Dr. TIFFANY closed the discussion, and stated that forty-five operators had participated in the hundred cases reported, of which number twenty-four had operated upon only one case each. He also mentioned that there is diminished sensation in these cases and lessened lacrymation. He considers the curving of the tongue due to atrophy of the muscles, but does not understand why the perception of heat and cold should be interfered with.

As to tying the carotids, Dr. Tiffany stated that Dr. Park, of Buffalo, had successfully done this in two cases.

Tuberculosis of the Female Genital Organs (including tuberculosis of the kidney). — Dr. ALBERT VANDER VEER, of Albany, read a paper with this title. He stated that this subject had been neglected until recent years, and that the modern ideas and progress depend upon careful histological and bacteriological examinations. Tuberculosis of the female pelvic viscera is not limited to any age, the extreme limits being ten weeks and eighty-three years. External genital lesions may be confounded with tuberculosis. Heredity is important as suggesting tuberculous possibilities. Tuberculosis is extremely rare in the external genitals, but by no means infrequent in the uterus. Tuberculosis of the uterus can be demonstrated by microscopical examination of the discharges and by curetting. Gonorrhœal infection is often grafted upon tuberculosis. Sometimes infection takes place through the fingers or the instrument or the semen. Tuberculosis originates in the tubes and infects the uterus and cervix. The uterus can be infected from without or within and the infection is aided by a lacerated cervix, pelvic peritonitis, trauma, etc. The symptoms are local irritation, a pea-sized wart near the vaginal outlet, a discharge from the uterus, etc. The differentiation between the ulcers of syphilis and epitheliomas depends on age, history, local appearances, etc. Tuberculosis of the cervix can be mistaken for cancer. Many vaginal cases are infected from the tubes, and tuberculous peritonitis may infect the vagina and the tubes. The author mentioned several cases illustrative of the points referred to.

With regard to tuberculosis of the kidney, there may be two forms, (1) miliary tuberculosis and (2) caseous or true tuberculosis. The author gave the details of one or two cases and referred at some length to Kelly's nephro-ureterectomy.

Tuberculous Peritonitis. — Dr. ROBERT ABBÉ, of New York, thought it would give a fairer understanding of the multiform appearances of the disease if we view it from the standpoint of the bacillus, rather than, as others have done, from the gross appearance, which has led to the division into the ascitic, the dry, and the case-

ating form. A sudden tuberculous irruption into the peritoneal cavity may be as acute in symptoms and duration as acute peritonitis from other causes. A slower outbreak may result in ascitic distention in three or four weeks, and a less virulent bacillus action may occupy months in inducing ascites and wasting. In other cases, possibly due to the route of invasion (penetration through lymphatics, communicating mucous and peritoneal serous coats, or by follicular ulcers—allowing tuberculous milk to be the medium of infection) a dry or adhesive form follows in which hectic and rapid wasting result. Again the bacillus produces an outpouring of thick lymph and flocculent serum which rapidly become purulent, producing unsymmetrical cakes of thickened omentum, matted coils, and encapsulated purulent collections. The bacillus products rapidly caseate and ulcerating fistulæ may result. All phases of the disease may be regarded as representing the life history of the bacillus and its products. Tuberculous peritonitis may be, and in the early stages often is, the only site of tubercle deposit in the patient; hence, if overcome there, a practical cure often follows. Even when other phases of infection (pleural, intestinal, bronchial) are seen, an operative cure of the peritonitis has often been followed by general recovery. The mode of entrance of the bacillus is directly through the intestinal wall or through ulcerating appendicitis or tubal or ovarian tuberculosis, or through the blood. The claim of a few recent authors to having cured tuberculous peritonitis by medical treatment were reviewed and credited.

The unquestioned cure of true tuberculous peritonitis by laparotomy is proved by two classes of patients, those who have long survived operation, and those who, having come to autopsy long afterward, have been found free from tubercles that studded the peritoneum at the time of operation. Experimental proof in animals corroborates also operation by simple laparotomy and evacuation of the ascites; closing the dry abdomen is credited with a large number of cures. Irrigation with warm salt solution is advocated by preference. Camphor-naphthol application, as used by Rendu, is advised for bad cases.

Dr. Abbé reviewed many interesting and illustrative cases in speaking of direct medication. The many theories advanced to account for the surprising cures were carefully considered, and it was said in conclusion that the theory that is sustained by most facts is that based on the life history of the bacillus and the capacity of the animal economy not only to suppress the activity of the organism by encapsulating it, but to remove it by absorption. The proper opportunity for conquests is not afforded in the presence of ascitic fluid, which acts as a veritable culture bouillon and by its fluidity aids dissemination. When, however, the peritoneum has been aroused by congestion, which follows evacuation, and a reactionary inflammation is set up, engendering cell hyperplasia, the intruder is walled in and retrograde degeneration sets in.

Intrathoracic Tuberculosis.—DR. GEORGE RYERSON FOWLER, of Brooklyn, went into the historical part of the disease at great length, and devoted considerable attention to the surgical treatment of pleuritis and empyema. Of all the organs in the human body, the lungs are most frequently the seat of these affections. Inasmuch as there is no lung affection that cannot be complicated by tuberculosis, it follows that pleural affections are most frequently tuberculous in character. Few patients who have suffered from pleurisy escape tuberculosis, and this fact increases the importance of the surgery of pleuritic affections in their relation to tuberculosis. The author gave a brief discussion of the effects of the presence of the pleuritic effusion upon the progress of tuberculous disease

of the pulmonary structure. The view formerly held that the activity of the circulation in the lung tissue constitutes a trustworthy means of protection against the occurrence of tuberculous infection of the respiratory organs was combated, and reference was made to the observations of Laennec, who in the early history stated that stasis was incompatible with the progress of pulmonary tuberculous affections, and Bier's observations, supported by those of Miller, in the treatment of tuberculous joint disease by means of a constricting bandage were held to confirm the views of Laennec in this particular. Note was taken of the fact that in any pleuritic affection, even when due without doubt to tuberculous infection, if the effusion is found to be serum, the inference follows that the effusion possesses some resisting influence over the development of the tubercle bacillus, while it undoubtedly forms a favorable culture medium for other organisms. The application and technique of exploratory puncture or thoracentesis, incision and drainage, and Koenig's operation, the resection of a portion of rib, were gone into by the speaker quite extensively. This was followed by a consideration of the operation of thoracoplasty and its indication. Schede's operation for extensive resection of the chest wall, including with the bony resection removal of the attached soft parts, namely, the intercostal muscles and thickened pleural membrane, was described. It was recommended that the edges of the incision be closed tightly about the drainage tube and the dressing be applied in such a manner that the tube passes through these. The drainage tube is then attached to a tube sufficiently long to extend over the side of the bed and touch the surface of a sublimate solution. When the patient can sit up, the tube is fastened to a bottle at the waist, as suggested by Bulau, of Hamburg. By this method and drainage the patient is saved from the discomfort produced by soiled dressings. The question of the complications occurring in connection with thoracoplastic operations upon the chest wall, namely, pulmonary thrombosis, cerebral embolism, and the resulting paralysis, was alluded to.

The consensus of opinion at the present day seems to discountenance thoracotomy in tuberculous patients, preference being given to repeated puncturing or at the most to the method of permanent siphonage.

The question of the direct treatment of tuberculous cavities was entered into quite extensively, and it was stated that some difficulty must necessarily be experienced in the selection of proper cases. In cases in which the disease has come to a standstill any interference would be unjustifiable, for the reason that it is these cases that undergo cure by natural processes. In addition to limiting operations on tuberculous cases to those that are circumscribed, the operation may be applied to certain cases of a doubtful nature which form at the expense of both pleura and lung, namely, pulmonary abscesses secondary to tuberculous caries of the ribs. Three examples of these are quoted.

The operation of resection of the lung was discussed at some length, and attention was called to the fact that the pulmonary structure differs from all other structures of the body in its susceptibility to infection and its anatomical peculiarities.

The experiments of Gluck, of Berlin, and Hans Schmidt upon the lower animals for resection of the lung were gone into in detail, and also those of Virondi, who produced localized tuberculosis in the lower animals.

Tuberculosis of the Superficial Glands.—DR. DE FOREST WILLARD, of Philadelphia, first detailed the method of tuberculous infection of the lymph nodes. The route of entrance is usually by very slight abrasions or injury. Slight wounds are more liable to admit bacilli, as they arouse local resistance to a less

degree than more severe injuries. The face and neck are especially common routes of entrance. The lymph glands act as filtration stations and often prove effective in overpowering the invading foe. They are likely to be successful in proportion to their amount of resistive force. An individual resistive force may be lessened by hereditary impairments of cells, or by the temporary conditions of the tissues.

Local karyokinetic action may be successful, or if partially successful, caseation and absorption may occur with less resistive power, or if staphylococcus infection results suppuration follows.

When once the glands have become infected they are a perpetual menace to the general system and should be removed. Suppuration will sometimes effectually destroy all the invading bacilli; yet this is a slow and dangerous process subjecting the individual to constant risks. Infected glands should be removed if possible during the stage of induration.

The removal of tuberculous glands from the neck is frequently a most serious operation, provided connective infiltration is present and especially if the chain of glands has dipped deep beneath the cortical vessels and nerves or has extended below the clavicle. These deep glands can be safely removed only by following the line of cleavage between the gland and the protection wall, which has been partially thrown about it, each gland being cautiously shelled out.

The jugular veins, the branches of the carotid, and the pneumogastric and phrenic nerves should be carefully avoided. When a vein is injured immediate pressure with subsequent ligation or lateral suturing should be performed. If the phrenic or pneumogastric are injured they should be at once sutured with fine silk.

Great care should be exercised to prevent the discharge of pus and caseating material upon the fresh wound. If such accident occurs, the area should be thoroughly cleansed and disinfected.

Temporary drainage is advisable when infection has occurred from such discharge; but in healthy operations with clean enucleation primary union without drainage can be secured. In infection in the axilla, the glands should be enucleated with the same care that is employed in the removal of the carcinomatous nodule. The same rule holds good in regard to glands situated in other portions of the arm.

In the groin many difficulties may be encountered, especially if the indurated glands extend deep about the femoral or saphenous veins. Secondary operations are advisable if necessary. In cases that absolutely refuse operation, local and constitutional measures must be employed, including tuberculin and orrhotomy.

The author has more confidence in the local effects of iodine upon tuberculous granulations than in iodoform. He has also had beneficial results from stimulation of cell growth by a mixture of aristol with nuclein or protonuclein applied locally. His conclusions are that tuberculous infiltration glands should not be allowed to remain and contaminate the general system.

Second Day—May 27th.

Castration in Hypertrophy of Prostate Gland.—DR. ALBERT CABOT, of Boston, dwelt at great length upon the operations of castration and prostatectomy, and gave many statistics from various sources bearing upon this subject. After considering the relative merit of each operation, he closed his paper with the following conclusions:

1st. In the matter of mortality the operation of prostatectomy has a slight advantage over castration. It seems probable that with later statistics, reflecting the

last improvements in the technique of prostatectomy, this advantage will be further increased.

2d. Prostatectomy has the further advantage that it allows of a thorough examination of the bladder and of the discovery and correction of other conditions not before suspected. Stones are frequently removed in this way without adding to the gravity of the operation. In several reported cases of castration the absence of improvement has led to the subsequent discovery of stones, which have required other operations for their removal.

3d. Prostatectomy has, on the other hand, the disadvantages that it confines the patient for a longer time and that it is sometimes followed by a fistula. This occurred in one of the forty-two cases referred to in this paper.

4th. It is too early to determine whether any permanent loss of vigor follows castration when done on old men. The nervous effects which sometimes immediately follow the operation suggest a suspicion that with the testes the system may lose some tonic effect exerted by those organs.

5th. The functional results of the two operations seem at present to be as nearly equal as possible, and the tendency to relapse shows itself in about the same proportion of cases after either operation.

6th. The reduction in the size of prostate after castration is largely due to a diminution of congestion. Later a degeneration and absorption of considerable portions of the gland may occur. The glandular elements are particularly affected by this atrophy.

7th. Castration would seem to be especially efficacious in cases of large tense prostates when the obstruction is due to pressure of the lateral lobes upon the urethra.

8th. Castration is of but little use in myomatous and fibrous prostates.

9th. Prostatectomy has its especial field in the treatment of obstructing projections which act in a valvular way to close the urethra. There is, however, no form of prostatic obstruction which a skilful operator may not correct by prostatectomy.

10th. Prostatectomy is, then, applicable to more cases than castration, and is especially to be selected when an inflamed condition of the bladder makes drainage desirable.

The Ambulatory Treatment of Fractures of the Lower Extremities.—DR. LOUIS S. PILCHER, of Brooklyn, read a paper on this subject. He mentioned a large number of cases of fracture in which the ambulatory treatment had been employed, and illustrated his paper with diagrams of the apparatus employed. He described in detail the manner of applying the plaster bandage so as to form a sufficiently rigid and protecting case and also explained the splints used in this method of treatment. He stated that the number of cases of fracture of the leg treated by himself up to the present time with the ambulatory dressing was twenty, and the results that have followed this treatment in these cases have been very satisfactory. The time after the injury when it may be proper to apply the ambulatory dressing depends upon the nature and extent of the damage to the soft parts and the amount of local reaction following the injury.

The Treatment of Traumatic Lesions of the Kidney.—DR. W. W. KEEN, of Philadelphia, read a paper with this title. After reading a tabulated list of one hundred and sixty-three published cases of renal traumatism since 1878, the author stated that the traumatic lesions have, as a rule, two advantages over the lesions of disease: first, being apt to be unilateral, the other kidney is not injured, and second, the injured kidney is apt to be healthy or fairly so. Gunshot wounds, on the contrary, have two disadvantages: first, that the treatment of the kidney alone in many cases cannot be

solely considered, and second, if the renal substance is only moderately injured, no one would be willing to do primary nephrectomy.

As to the treatment of gunshot wounds, they may be divided into, first, those involving only the renal substance; second, those involving the pelvis; third, those involving the vessels; and fourth, those involving the ureter. The incision in most cases should be abdominal, either median or at the outer border of the rectus, and, if the vessels are badly torn, so that there has not only been a great deal of hemorrhage but the integrity of the organ is threatened, nephrectomy should be performed.

In treating the extravasated blood in case the kidney is not removed, if the bleeding is into the peritoneal cavity the blood must be removed by abdominal section, but if the blood accumulates in the perinephritic tissues alone, it may be left undisturbed.

Referring to wounds of the kidney other than gunshot, first, only one kidney is usually involved; second, the other kidney is usually healthy; third, no foreign bodies are apt to be carried in as they are in gunshot wounds; and fourth, other organs are usually not involved.

In treating the kidney, if the wound is sufficiently large for it to prolapse, it should be sutured and replaced if its condition is suitable, and the same procedure may be carried out if the pelvis of the kidney is opened. A partial nephrectomy would be advisable if a portion of the kidney is so far severed that its future integrity is threatened, the fragment being removed.

Although in most cases of rupture of the kidney but one kidney is affected, occasionally the other kidney ceases to act and anuria results, usually being fatal, while it is on record that patients have necessarily died after nephrectomy. Rupture is usually transverse to the curved long axis of the kidney, and only very rarely longitudinal. If the capsule is not torn, the hemorrhage is not apt to be very great; but whether or not the peritoneum is torn is a much more important question, since if it is, both blood and urine will escape into the peritoneal cavity.

As the dangers of rupture of the kidney are primary and secondary, the treatment may be conveniently so divided. Usually it must be decided if a nephrectomy shall be done within the first few days or even hours, but it may occasionally be postponed and become a secondary operation, when the lumbar route will be best.

Of one hundred and sixteen cases of rupture of the kidney reported, sixty-six recovered. Secondary nephrectomy is nearly twice as fatal as primary.

Susceptibility and Immunity, with Special Reference to Surgical Cases.—DR. ROSWELL PARK, of Buffalo, presented a communication with this title. He divided this subject into three classes: (a) local and general; (b) congenital or acquired, and (c) absolute and relative. Man seems to be immune from numerous infections which are common to many of the domestic animals, for instance, hog cholera, symptomatic anthrax, and chicken cholera, while he is in common with them susceptible to the infection of anthrax, glanders, tuberculosis, and actinomycosis. Then, too, men differ among themselves in susceptibility to the same disease, and, of course, we explain this, so far as mere words can, by saying that at the time of exposure their bodies were not receptive or were resistant. The consideration of susceptibility seems to be inseparable from a study of the causes favoring infection, which should be considered in the following order: (1) the virulence of the infecting organisms and the amount introduced; (2) association; (3) hereditary influences; (4) local predisposition; (5) vestiges and disappearing organs and tissues; (6) pre-existing disease; (7) personal habits and environment, and (8) foetal infection.

Immunity may also be (a) local or constitutional and (b) congenital or acquired, and acquired immunity may be natural or artificial. Immunity is, in some sense, a racial characteristic; as for example, in the case of the Japanese, who it is said never have scarlet fever, but are more susceptible to beri-beri than are Europeans, while the negroes escape yellow fever and are less liable to malaria and dysentery than are Europeans. Acquired immunity is not necessarily a matter of juggling with bacteria of the disease in question, but may be produced by the employment of other agencies.

In a general way it may be said that the conditions which afford protection, in so far as they are controllable by the surgeon, are those which tend to increase what, for lack of better knowledge, we must call vital resistance and to decrease vulnerability. In closing the author said:

"The conclusions of surgical importance which may be legitimately reached from the study of the conditions dealt with in this paper are essentially these: that the surgeon in emergency cases has to do the best he can, not merely with the means at hand, but with the tissues at hand; and here, so long as he can control what may happen outside of the body, he has done his full moral and legal duty. On the other hand, in any case where patients deliberately come under observation, and where time may be afforded, it is the surgeon's bounden duty, bearing in mind a summary of the conditions which notoriously conspire, upon the one hand to lower vulnerability, upon the other hand to afford protection, to so order the habits, the diet, the surroundings, and the preparation of his patient as to restore his tissues and vital fluids, so far as possible, to their normal condition, before he interferes with their functions by an operation.

"A distinct and as yet an unworked field lies before him who will study carefully and for sufficient length of time the effect of anæsthetics in increasing susceptibility and infection. This is a problem which must be worked out upon human patients rather than upon animals, since the conditions are so exceedingly different, most of the animals used for experiment being too relatively susceptible, dogs notoriously so. I have for years cherished the opinion that anæsthetics affect all people to a greater or less degree in this direction; yet am not able to present to you any definite statistics or statements. Loss of blood is certainly a factor lowering vitality, and in the complex condition of shock it must assuredly be that natural immunity is at least temporarily lowered. Equally important in my estimation are the auto-intoxications and toxæmias, of which two particularly call for attention here. The effect of sugar in the urine, or rather the effects of the condition which leads to its presence, is everywhere recognized, but I am more and more convinced that in the body condition which is most easily recognized by hyperacidity of urine and which is so often a complication of uricacidæmia, oxaluria, etc., we have a grave and sometimes insuperable obstacle to ideal success after operating. The other condition to which I particularly allude is that which I usually speak of as intestinal toxæmia, and relates to auto-intoxication produced by absorption from the contents of the alimentary canal of substances which ought not to be therein retained, nor allowed to so accumulate and undergo chemical changes which shall permit such absorption. This condition is in a large measure represented by chronic constipation; and yet it certainly does occur in patients who have a regular daily habit of alvine evacuation. It is to be recognized by the hue of the skin, by the appearance of the tongue, often by the presence of indol or indican and ethereal sulphates in the urine, and quite often by the diminished elimination of the fluid and mineral elements of the urine. It should be combated, if possible, by a careful course

of hot air or Turkish baths, copious draughts of fluid, the administration of saline laxatives, and of intestinal antiseptics, among which, in my estimation, the very best is a solution of mercury and arsenic in hydrochloric acid (given in the shape of mercuric chloride, dissolved in dilute muriatic or nitromuriatic acid, with the addition of liquor arseniosi chloridi). I have tried a great variety of the vaunted intestinal antiseptics, but have settled upon the conviction that some such mixture as this gives results far superior to any which can be obtained from salol, naphthalin, etc. If, in conjunction with these measures, we resort to exercise, when it can be taken, to sunlight, which is always available, and perhaps to massage, by which circulation is quickened and equalized, excretion hastened and waste material dislodged and taken out of the system, we have done what we can to prevent infection.

"And I have, furthermore, for years contended that since the inauguration of the so-called antiseptic era and in our enthusiasm for combating infection from without, we have lost sight of a most important truth which we cannot afford to disregard, viz., that in our enthusiasm for combating infection from without we have almost neglected the measures for, first, the recognition, and, second, the successful prevention of infection from within. Certain it is that in the majority of instances the latter (*i.e.*, infection from within) is much the more liable to ensue, and particularly in a class of cases in which one is tempted, for one reason or another, to be less careful than he ought to be. I would give then this most important practical conclusion to my remarks, that only he who weighs judiciously the possibility or the eminent probability of one or the other of these forms of infection is really capable of guarding against both of them, and that the best surgeon is he who will always take time, when it can be afforded, for the preparation of his patient for operation. In other words, I would remind you of Sir James Paget's too often neglected statement, that we ought to examine patients for operation with fully as much care as we do for life insurance; and add to it that if this examination be so conducted we shall often find that which will make us hesitate and prepare them before subjecting them to the enhanced risk of what may, in other respects, seem for their good."

AMERICAN PÆDIATRIC SOCIETY.

Eighth Annual Meeting, Held at Montreal, Canada, May 25, 26, and 27, 1896.

JOSEPH O'DWYER, M.D., PRESIDENT.

DR. JAMES C. WILSON, of Philadelphia, presided, owing to the unavoidable absence of the president. The first session was opened by the reading of the president's address, entitled the "Evolution of Intubation." This was prepared at the request of the council and was a paper of the greatest interest, as it described the labors which Dr. O'Dwyer pursued with untiring devotion to a great idea through five long years. A bivalve tube was first used, but after three years of continuous effort it was abandoned and experiments were begun with the solid tube. The paper described the various experiments made with alternating failure and success, until at last obstacle after obstacle was overcome, and imperfection after imperfection was removed. As a result of this patient toil, perfected instruments were given to the profession, a very rare thing in the history of medicine. The various steps taken in accomplishing this great result were narrated with the simplicity and modesty which has always characterized the work of Dr. O'Dwyer.

A complete set of instruments showing the evolution of intubation from the first bivalve tube to the present perfected model proved of the utmost interest.

DR. GEORGE N. ACHER, of Washington, read the first paper, entitled "Gangrene of the Lung Following Typhoid Fever."

DR. J. H. FRUITNIGHT, of New York, read a paper on "Malignant Endocarditis," and presented a specimen. As the bacteriological examination showed the condition to be due to the presence of streptococci, the author advocated the use of streptococcus antitoxin serum in such cases.

At the second session, DR. A. H. WENTWORTH, of Boston, read a most exhaustive paper on "Lumbar Puncture," and reported twenty-nine cases. He affirmed that while normal cerebro-spinal fluid contains neither fibrin nor cells and is always clear, it is always cloudy in case of meningitis, though the cloudiness is sometimes very slight. This is caused by cells, the character of the cells differing with the variety of meningitis. The operation, the author believes, offers a valuable means of differential diagnosis. For such purpose, however, the microscope is essential and inoculation experiments are also of value.

This was followed by a paper on "Tapping the Vertebral Canal," with remarks on local treatment for tuberculous meningitis, by DR. AUGUSTUS CAILLÉ, of New York. He reported twenty-one cases and said that he believed that a study of the cases reported up to the present time will certainly convince the most sceptical that Quincke's puncture is of positive value as a method of diagnosis. It is simple and usually easy of performance. In two cases Dr. Caillé injected antiseptics into the subarachnoid space, but without material results. He proposes in some future case to lay bare the dura by removing a button of bone and irrigating from a lumbar puncture upward through an opening in the dura.

DR. C. C. JENNINGS, of Detroit, also read a valuable paper on "Lumbar Puncture," and reported practical experience. DR. FLOYD M. CRANDALL, of New York, read a paper on the "Occurrence of Influenza in Children," and reported local epidemics. DR. SAMUEL S. ADAMS, of Washington, reported an extremely interesting case of "Temporary Insanity Following Typhoid Fever." DR. FREDERICK A. PACKARD, of Philadelphia, reported a case of "Endothelioma of the Brain with Atrophy of the Paralyzed Members."

DR. HENRY JACKSON, of Boston, read a paper on "Nasal Feeding in Diphtheria," in which he advocated feeding by means of a soft tube passed through the nose into the œsophagus in certain cases of diphtheria. As this can be done with ease, it does much in preventing exhaustion of the child's strength.

DR. WILLIAM OSLER, of Baltimore, read a paper on the "Classification of Tics or Habit Movements." He made the following classification: 1. Simple tic or habit spasm. 2. Tics with superadded psychical phenomena; *maladie de la tic convulsif*, or Gilles de la Tourette's disease. 3. Complete co-ordinate tics. 4. Tic psychique. An imperative idea is the psychical equivalent of and has an origin similar to the motor tics. Each of these subdivisions was elaborated and illustrated by practical examples.

The third session was devoted to the "Antitoxin Treatment of Diphtheria." The report of the collective investigation committee of the society upon the results of the "Antitoxin Treatment in Private Practice" was read. Over five thousand cases were reported, the results being, on the whole, far more favorable than those of any extended reports that have thus far appeared. A detailed report will soon be published in full.

DR. F. A. PACKARD reported favorable results of the antitoxin treatment, and DR. S. S. ADAMS read a paper

on the "Comparative Results of the Treatment of Diphtheria with and without Antitoxin in the District of Columbia." It appears that the death rate from diphtheria in the District of Columbia since the introduction of antitoxin has materially diminished.

DR. A. SEIBERT, of New York, read a paper on "Sudden Death after Antitoxin Injections." He reported a series of striking experiments which showed that the injection into animals of carbolic acid even in very weak solution was constantly followed by most characteristic spasmodic movements. Another series of experiments was made to determine the effects of subcutaneous injections of air. The results seemed to show that antitoxin can contain but infinitesimal quantities of carbolic acid. They also rendered the proposition reasonable that the few sudden deaths reported after the use of antitoxin might be due to the injection of air at the same time.

The general discussion elicited by these papers was extremely interesting and showed a unanimous and very strong sentiment in favor of antitoxin.

At the fourth session, DR. ROWLAND G. FREEMAN, of New York, read a paper on "Low Temperature Pasteurization of Milk at about 67° C." He proved that this temperature was sufficient to kill numerous pathogenic bacteria and various atmospheric bacteria, and referred to the importance of avoiding unnecessary heat in the preparation of milk for infants' use. He presented a new apparatus of simple construction, designed to pasteurize milk at 67° C.

DR. CHARLES W. TOWNSEND, of Boston, reported several cases of "Thigh Friction in Infants." DR. WILLIAM P. NORTHRUP, of New York, reported a most interesting case of "Apparently Relapsing Cerebro-Spinal Meningitis Followed by Death and Autopsy," which elicited a warm discussion on the pathology and diagnosis of meningitis. DR. HENRY LAFLEUR, of Montreal, reported a case of "Insolation in an Infant of Thirteen Months." DR. A. D. BLACKADER, of Montreal, reported a case of "Enlargement of the Liver" in a young child, with symptoms closely resembling those of typhoid fever.

Papers were read by title by DRs. B. K. RACHFORD, of Cincinnati; F. FORCHHEIMER, of Cincinnati; IRVING M. SNOW, of Buffalo; and HENRY D. CHAPIN, of New York.

The last session was devoted to the presentation of pathological specimens, specimens being presented by DRs. ROTCH, HOLT, CAILLÉ, ADAMS, PACKARD, ACKER, FREEMAN, and TOWNSEND.

The following officers were elected for the coming year: *President*, Dr. Samuel S. Adams, Washington, D. C.; *First Vice-President*, Dr. W. S. Christopher, Chicago; *Second Vice-President*, Dr. Charles P. Putnam, Boston; *Secretary*, Dr. Frederick A. Packard, Philadelphia; *Treasurer*, Dr. Charles W. Townsend, Boston; *Recorder and Editor*, Dr. Floyd M. Crandall, New York; *Member of Council*, Dr. William Osler, Baltimore; *Chairman of Council*, Dr. William P. Northrup, New York.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 18, 1896.

JOSEPH E. JANVRIN, M.D., PRESIDENT, IN THE CHAIR.

Disturbance of Arm Circulation Simulating Neuritis.—DR. L. F. BISHOP presented a girl, about fourteen years of age, who had come to the clinic with the history that the day before she had felt pain in the elbow and wrist. He found complete anæsthesia from

the wrist down, but subjective pain in the finger tips, and here pressure caused some increase of pain. Tactile sensation was quite absent. At first glance he thought of neuritis, perhaps due to trauma, but found absence of radial pulse and of all pulsation until he reached the upper third of the arm. There had since been gradual return of sensation and of collateral circulation, but there was slight dry gangrene of the tip of the index and ring fingers, less of the thumb. He supposed there had been sudden plugging of the brachial artery, followed by gradual development of collateral circulation. The radial pulse was still absent.

Experience with Pilocarpine in the Treatment of Uræmia of Bright's Disease.—DR. CHARLES J. PROBEN in the first part of this paper briefly considered the physiological action of pilocarpine and pointed out the antagonism between it and atropine. The inconvenience in the use of other measures to excite the skin and kidneys to action in uræmia and eclampsia, and the slowness of their action, he said, have led to a trial of pilocarpine by Barker, Saenger, and many others, in spite of the dangers from depressing effects. Barker considers the use of pilocarpine in eclampsia contraindicated; Saenger reports three cases with one recovery; Loomis thinks the drug can be tried cautiously in uræmia of Bright's disease under certain conditions. Briefly stated, the author thinks it is not safe when there is fatty degeneration of the heart, dilatation, senile change of arteries, cardiac inefficiency; in fact, probably its only indication in uræmia is when there is simple hypertrophy of the heart with strong action. Here its beneficial effects are said to be striking. Moreover, the modern way of directly attacking the blood is a far more efficient method of treating uræmia. By some, this is carried out by withdrawing a portion of the venous blood, even to the extent of a thousand grams, and replacing it with saline solution. The proportion of poisonous elements withdrawn from the circulation in this manner is far greater than it would be in withdrawing an equal amount of sweat or urine. Dr. Proben thinks it is seldom necessary to make venesection, it being sufficient to use rectal injections or venous transfusion of saline solution. He outlined the histories of three or more cases illustrating adverse results from the use of pilocarpine in his early experience. Each of the three patients had uræmic toxæmia from chronic Bright's disease, and as other measures had failed, he tried injection of one-fifth of a grain of pilocarpine, and in all the same result was soon noticed. The drug exerted all of its influence upon the heart muscle, producing tumultuous action, venous stagnation, collapse, œdema, clammy sweat. Death soon followed. In one instance atropine was used to neutralize the effect of the pilocarpine, but without avail. He also recalled that, when interne in a city hospital, pilocarpine was sometimes used and caused cardiac failure. It is established that pilocarpine is a marked cardiac depressant, dangerous to use in uræmia, and its use should be restricted to other conditions than Bright's disease.

The author related a case of eclampsia before and after delivery, with almost complete suppression of urine with one hundred per cent. albumin. He injected two quarts of saline solution into the vein of the arm, with the result that in twenty-four hours the woman passed one hundred and nine ounces of urine. There is no means more effectual for stimulating kidney secretion.

Pilocarpine in Scarlatinal Nephritis.—DR. J. LEWIS SMITH opened the discussion. His attention was first called to pilocarpine many years ago by the remark of a gentleman distinguished in the profession

that he would never use it again because it was likely to produce fatal bronchorrhœa. Soon after this, Dr. Smith was called to see a child in consultation by a physician who had given it one dose of pilocarpine for transudation of serum following scarlatina. The child was breathing with the utmost dyspnœa, the chest was full of very coarse râles, a condition which might be called bronchorrhœa, evidently due to the pilocarpine. The child died.

Although pilocarpine is efficacious beyond all other remedies in producing urination and perspiration, yet Dr. Smith has not used it in hospital pauper adults, with anæmia attending their dropsical accumulations in Bright's disease, lest its depressing effects should prove fatal. His record books, however, contain the histories of two children with dropsical accumulations depending on scarlatinal Bright's disease in which pilocarpine given internally in doses of one-thirty-second of a grain has been efficacious in saving life, and this experience inspired the hope that a way may be found of using it, say in small doses or guarded by some other drug, by which its beneficial effects can be secured without its dangerously depressing effects.

DR. J. BLAKE WHITE said his experience with pilocarpine has been more favorable than Dr. Proben's. He employs it in smaller doses, and usually in connection with some cardiac stimulant, as strychnine or digitalis. To a child he gives not more than one-thirty-second of a grain, to an adult one-twelfth to one-sixth of a grain by the stomach, never more than one-sixth hypodermatically. He doubts whether the pulmonary and cerebral œdema in the cases of Barker and Saenger were due to the pilocarpine, as they are apt to occur in the usual course of the disease. Children are especially tolerant of pilocarpine. Careful examination should be made of the circulatory system in order to exclude heart disease, etc.

In some closing remarks DR. PROBEN said that while œdema is a frequent cause of death in Bright's disease, yet as it comes on so rapidly after administering the pilocarpine, he must attribute it to the action of this drug. Authorities are agreed that it is best to administer the pilocarpine hypodermatically. The crystallized form alone is reliable. Jaborandi contains other alkaloids which are more or less antagonistic.

Diagnosis of Paralysis of Peripheral Origin, and the Value of Electricity as an Essential Element in Differential Diagnosis, Prognosis, and Treatment.

—DR. WILLIAM M. LESZYNSKY read the second paper of the evening. It was based on a study of nearly four hundred cases of peripheral paralysis which have come under the writer's observation during the last ten years. For want of time, his remarks were confined chiefly to facial paralysis and paralysis involving the brachial plexus, these being the more common forms seen by the practitioner. It is not uncommon for paralysis of peripheral origin to be mistaken for disease of the brain or cord, and naturally there is chagrin when spontaneous recovery takes place in a few weeks or months after giving an unfavorable prognosis.

The most common cause of peripheral paralysis is trauma, direct or by pressure during sleep; then come refrigeration, lead poisonings, and constitutional diseases—syphilis, gout, etc. Paralysis affecting a number of muscles in the same extremity, when due to a lesion of the trunk of the nerve or nerves, is always of flaccid type, affecting muscles in the distribution of those nerves; frequently there is loss of sensibility and of irritability in greater or less degree, lesion of the anterior horn of the cord as in poliomyelitis, weakened or paralyzed muscular groups which are functionally associated; the paralysis is of flaccid type, but is

rapidly followed by atrophy, while, as a rule, sensory symptoms are absent. The changes in electrical reaction are similar in these two conditions, the reaction of degeneration, while in monoplegia or hemiplegia of central origin the electrical reaction is normal or increased. After speaking of pain in neuritis, together with trophic changes, the author said it may be difficult in some cases to decide whether the lesion producing the paralysis is in the nerve trunk, cord, or brain, but a definite decision can almost invariably be reached by a critical electrical examination.

When a person awakes with paralysis of one side of the face, the friends speak of it as a stroke, meaning a cerebral apoplexy, but, clinical experience shows that isolated facial paralysis of cranial origin is exceedingly rare. Not so when there is also hemiplegia. In simple facial paralysis of central origin, the upper branches of the facial nerve are rarely paralyzed, only the lower face showing palsy. The nerves continue to react to faradism, usually quantitative increase being present. In peripheral facial paralysis all branches are affected, the patient is unable to close the eye or raise the forehead, and the faradic irritability is either diminished or lost within two weeks. It is not necessary to confuse the practitioner by speaking of change in polar reaction, for in general it is sufficient to compare the electrical irritability to the faradic current on the two sides; if it is diminished or absent on the paralyzed side it indicates reaction of degeneration. If the galvanic reaction be tested, the normal condition should give greater response on cathodal closure than on anodal closure, and greater response on cathodal closure than on cathodal opening. A reverse of this indicates reaction of degeneration (R. D.). Reaction of degeneration is conclusive proof of a lesion of some severity at the nucleus or in the course of the nerve trunk. This test is also important in prognosis.

One rarely sees atrophy of the muscles in paralysis of the facial nerve, whereas in peripheral paralysis of the extremities atrophy is not at all uncommon. Pain is an obtrusive symptom in the latter when there is degenerative neuritis. Cases of paralysis of the peripheral nerves without a wound can be classed in three categories—slight, medium, and severe. The first form usually gets well in about fourteen days; the second, with partial reaction of degeneration, in about two months; the severe form, with complete reaction of degeneration, in from three to nine months. Dr. Leszynsky thinks this period can be shortened in the two latter classes by electrical treatment begun two or three weeks after the onset. Patients usually think the benefit is in proportion to the strength of the current and its duration, but this is a mistake. In palsy due to division of a nerve, suture is called for at the earliest moment. Electricity, to be of diagnostic value, must here be used early, since after two or three weeks one cannot say whether the reaction is due to division or to neuritis.

The paper was discussed by DR. H. W. BERG and DR. L. F. BISHOP, both of whom have been unable to arrive at a conclusion as to the therapeutic value of electricity in cases of peripheral paralysis. Dr. Leszynsky, however, has no doubt on this point. In dispensaries it is most used in anterior poliomyelitis of infants, where its beneficial results are less apparent than in paralysis of peripheral origin.

DR. THOMAS H. MANLEY presented a woman and a sarcomatous tumor weighing a pound and a half, which he removed from her lower jaw at a second operation. He also showed a portion of gangrenous intestine which he removed by resection some days after his subject was kicked in the lumbar region by a horse.

Therapeutic Hints.

Myxœdema.—The first case of this disease which was treated by thyroid, beginning in April, 1891, and continuing till the present time, is to-day free from swellings, the skin is soft and moist, the hair has grown in again, and the woman leads an active life, taking, however, each week three or four grams of thyroid extract.—GEORGE MURRAY (*British Medical Journal*).

Ozæna.—

R Pure glycerin.....	70
Borax.....	20
Distilled water.....	30
S. Used as a nasal spray two or three times a day.	

—*Nouveaux Remèdes.*

Diabetes.—

R Arseniate of soda.....	mgm. .002
Carbonate of lithium.....	cgm. .15
Codeine.....	" .02
Powder of theriac.....	" .25
Dry and powdered extract of quinquina ..	.40

For one powder. Make thirty. One before the first breakfast and the dinner.

—A. ROBIN.

Spasmodic Asthma.—

R Tinct. lobeliae æthereæ.....	℥ xv.
Spirit. ætheris.....	℥ xx.
Tinct. chlorof. comp.....	℥ v.
Aquæ camphoræ.....	ad ʒ i.

To be taken when breathing is difficult.

—*The Practitioner.*

High Arterial Pressure when nitroglycerin is contraindicated:

R Chloral,	
Bromide of sodium.....	āā ʒ ij.
Syrup of lactucarium.....	i.
Water.....	q.s. ad ʒ iij.
M. S. Teaspoonful every four hours.	

—*Therapeutic Gazette.*

Ergot.—One or two five-grain powders before bedtime often give satisfactory results in night sweats.—GOLDENDACH.

Dentifrice.—

R Pulv. pot. chl.....	gm. 12.
Pulv. borac.,	
Pulv. mag. calcin.,	
Precip. calc. carb.....	āā gm. 28.
Ess. menth. pip.....	gtt. 10.
Mix and make a powder.	

—*Gazette Hebdomad.*

Thyroid is applicable in psoriasis to those cases alone which have received no benefit from all other known means of treatment, and in which the patient is desirous of making trial of a new remedy even to be disappointed.—THIBIERGE.

Atropine hypodermatically in paroxysm of asthma.

Aconitine, one-two-hundredth grain every two hours, relieved a most obstinate facial neuralgia on the second day.—HAUSBERGER.

Nitroglycerin, one-one-hundredth grain every hour, in puerperal eclampsia.

Pyoktanin (yellow) is sometimes successfully used for excoriations about the corners of the mouth.

Vinegar placed on a cloth over the face of a patient who has had chloroform administered will prevent the sickness which so often follows.—LEWIN.

[If it will prevent the deaths which are of such frequent occurrence across the water, we most heartily commend it to our English cousins.—ED.]

Ethyl-Chloride spray stopped hemorrhage from an extracted-tooth socket.—HIND.

Silver Nitrate, two-per-cent. solution, applied to throat of infant with soft brush for "cold."

Ether Collapse.—Hypodermic injection of camphor in large (half-grain) doses.—SCHILLING.

Sciatica.—In obstinate cases nitroglycerin, beginning with one-one-hundredth grain and gradually increasing up to one-twentieth three times daily.—LAWRENCE.

Gualacol applied to the skin penetrates the system and is excreted in the urine. It is therefore possible to saturate a patient without recourse to the stomach or hypodermic syringe.—LINOSSIER and LAMOIS.

Alopecia Areata in Children.—Feulard gives (*Rev. Intern. de Méd. et de Chir. Pract.*, September, 1895) the following treatment:

R Salicylic acid.....	gr. xv.
Precipitated sulphur.....	gr. xlv.
Lard,	
Vaseline.....	āā ʒ ss.
M. Apply at night.	

In the morning wash with salicylic soap and apply the following lotion:

R Corrosive sublimate.....	gr. ss.
Alcohol,	
Tincture of rosemary.....	āā ʒ iiss.

Once a week brush on equal parts of essence of wintergreen and ether.

Chromic Acid Combined with Nitrate of Silver in Syphilis and Other Affections.—Boeck (*Monatsh. f. prakt. Derm.*, 1895) applies a ten-per-cent. solution of chromic acid to the lesion to be treated and immediately afterward the solid stick of silver nitrate. Chromate of silver and free nitric acid are formed; the latter acts vigorously on the tissues, but with less pain than when used alone. It is especially useful in indurated syphilides of the mouth and dry papules of the mucous membrane, but it is also serviceable in chancroid, nævus, lupus erythematosus, and condylomata. The crust formed by the caustic falls off in a few days.

Favus.—Dr. Josif Khrenitchek, a military surgeon of Servia, recommends cleansing the head thoroughly with a solution of potassic soap (sapo kalinis) and shaving; then the application of the following preparation:

R Acidi carbolic.....	10
Petrolei,	
Glycerini.....	āā 100
Balsami peruviani.....	10

Cough of Measles.—Widerhofer recommends the following:

R Ext. hyoscyami.....	gr. ij.
Syrup.....	ʒ iij.
Distilled water.....	ad ʒ ij.
M. S. A teaspoonful every two hours.	

Eczema of Face and Neck.—Dr. Shoemaker finds the following preparation useful:

R Aristol.....	ʒ ss.
Camphor.....	gr. x.
Lanolin.....	ʒ ss.
Carbolic acid.....	gr. v.
Ointment of oxide of zinc.....	ʒ ss.
M. S. Apply locally.	

Vomiting.—

R Bismuthi subcarb.....	ʒ ij.
Aq. laurocerasi.....	ʒ iij.
Syr. simp.....	ad ʒ ij.
Teaspoonful for an adult every three hours.	

—SAUER.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ROYALTY AND CHARITIES—JENNER CENTENARY—
INTESTINAL ANASTOMOSIS—WOMEN MEMBERS DE-
CLINED BY THE PATHOLOGICAL SOCIETY—QUEEN'S
BIRTHDAY HONORS—CHELSEA HOSPITAL—LIVERPOOL
LYING-IN HOSPITAL—ADELAIDE HOSPITAL DIFFI-
CULTY—A CENTENARIAN SURGEON—ILLNESS OF SIR
J. MILLAIS.

LONDON, May 22, 1896.

YESTERDAY royalty was again to the fore in aid of our charities. The Princess of Wales (accompanied by her husband, their daughter Maud, and Prince Charles of Denmark) opened a bazaar on behalf of the West London Hospital. The Princess received purses amounting to nearly £500 toward the funds, and afterward inspected some of the wards and spoke to a number of the patients. In declaring the bazaar open the Prince of Wales, on behalf of his wife, referred to the time when, seventeen years ago, he presided at a festival on behalf of the hospital, and expressed satisfaction in taking part in such philanthropic work.

The Duke of York presided at a dinner in aid of the Royal Albert Orphan Asylum. A sum of £2,440 was raised.

One hundred years ago this month, on the fourteenth day of the month, Edward Jenner vaccinated a child of eight years of age. This event, so pregnant with the welfare of the race, produced but little effect at the moment, and, indeed, to the end of his life Jenner never attained the honor of his countrymen to the extent that foreigners accorded it to him. And it is so now—the Jenner centenary is being celebrated in various countries, while in his native land it attracts little attention. Had it not been for the awful example of Gloucester, the "antis" in their folly might have been continuing their denunciations of the great discovery and accumulating their responsibility for preparing further holocausts by their self-conceit and misrepresentations. The *Practitioner* for May was issued as a "vaccination number," and, appearing on the 1st inst., may be said to have opened such celebration of the Jenner centenary as England seems inclined to give. The *British Medical Journal*, not to be outdone by a monthly, devotes this day's issue to a Jenner number. Thus far we have portraits, lives, and articles enough, but all this is merely medical celebration. It would be better for the country if the great newspapers enforced the lessons of the centenary.

Mr. Lewis is issuing a "History of Vaccination," with colored plates, including a reproduction of those of Jenner's "Inquiry" and a facsimile of the first folio edition of his original paper.

We shall not fail, therefore, of a medico-literary celebration of the centenary.

At the last meeting of the Royal Medical and Chirurgical Society, Mr. Walter Edmunds and Mr. C. A. Ballance communicated a paper entitled "Observations and Experiments on Intestinal and Gastro-Intestinal Anastomosis." The object of the experiments was to determine the best method of uniting either bowel to bowel or bowel to stomach. The experiments were made on dogs. All the various methods were tried, and the conclusions arrived at are: (1) For lateral anastomosis Halsted's operation is best. A needle should be threaded at each end of each suture; the needles then had only to be passed in one direction; (2) for end-to-end suturing the most perfect result is obtained by Maunsell's operation, but the conditions will not always allow of its performance; and (3) for certain cases implantation is indicated.

There are three main conditions for which these operations are required—namely, artificial anus from any cause, gangrenous hernia, and malignant disease of intestine. The enterotome appears to have fallen into disuse in the treatment of artificial anus and the extra-peritoneal operation is applicable only to certain cases; the intra-peritoneal operation must, therefore, be used for the majority. This can be performed either by an end-to-end junction, or by implantation, or by lateral openings after inverting and closing the open ends. The last is considered the easiest and safest proceeding, especially if the surgeon has not much experience in intestinal surgery; and of the methods of effecting it, Halsted's operation is preferred to Senn's. For end-to-end anastomosis (which is the ideal operation) Maunsell's operation is preferred to all those in which recourse is had to mechanical aids, whether of decalcified bone or of metal. The treatment of intussusception, gangrenous hernia, and malignant disease of the bowel was discussed; in the last the new growth should, if possible, be excised at the primary operation. Whether or not an attempt at reunion or anastomosis should now be made depends mainly on whether there is any chronic obstruction or not; if there is any to speak of, the reunion should be postponed, because the passage of pent-up feces and the muscular action which this requires are unfavorable to surgical repair. In gastro-enterostomy, say the writers, operations are preferably performed by pure suturing (Halsted's operation) and also by Paul's method with ivory rings. Both these methods are successful. Some interesting physiological observations were added, and the paper was illustrated by numerous drawings.

The President (Dr. Dickinson) observed that he has noticed the extraordinary healing powers of the intestine. In one case, probably of intussusception, a great length of the bowel came away and the patient recovered. When a post-mortem examination was made some years later, it was impossible to see which portion had separated.

Mr. Greig Smith considered that on this subject no more valuable communication has been made to the profession since Senn's work was first published. One important conclusion arrived at by the writers is that it is best to avoid apparatus, and he himself, from a different point of view, has arrived at the same conclusion. He bases his opinion upon recent statistics which on this point are quite convincing. He considers the Halsted suture incomparably the best, as no infolding is necessary and it possesses great healing power. Murphy's button is a marvel of ingenuity. It is said to produce what is euphemistically called pressure atrophy. This latter appears to him to be very closely allied to gangrene.

Mr. Harrison Cripps said that he prefers fingers to bobbins and buttons. He has found end-to-end approximation with Lembert's sutures the best. He has applied them at a little more than one-eighth of an inch from the margin of the bowel, and this, he thinks, prevents infolding.

Mr. Leonard Bidwell mentioned that a temporary fecal fistula had occurred in each of three cases of Maunsell's operation which he had seen, and in two cases of gastro-jejunostomy in which Mayo Robson's bobbin was used there was after-obstruction due to the opposite wall of the jejunum occluding the lumen of the bobbin.

Mr. Bryant remarked on the much greater thickness of the walls of the intestines in dogs. A great deal of the ridge or diaphragm which is found after the Lembert suture is, he thought, due to this. One should, therefore, be very careful in applying these results to the human being. In some cases artificial appliances help the surgeon very much.

Mr. Edmunds, in reply, said it is only because the end-to-end method of suture has proved so unsuccessful that other measures have been invented. The lateral anastomosis by Halsted's method is the best.

Mr. Ballance, in reply, said that they are agreed that the fingers are the best form of apparatus to use. In these cases the stitches are not placed far away from the ends of the bowel, and the same ridge occurs also in human intestine after the Lembert suture.

The Pathological Society has declined to admit medical women to membership.

A number of honors were as usual conferred on the occasion of the Queen's birthday. In these surgeons in the services participated to some extent.

The Chelsea Hospital board has carried its resolutions, with the consent of the staff, who thus become the humble servants of a discredited board which can dismiss them at pleasure.

Honor to the Liverpool profession. The board of the Lying-in Hospital met on Monday to receive applications from gentlemen for positions vacated, as I have mentioned, by the medical staff. Notwithstanding the advertisements, not a single candidate applied.

The difficulty at Adelaide has not displayed the same union among London surgeons, for it appears that already one has accepted the offer to go out and take up a post vacated by one of the staff. The example of Liverpool should have deterred him.

The oldest member of the College of Surgeons, Mr. W. R. Salmon, died last week at the rare old age of one hundred and six. His diploma was dated 1812. He arrived in Paris soon after Waterloo, made his way to Brussels, and looked upon the horrors of unburied bodies on the field of battle and the many wounded in the hospitals. He retired from practice many years ago.

Sir John Millais lately had to submit to tracheotomy, and his illness excites much sympathy in the public. As I write, I learn that his strength and cheerfulness remain unimpaired.

PHYTOLACCA IN DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Permit me to say a few words in reply to Dr. M. L. Davis, of Lancaster, Pa., commenting in your journal of April 25, 1896, upon my treatment of diphtheria as outlined in the MEDICAL RECORD of March 28, 1896.

Readers of the later school of materia medica and therapeutics, such as Rieger, Bartholow, Phillips, Schoomaker, and others, can easily see why practical physicians were led to use aconite and phytolacca in diphtheria, as excellent results had been effected with those drugs in tonsillitis and chronic follicular pharyngitis. Inhalations and gargles of peroxide of hydrogen, carbolic acid, etc., are used in conjunction with internal medication in true diphtheria, because this disease depends upon a local fungus.

As to the climate of Juarez, Mex., and El Paso, Tex., it cannot be excelled for its sanitary qualities. Snows seldom whiten the ground, and lie but a few hours. Damp chilly days and hot sultry nights are unknown. The heat of summer is not oppressive, and sunstroke has never been known. The sky is clear the year round. No entire day has been known when the sun has not been seen. The atmosphere is unsurpassed for its dryness and purity; full of electricity, it is wonderfully exhilarating and is never burdened with malarious or poisonous exhalations. Blankets or cover of some kind are necessary for all our nights which follow the hottest days, because the nights are cool, though not damp. Sleep-

ing with doors and windows open, or in the open air, may be practised with impunity. There is no rank, rich vegetation saturated with moisture and constantly undergoing decomposition. Vegetation dries up, never rots. Meat, stripped and hung in the open air and sun in midsummer, will cure and is preserved without salt; but with all the benefit of this magnificent climate the writer, while formerly using Dr. Davis' remedies in diphtheria generally, lost from one-third to one-half of the little innocents, while with his present treatment he has the satisfaction of curing nearly all such cases. As to one drop of aconite to a four-ounce mixture I stand corrected. I generally use from one-fourth to one drop with each dose, according to the case. The mistake was probably a slip of the pen. There exists a foolish prejudice among a few in the regular profession against aconite and phytolacca; for the reason that the former is much in use among the homeopaths and the latter drug is often recommended by the eclectics.

Aconite has done service in the regular school of medicine before Hahnemann was born, and phytolacca has its place in the United States Dispensatory. Both these remedies will be in use among practical physicians after a hundred and more new-fangled "antitoxins" have been relegated to innocuous desuetude.

Dr. Cordeiro, in his report to the surgeon-general of the United States Army on antitoxin or serum treatment of diphtheria, used these words: "We have not the slightest basis on which to found expectation that fewer children will die in the future of this disease on account of the serum treatment."

E. ALEXANDER, M.D.

JUAREZ, PASO DEL NORTE, MEXICO, May 18, 1896.

"SHALL WE GIVE THE APPENDIX A REST?"

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Only to-day has my attention been directed to the letter from Dr. Greene, of Dubuque, under the caption given above, in your issue for May 23d, and which was written, if I remember, while its author was waiting for a train of thought.

As Dr. Greene is an old friend of mine, and as he takes several names in vain—mine among others—I know that he will like to hear from me. Moreover, he is as keen as a briar, and his challenge deserves the courtesy of a reply.

About two generations ago Dr. Oliver Wendell Holmes made a famous list of questions which, a hundred years hence, his spirit would like to ask, regarding progress in earthly matters. One was, "In fatal disease, is euthanasia as yet a *fait accompli*?" So far as gangrenous, perforative, or acutely suppurative appendicitis is concerned, that question will be answered as soon as the opium treatment shall be regularly adopted.

I wonder if Dr. Greene realizes the probable duration of the discussion into which he so light-heartedly enters? I do not wish to alarm him, but when time shall be no more and when all the prophecies are fulfilled, there will still be found the surgeon laboring patiently and prayerfully with his medical brother regarding appendicitis; and the family practitioner pointing out to the surgeon, gently and with Christian resignation, that two and two equal six.

Indeed, some family practitioners seem cultivating a very pretty talent for mathematics. The figures of Dr. MacArtney,¹ of the physician at a meeting of the American Medical Association, quoted (unnamed) by Dr. Wyeth,² and of Dr. Waldo³ amply prove this. I

¹ MEDICAL RECORD, May 2d.

² *Ibid.*, May 9th.

³ *Ibid.*, May 30th.

never was good at figures myself. Therefore these, with their twenty-four to seventy-five consecutive cases of appendicitis treated medically without a death, fill me with the greater admiration.

The statements of these mathematicians refer to diagnoses in which they evidently believe, and that belief must be treated with respect. But what shall be said of Fitz Hektoen?—he who “finds that thirty-five per cent. of all bodies in the dead-room show traces of appendicitis” (Greene). His assertion is not, like theirs, a matter of opinion. He refers to appendices actually seen at autopsies. Hence there can be no doubt, and our respect for him is proportionately deepened. Here is a rare spirit—a real adept at the gentle art of embroidery.

As Dr. Greene has reason to remember, the writer is so placed as to have had for many years opportunity to know the facts in demonstrating operative surgery.

Observe this quotation from Dr. Senn which Dr. Greene brings in as an argument for his position: “The removal of the appendix should be limited to those cases in which during the first attack symptoms arise which portend danger to life and relapsing appendicitis. Some cases of appendicitis yield to medical treatment, and in a large percentage of such cases the patients remain free from a second attack.”

This seems to me, after a cautious perusal, quite harmless. The first sentence is a trifle loose in its grammar; but as a statement of the whole thing is safe for the young and for family reading.

Drs. Fenger and Lamphear fare rather badly at Dr. Greene's hands—the former on the strength of a conversation a year ago, the latter regarding a paper written several years back of this day of grace; and both gentlemen he quotes from memory only. However, they need no defence from me. If they have at any time said anything for which they are now sorry, I am sure they are glad of it.

My own small addition to this controversy is an entirely new idea, and is dedicated to the medical statisticians aforesaid. It is that we should not regard every case of pain in the right side of the abdomen as being appendicitis. There are at least a dozen other sources of pain there.

This novel thought, which must strike them as a bold conception, is offered with diffidence.

To Dr. Greene I would present my compliments and the hope that he will not construe anything I have said as meaning that I cut in every case of appendicitis to which I am called. That would be far from the truth.

ROBERT H. M. DAWBARN, M.D.

105 WEST SEVENTY-FOURTH STREET, NEW YORK.
June 1, 1896.

Asepsis in Country Practice.—Where it is impossible to secure the appliances of a clinical amphitheatre for an operation, the water used in washing the hands, the seat of the operation, etc., should be boiled for an hour. All brushes should be boiled. The surgeon should carry with him antiseptic soap, alcohol, and a solution of sublimate. He should also carry handkerchiefs, aprons, bandages, silks, drainage tubes, etc., in a Mehler's sterilizing apparatus. Just before the operation all instruments, cloths, etc., should be boiled again. When possible the room should be wiped up with a damp cloth two hours before the operation, and all curtains, hangings, etc., removed. The patient should be bathed, and all washing-utensils, tables, and, in fact, everything to be used, should be carefully cleansed and disinfected. With infinite pains the difficulties of a country practice may be overcome and operations may be crowned with success.—*Münch. med. Woch.*, Nos. 49-51, 1895.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 6, 1896:

	Cases.	Deaths.
Tuberculosis.....	111	108
Typhoid fever.....	13	4
Scarlet fever.....	75	2
Cerebro-spinal meningitis.....	1	3
Measles.....	288	23
Diphtheria.....	258	39
Small-pox.....	0	0

Poisonous Fish.—Poisonous fish are found in large numbers and in many places, but more especially in the tropics. They are quite common in the Brazilian and West Indian waters, and also in the East Indian and Australian waters. Three kinds of fish belonging to the mackerel family are poisonous. One is called the jurel, and is found in the West Indies in large numbers. It can be distinguished from the common mackerel, which also abounds in the same waters, by certain peculiarities or marks. Thus, the jurel has no black spot on the gill covers; it has scales on the neck, while the harmless kind has a black spot and no scales on the neck. The poisonous kind grows large and often weighs as much as twenty pounds, but the others seldom run over two pounds. Mackerel weighing over two pounds are not allowed to be sold in the Havana markets. The chicaro is another kind of poisonous mackerel. It is also found in the West Indies, but the natives of those islands do not regard it as dangerous. The meat of the chicaro is not fit nor safe to eat at certain times of the year, especially during the spawning season. Then it becomes highly poisonous, and the people of Guadeloupe sometimes use pieces of this fish, which have been caught, to poison rats. The bonito is a kind of mackerel that is most dangerous at certain times of the year. Usually it is a very pleasant and palatable bit of food, but every once in a while people are taken with colic after eating the bonito. So it is best to let it alone. Two kinds of herring are known to be poisonous. The meletta, or tropical herring, is found all along the Atlantic coast as far north as New York. Within recent years there have been several cases in which people have died after eating this fish. The spawning season seems to be the time when the herring and other tropical fish should be let severely alone. The part which is considered most dangerous is the roe. The meletta which is found in East Indian and Australian waters is always poisonous, and it is the more dangerous because it is not easily distinguished from another kind of herring which is comparatively harmless. The poisonous kind has a black nose and a black spot on the dorsal fin, while the other has not these marks. The poisonous meletta resembles a herring, being five or six inches long, with silvery scales and a bluish-green back. Some fish are poisonous in certain localities and harmless in other places; some are poisonous at certain seasons of the year and at other times wholesome; and finally, as a note of warning, we would say that visitors to tropical countries should take no risk of eating fish which are not known to be safe as well as palatable.

Adenoid Vegetation of the Nose.—Paint with a fifty-per-cent. solution of resorcin. Six to ten applications usually prove sufficient.—MARAGE.

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Original Articles.

CLINICAL OBSERVATIONS UPON THE USE OF ANTITOXIN IN DIPHTHERIA; AND A REPORT OF A PERSONAL INVESTIGATION OF THIS TREATMENT IN THE PRINCIPAL FEVER HOSPITALS OF EUROPE DURING THE SUMMER OF 1895.*

BY JOSEPH E. WINTERS, M.D.,

NEW YORK.

SINCE Behring's treatment for diphtheria was proclaimed to the medical profession by Roux at the Buda-Pest congress in 1894, sufficient time has elapsed to warrant our taking a careful analytical review as to what has transpired with reference to it.

Behring's antitoxin was given to the world as a specific against the toxins of the diphtheria bacillus. It has no action on the bacillus; this is not destroyed by the antitoxin, it is not rendered less virulent, it is in no way influenced by the treatment.

Behring has told us that his remedy has no influence on the poisons of other bacilli. Diphtheria in man scarcely ever occurs from pure infection by the Loeffler bacillus. Almost invariably we find in addition to the specific diphtheria bacillus, streptococci, staphylococci, etc. The poisonous substances of the latter bacilli are in no way influenced by antitoxin. This fact limits very much the application of Behring's treatment to diphtheria in man. The toxin of Loeffler's microbe causes the cardiac paralysis, the albuminuria, and the paralytic phenomena. These were to be prevented by the neutralizing effect of the antitoxin. If antitoxin is an antidote to the toxin of the Loeffler microbe, cardiac depression, death from cardiac paralysis, albuminuria, and post-diphtheritic paralysis should all be prevented by the action of this agent. It was to remedy these manifestations of the disease that Behring gave to the world his antitoxin.

Behring told us his treatment to be effective must be applied early in the disease; to get the maximum effect, toxin and antitoxin must be applied at the same moment and at the same spot.

Armand Ruffer¹ states that if you inject toxin on one side of the body and antitoxin on the other side at the same time, fourteen times as much is required to protect the animal; if there is a delay of one hour, one hundred times as much is required to protect the animal, and if there is a delay of eleven hours five thousand times as much is required to protect the animal.

In diphtheria in man we can never apply the antitoxin at the site of infection, nor at the moment of infection. A period necessarily intervenes from the time of infection until there are sufficient symptoms to call attention to the illness, and, as the result of this, there is a great limitation to the application of Behring's remedy to diphtheria in man.

Another consideration of prime importance is: if we are to attribute the reported decrease of mortality of diphtheria to the action of a specific, this decrease

must be uniform and constant. There must be the same reduction in mortality in all parts of the world where the remedy is applied. For instance, a mortality of eight per cent. in Paris and twenty-eight per cent. in London does not mean that the low mortality in the former city is due to the treatment, but that it is due to a difference in the character of the epidemic, and that when Paris is visited by an epidemic of the same severity as the one that exists in London it will have the same mortality in spite of the treatment. If there is at work but a single factor, viz., antitoxin, in the reduction of mortality, that reduction must be below the lowest mortality recorded in the natural history of the disease in any part of the world, and it must be steadily maintained below this rate in all parts of the world; otherwise, the variations in mortality may be said to be due to the epidemic character of the disease. We find recorded the following divergences in the deaths from diphtheria, owing to differences in the type of the disease:

	Deaths from Diphtheria.
In New York in 1884, ...	1,090
" " " " 1887, ...	2,167
Again in 1890, only	1,262
" " " " 1894, ...	2,359
In Boston in 1891, ...	232
" " " " 1894, ...	817
In Philadelphia in 1888, ...	350
" " " " 1889, ...	375
" " " " 1892, ...	1,425
In London in 1891, ...	1,361
" " " " 1893, ...	3,265
In Berlin in 1866 (croup and diphtheria), ...	813
" " " " 1867, ...	904
" " " " 1868, ...	2,154
Again in 1877, with an increase in population of nearly half a million, only	1091

The same variation in the type of the disease is shown in the mortality returns from hospitals in different years. Thus, we find that in the Children's Hospital in Basel the mortality from diphtheria in 1876 was 34.1 per cent., in 1886 6.2 per cent.²

In the Crown Prince Rudolph Hospital³ (Vienna) we find that the mortality in 1887 was 27.1 per cent., and in 1888 62.8 per cent. These normal variations in the type of the disease must be given due consideration when estimating the value of a mode of treatment.

The rule of uniformity of results applies to reports by individual observers. If one hundred physicians report five thousand cases of diphtheria treated with antitoxin with a mortality of five per cent., and ten physicians report five hundred cases treated with antitoxin with a mortality of fifty per cent., the only logical conclusion is that there was a difference in the character of the cases in the two series, and that when the one hundred physicians meet with a series of cases of the same type as those treated by the ten physicians, they, too, will have a mortality of fifty per cent.

The most misleading part of the antitoxin literature is the constantly quoted percentage of mortality. The mortality from diphtheria in the city of Boston in 1895 was 14.48 per cent.; in 1893 32.49 per cent., and yet there were one hundred and twelve more deaths from diphtheria in the city of Boston in 1895 than there were in 1893 (four hundred and seventy-six in 1893

* Read before the New York Academy of Medicine, May 21, 1896.

and five hundred and eighty-eight in 1895). The percentage mortality in 1895 is less than one-half as much as that of 1893, and yet the actual number of deaths was increased about one-fourth. The percentage reduction of mortality is due to the fact that in 1895 four thousand and ninety-five cases were reported, and there were only one thousand four hundred and sixty-five cases of diphtheria reported in 1893 in the city of Boston. The percentage mortality from diphtheria in the Boston City Hospital in 1893 was 48.44 per cent., and in 1895 13.21 per cent.; and yet we find that there were two hundred and three deaths from diphtheria in the Boston City Hospital in 1893 and two hundred and seven deaths in 1895.

BOSTON CITY HOSPITAL.

Year.	Cases.	Deaths.	Per cent.
1893.....	419.....	203.....	48.44
1894.....	598.....	266.....	44.48
1895.....	1,566.....	207.....	13.21

From the foregoing it is readily seen that percentage mortality is not only misleading, but is absolutely worthless unless accompanied by the actual number of cases reported and the actual number of deaths; and the report must also include a series of years, in order to enable the reader to compare present results with the results in previous years when there was a mild type of the disease. Reports on the antitoxin treatment have ingeniously compared years of highest mortality instead of including all years.

The necessity of taking into consideration the character of the prevailing epidemic in order to have a clear understanding, is shown by the following. At Gratz Escherich⁴ treated:

	Cases.	Deaths.	Per cent.
By injection of serum,	51	5	9.8
By non-injection,	36	3	8.3

Kohts⁵ mortality in tracheotomy cases treated with serum is 29.41 per cent.; without serum, twenty-five per cent. For cases not operated on, with serum, 7.6 per cent.; without serum, 6.9 per cent.

At the beginning of the antitoxin treatment Behring told us all cases treated on the first day of the disease could be saved; of those coming under treatment on the second day, nearly all, and of those brought under treatment on the third day, the larger part of them. Behring's words were: "We have it in our hands to reduce the mortality from diphtheria to one-tenth of its former rate" (three to five per cent.). Let us see how this promise of Behring's has been verified.

At the Willard Parker Hospital⁶ during the first nine months of 1895, the results were as follows:

DAY UPON WHICH TREATMENT WAS BEGUN, 1895.

	Cases.	Mortality, per cent.
First day.....	108.....	10.09
Second day.....	130.....	25.19
Third day.....	116.....	34.19

We will cite a few cases showing actual results when treatment is begun in the earlier part of the disease:

CASE I.—Six years old; admitted to scarlet fever ward February 1, 1896; recovered from scarlet fever and was ready for discharge.

March 19th, at 11:30 A.M., she complained of sore throat. The diagnosis of diphtheria having been made by bacteriological examination, she was injected with 2,000 units of antitoxin, March 21st, at 3:30 A.M., just forty hours after the disease began. In spite of treatment croupy symptoms, which manifested themselves early, increased, and intubation was done at 10 A.M., forty-six and one-half hours after the beginning of her illness. On the evening of the same day, intubation not affording sufficient relief from the stenosis,

tracheotomy was performed at 9:40 P.M. The child died at 9:45.

In this case we have an instance of a child developing diphtheria in the hospital and being put upon the serum treatment as soon as the diagnosis was confirmed. Notwithstanding this, the local process extended, even intubation not affording sufficient relief, the whole course of the illness being a repetition of what has been frequently seen in the Willard Parker Hospital service.

CASE II.—Aged two and one-half years; admitted April 22d; ill one-half day. Throat clear; tonsils red and somewhat swollen; croup, some retraction, no cyanosis. Under the head of clinical notes I find: "Child rather croupy on admission." Antitoxin, 2,000 units, on admission. Patient admitted April 22d, about midday.

April 23d, 8:55 A.M., intubation necessary; 2,000 units of antitoxin.

Temperature on admission, 100.8° F. April 23d, temperature, 103.2° F. April 27th, temperature, 99° F. April 28th, temperature, 105° F. April 30th, temperature, 101.6° F. Afternoon of same day, 105.2° F.

May 10th, the baby died, 2:25 A.M.

This is an extraordinary record. The child had been ill one-half day on admission. Clinical notes state: "Child rather croupy on admission." About the only evidence of disease, then, was croup. In spite of antitoxin, 2,000 units, croup increased during the night; intubation became necessary the following day, about twenty-one hours after admission. Next observe the common temperature range which occurs when the patient shows unusual susceptibility to the influence of antitoxin.

CASE III.—Aged two years; admitted October 22d; one day sick. Marked injection and swelling; dirty white membrane on left tonsil, croup. Prognosis doubtful. Antitoxin, 2,000 units, on admission. Admitted, 9:30 A.M.; intubated, 4:15 P.M.

October 23d, antitoxin, 2,000 units; 9:45 A.M., tube coughed up; 10:05 A.M., intubated. Temperature, 2 P.M., 104.6° F.; hypodermics of brandy and nitroglycerin, hot bath, etc.

October 24th, antitoxin, 1,200 units, 11:45 A.M.; temperature, 104° F.; sponging, etc.

October 27th, temperature, 105° F.; sponge baths nearly every hour.

October 28th, rash.

October 29th, tube removed.

November 1st, temperature went to 105° F.; sponge baths almost hourly.

November 3d, temperature reached 105.8° F.; sponge baths nearly every hour.

November 5th, temperature ranged from 102° to 105° F.

November 6th, temperature, 105.8° F.; sponge baths constantly kept up.

November 7th, temperature ranged from 101.2° to 106.2° F.; sponge baths used almost constantly.

November 8th, temperature, 102° to 106° F.

November 9th, patient died 6:40 P.M.

Here we have a baby two years old, taken sick October 21st, admitted to hospital October 22d at 9:30 A.M., given antitoxin immediately (in all, 5,200 units), and the result is shown by the clinical history. If antitoxin has any possible effect in neutralizing the poison of diphtheria, in relieving or preventing stenosis, or in any way allaying laryngeal symptoms, only a very small part of the clinical history here recorded would have manifested itself.

CASE IV.—Aged two years; admitted February 18th; illness began February 17th. Patient well nourished, pulse good, small amount of membrane on tonsils and uvula; K. L. B.; complication by bronchi-

tis. Prognosis favorable. Temperature on admission, 101.8° F.; temperature ranged between 99° and 102° F. from time of admission until March 5th, when it rose to 103.6° F., the following day to 105.2° F.; temperature fluctuated until March 18th, when patient died. Antitoxin, 20 c.c., 1 to 300, injected on admission; February 2d, antitoxin injected, 20 c.c., 1 to 300.

CASE V.—Aged seventeen months; admitted February 4th; illness began February 3d. Well nourished and in good general condition; no membrane visible; tonsils and uvula normal in color; large, irregular ulcer on face, involving lid of right eye, right side of nose, and right cheek; suppuration and considerable inflammation at periphery; lids of right eye badly swollen. Prognosis favorable. Antitoxin, 21 c.c., 1 to 300, injected on admission. Temperature on admission, 101.8° F.; following day, 102° F.; from that time practically normal until February 13th, when the chart was stopped. February 22d the temperature suddenly rose to 105° F., and fluctuated between 105° and 106.8° F. until March 7th, when the patient died.

CASE VI.—Aged one year; admitted May 23d; illness began May 22d. Throat dull red with slight tumefaction; thin white membrane on both tonsils and base of uvula and soft palate; much anterior and posterior nasal secretion; K. L. B. Prognosis favorable. Antitoxin, 6.5 c.c., 1 to 1,000, injected on admission. Patient died May 31st.

CASE VII.—Aged four years; admitted February 11th; illness began February 10th. Well nourished; pulse good; few thin streaks of membrane on tonsils; tonsils much enlarged; but little discharge from nose; right-sided cervical adenitis fairly well marked; slight swelling also on left side. Prognosis favorable. Antitoxin, 15 c.c., 1 to 600, injected on admission; February 12th, 15 c.c., 1 to 600; February 13th, 15 c.c., 1 to 600. Temperature on admission, 101° F.; slight variation until February 19th, when temperature rose to 103° F., on the 20th to 105° F., fluctuating between 102° and 106.5° F. until February 27th, when patient died.

CASE VIII.—Aged sixteen years; admitted May 20th; illness began May 18th. Well developed and nourished; glands of neck enormously swollen; throat much congested; swelling and implication of left tonsil; right tonsil and right peritonsillar space and whole area back into pharynx covered with a dirty white deposit; nares partially obstructed; K. L. B. Prognosis favorable. Antitoxin, 10 c.c., 1 to 1,000, injected on admission; May 21st, 9 c.c., 1 to 1,000; May 25th, 7 c.c., 1 to 1,500.

May 26th (Sunday), pulse 26 to 30 per minute. Patient died May 26th, 10:30 P.M.

This was a remarkably large, strong, well-developed young lady, who was brought to the hospital as soon as the diagnosis of diphtheria was made. If antitoxin has any specific influence over the toxæmia of diphtheria, this patient should have been saved. As the report of the hospital shows, she died from the effects of the toxins on the heart and nerve centres—the pulse having ranged during the last twenty-four hours of life from 26 to 30 per minute, even with the foot of the bed elevated and with the use of all possible stimulants.

CASE IX.—Aged thirteen months; admitted May 16th; illness began May 14th. Well developed and nourished; no apparent anæmia; marked injection and tumefaction; thin white membrane on left tonsil; K. L. B. Prognosis good. Antitoxin, 5 c.c., 1 to 1,500, injected on admission. Patient died June 12th. June 1st rash appeared, with numerous areas of bronchial breathing and fine crepitant râles.

CASE X.—Aged five years; admitted November

11th; two days sick. Necrotic membrane on left tonsil, extending forward to soft palate; grayish membrane on right tonsil; no nasal discharge. Antitoxin, 1,000 units, on admission.

November 12th, antitoxin, 1,000 units.

December 16th, patient died.

CASE XI.—Aged fourteen months; admitted March 25th; two days sick. Speck of membrane on each tonsil; croup rather marked. Antitoxin, 1,000 units, on admission; later, same day, 2,000 units. Intubated at 12:05 P.M., twelve hours after admission. Afternoon of 25th, 1,500 units of antitoxin. Tube coughed up at 9:35 P.M.; intubated at 1:25 A.M., March 26th; tube coughed up immediately after. Intubated at 2:10 A.M.; very restless. At 12:35 P.M. of 26th, tube removed; at 12:45, intubated. At 1 P.M., temperature 106.2° F.

March 27th, 9:30 A.M., tube removed.

March 28th, temperature, 104.2° F.; pulse, 140, very weak.

April 4th, died.

CASE XII.—Aged two years; admitted February 15th; two days sick. Good-sized patch on each tonsil; croupy, husky breathing, and retraction. Antitoxin, 2,000 units, on admission.

February 16th, antitoxin, 1,000 units; 6:10 P.M., intubated.

Admitted February 15th at 2:30 P.M., not having very marked croup, and yet had to be intubated twenty-eight hours after admission and after having had 3,000 units of antitoxin.

February 17th, 3:20 P.M., tube coughed up; 6:30 P.M., intubated; 10:30 P.M., tube removed; 10:40 P.M., intubated.

February 18th, 1:30 A.M., tube removed; 1:40 A.M., intubated, wide calibre; 1:50 A.M., tube coughed up; 2 A.M., intubated, wide calibre. Note states that "urine is scant." 7:30 P.M., tube removed; 11 P.M., intubated; 11:10 P.M., coughed up tube. Urine still scant.

February 25th, 9 P.M., intubated twice.

February 26th, 2:30 A.M., tube removed; 9:30 P.M., intubated twice.

February 27th, 4:40 P.M., tube coughed up.

February 28th, intubated twice; 11 P.M., tube coughed up.

March 5th. Note is found: "Marked retraction." At 2:40 P.M., intubated; 9:25 P.M., tube coughed up plugged; 10 P.M., intubated.

March 6th, 4:45 A.M., tube coughed up plugged; 5 A.M., intubated; 5:05 A.M., tube coughed up plugged; 5:10 A.M., intubated; 8:50 A.M., tube coughed up.

March 7th, 7:45 A.M., intubated; tube coughed up; 8 A.M., intubated; 11:50 A.M., tube coughed up.

March 8th, 7:25 A.M., intubated.

March 10th, child died at 10:55 A.M.

CASE XIII.—Aged fourteen months; admitted February 20th; two days sick. Membrane on both tonsils, croup. Prognosis doubtful. Antitoxin, 2,000 units, on admission. Admitted at 6:30 A.M.; intubated at 7 A.M.; tube removed at 12:40 P.M.; intubated at 1:30 P.M.

February 21st, antitoxin, 1,000 units, 10:20 A.M.; tube removed at 4:30 P.M.

February 23d, rash appeared; extreme restlessness. Note: "Is very sick this morning; temperature, 105° F."

February 24th: "Very restless and excited all night."

March 5th, temperature, 104° F. Temperature ranged from this point to 105° F. until March 7th. Baby died at 1:45 P.M.

CASE XIV.—Aged four years; admitted December 2d; two days sick. Throat dull red in color, considerable naso-pharyngeal discharge, no membrane, croup.

Prognosis unfavorable. Antitoxin, 3,000 units, on admission; intubation immediately after admission.

December 3d, antitoxin, 3,000 units.

December 6th, tube removed, 3:30 P.M.

December 7th, had a bad night; intubated at 9:35 A.M.

December 8th, tube removed.

December 12th, intubated.

December 13th, tube coughed up at 4:30 A.M.; intubated at 6:30 A.M.

December 15th, tube coughed up at 3 A.M.; intubated at 10 A.M.

December 21st, tube removed at 10:10 A.M.; reintubated at 10:50 A.M.; tube removed at 4:55 P.M.; reintubated at 4:15 P.M.

December 23d, rash appeared.

December 24th, tube coughed up at 2 P.M.; reintubated at 2:10 P.M.

December 28th, tube coughed up at 7:10 P.M.; reintubated at 7:15 P.M.

January 6th, antitoxin, 3,000 units. Then I find notes for strychnine, whiskey, cream-of-tartar water, diuretin.

January 28th, when patient died, uncontrollable diarrhoea.

CASE XV.—Aged two years; admitted December 5th; two days sick. Thick yellowish-white membrane on both tonsils and uvula, croup. Prognosis unfavorable. Antitoxin, 3,000 units, on admission; intubation on admission.

December 6th, antitoxin, 3,000 units; cream-of-tartar water, diuretin, poultice to kidneys, mustard bath, glonoin, whiskey, strychnine, calomel.

December 18th, patient died.

CASE XVI.—Aged two years; admitted December 19th; two days sick. Thin white membrane on both tonsils and uvula, croup. Prognosis unfavorable. Antitoxin, 3,000 units, on admission. Admitted at 12:40 P.M.; intubated at 3:35 P.M.; tube coughed up at 3:45 P.M.; reintubated at 7 P.M.

December 20th, antitoxin, 3,000 units; tube removed at 3:30 A.M.; intubated at 3:35 A.M.

December 20th, 11 A.M., temperature, 106.8° F.; pulse, 162. Sponge baths. At 8:30 P.M., temperature, 106° F.; 11 P.M., 103° F.

December 21st, 2:30 A.M., temperature, 102.6° F. Patient died at 5:45 A.M., from exhaustion and cardiac failure.

CASE XVII.—Aged three years; admitted April 19th; two days sick. No membrane in throat, very mild croup, no stenosis, no retraction, slight croupy cough. Child admitted in good condition. Croupy symptoms increased when disturbed; when quiet, breathing normal. Prognosis good. Antitoxin, 1,000 units, on admission.

April 20th, child had only one dose of antitoxin. Second dose not given, as condition of child was good.

April 23d, temperature, 98° F. in forenoon; 102.4° F. in afternoon.

April 24th, temperature, 98.5° F. in forenoon; 103° F. in afternoon.

April 27th. Under clinical notes I find: "Patient not doing very well this morning. Child pale, temperature high."

April 28th, 1:30 P.M.: "Cause of death, heart failure."

CASE XVIII.—Aged one year; admitted April 22d; two days sick. - Minute speck on right tonsil. Antitoxin, 600 units. Clinical note states: "Child admitted in pretty poor condition."

April 23d, forenoon, urine scant.

Temperature on admission, 103.8° F. April 23d, 100.8° F. in forenoon; afternoon of same day, 105° F. April 24th, 99.5° F. in forenoon; 104° F. in afternoon. April 25th, 104.8° F. April 26th, forenoon, 99.8° F.; afternoon, 103.8° F.

April 28th, patient died at 2 A.M., from exhaustion and heart failure.

CASE XIX.—Aged fifteen months; admitted April 27th; two days sick. Considerable amount of membrane on tonsils, uvula, and soft palate; membrane was beginning to exfoliate. Prognosis doubtful. Antitoxin, 1,000 units, on admission. Piece of membrane was very loose and washed away when irrigated for the first time.

April 28th, antitoxin, 1,000 units.

May 3d: "Until to-day the child's condition was very satisfactory; she was bright; temperature, pulse, and respiration were fair. She was apparently on the road to recovery, when suddenly during the night the pulse became very feeble, respiration went up to 78 per minute, and she died two hours later of heart failure."

CASE XX.—Aged fifteen months; admitted October 28th; illness began October 26th. Prognosis doubtful. Throat dull red, slight tumefaction, small patch on right tonsil, larger on left, considerable croup. Antitoxin, 2,000 units, on admission. Patient admitted at 1:30 P.M.

Clinical note states: "In spite of poulticing, intubation became necessary and was performed at 3:20 A.M., October 29th," fourteen hours after antitoxin.

October 29th, antitoxin, 2,000 units.

November 1st, forenoon, tube coughed up.

November 2d, antitoxin, 2,000 units, at 12:30 P.M.; 2 P.M., temperature, 105° F.; pulse, 200; 6 P.M., temperature, 105.2° F.; sponge baths, carbonate of ammonia, caffeine, strychnine, ice pack to head.

November 3d, 6 A.M., temperature, 106° F.; pulse, 190; 9 A.M., temperature, 106° F.

November 4th, 7:45 A.M., patient died, bronchopneumonia.

Another death after seven days of treatment, which was begun on the second day of disease; 6,000 units of antitoxin; child of fifteen months.

CASE XXI.—Aged seventeen months; admitted October 2d; second day of disease. Prognosis doubtful. General swelling and injection of throat; thin necrotic membrane on both tonsils and palate, extending into pharynx; considerable nasal discharge, croup, stenosis, and retraction. Antitoxin, 2,000 units, on admission. Admitted October 2d, 2:30 P.M.; 10:40 P.M., fumigated.

October 3d, 1:15 A.M., it became necessary to intubate; 10:20 A.M., tube removed; 10:50 A.M., intubated; 10:53 A.M., tube coughed up; 11:10 A.M., intubated; 11:35 A.M., antitoxin, 2,000 units; strychnine, caffeine, nitroglycerin, carbonate of ammonia, whiskey, sponge bath, dry cupping. Temperature at 4 A.M., 102° F.; 8 A.M., 107° F.; 11:30 P.M., 108° F.

October 4th, temperature at 12:20 A.M., 107.6° F.; 12:30 A.M., 107.8° F. Died at 12:40 A.M.

Several of the following histories are undoubted instances of the bad effects of antitoxin on nerve centres:

CASE XXII.—Aged fourteen months; admitted November 6th; illness began November 3d. Small patch of membrane on right tonsil; K. L. B.; no complication. Antitoxin, 1,000 units, on admission.

November 9th, slept at intervals quietly, but was very restless when awake.

November 10th, extremely restless most of the night; temperature, 104° F.; sponge bath.

November 12th, pulse very weak.

November 20th, rash appeared.

November 6th, antitoxin, 2,000 units, at 5:30 A.M.; intubated at 1 P.M. Very restless during the day. Respiration, 60 to 70. At 5 P.M., temperature, 105° F.; sponge bath; 8:15 P.M., temperature, 106° F. Child failed to respond to stimulants; temperature became more and more elevated, in spite of sponge bath.

December 7th, died at 12:30 A.M.

According to the record this child had almost no illness on admission. It became very restless after first injection of 1,000 units of antitoxin. Restlessness reappeared in exaggerated form after the injection of antitoxin, 2,000 units, along with high temperature and rapid respiration, until death.

CASE XXIII.—Aged seven months; admitted February 4th; three days sick. Nothing in throat, slight laryngeal symptoms. Clinical note states: "Slight croup, otherwise good condition."

February 5th, antitoxin, 2,000 units.

February 6th, antitoxin, 2,000 units; 4 A.M., temperature, 104.2° F.

February 11th, temperature suddenly rose and erythema appeared in patches over the body. Temperature in evening reached 105.4° F.

February 12th, morning, rash more marked since midnight. "Marked opisthotonos and stiff neck."

February 12th, temperature, 106° F. all night.

February 14th, glands and right side of the neck swollen. Temperature ranged from 104° to 106° F. till March 18th, and patient had convulsions during the night.

March 19th, child died at 9 P.M.

CASE XXIV.—Aged thirteen months; admitted October 13th; three days sick. Marked swelling and injection, no membrane, croup. Intubated on admission.

October 13th, antitoxin, 2,000 units.

October 14th, antitoxin, 2,000 units.

October 14th, tube coughed up at 4:10 A.M.; had to be reinserted at 8:30 A.M.

October 15th, tube coughed up at 10:30 A.M.; intubated at 12:30 P.M.

October 16th, tube coughed up at 7:10 A.M.

October 19th, temperature suddenly rose to 104° F.; temperature remained high but somewhat fluctuating until the 21st, when it reached 105.4° F., and the baby had slight convulsions. In the afternoon respiration became very superficial; patient failed to respond to any stimulants.

October 21st, child died at 5:25 P.M.

CASE XXV.—Aged fourteen months; admitted February 20th; five days sick. Rather thick patch on right tonsil, cry and breathing croupy, no retraction. "Patient admitted in croupy condition, not bad enough to require intubation." Prognosis good. Antitoxin, 2,000 units.

February 21st, antitoxin, 2,000 units, at 10:15 A.M.; intubated at 2:10 P.M.; 5:45 P.M., tube removed.

February 22d, 8:30 A.M., temperature, 104.5° F.; 12 M., 105° F.; pulse, 184; respirations, 84; 11 P.M., temperature, 106.2° F.; opisthotonos. Plunge bath for ten minutes.

February 23d, temperature down, but still opisthotonos and great prostration.

February 29th, opisthotonos; eyes rolled up, with lids half-closed when asleep.

March 3d, opisthotonos and rolled-up eyes.

March 6th, died at 8:15 P.M.

CASE XXVI.—Aged three years; admitted February 17th; four days sick. Much membrane on either tonsil and on pillars of fauces; nose plugged. Prognosis doubtful. Antitoxin, 2,000 units, on admission.

February 18th, antitoxin, 2,000 units.

February 19th, antitoxin, 2,000 units.

February 21st: "Patient seems better to-day. This evening he gave a peculiar cry, heard by the nurse, and was dead on arrival of the physician a moment later. There were no heart sounds, but artificial respiration was kept up for ten minutes and stimulants were also given. Patient gasped several times and died."

CASE XXVII.—Aged twenty-one months; admitted September 28th; illness began September 25th.

Antitoxin, 1,000 units, on admission. Thick white membrane on uvula and both tonsils; slight nasal discharge. Child became cyanosed, apparently from accumulation in the throat; turpeth mineral given, resulting in free vomiting and relief.

September 29th, antitoxin, 1,000 units.

September 29th, became cyanotic from slightest exertion, and was very restless, seeming to indicate a considerable cerebral irritation; considerable retraction and stenosis—so much so that it was thought advisable to see if intubation would give any relief. The result of operation was unsatisfactory and the tube was removed.

September 30th, still more stenosis; restlessness even more marked. Patient almost pulseless.

September 30th, 9:40 P.M., patient died.

This child had no evidence of croup nor of laryngeal complication on admission. According to the record its illness was certainly slight and unimportant. After each injection of antitoxin there were restlessness, weakness, and feeble, imperfect respiration. The bad breathing, for which intubation was tried without relief, was undoubtedly due to the action of the antitoxin on the nerve centres and not due to croup.

CASE XXVIII.—Aged three and one-half years; admitted December 25th; four days sick. Dirty necrotic membrane on both tonsils, palatine arches, and uvula. Prognosis good. Antitoxin, 2,000 units, on admission.

December 26th, antitoxin, 2,000 units.

December 27th, urine scant; cream-of-tartar water, diuretic.

December 30th, strychnine.

January 2d and 3d, thirty per cent. of albumin, granular casts; aromatic spirits of ammonia, tincture of digitalis, whiskey, etc. In spite of active stimulation the child grew weaker and weaker, and died of heart failure and nephritis, at 10:45 A.M., January 3d.

CASE XXIX.—Baby; admitted April 1st, 12:40 A.M. Antitoxin same hour; intubated at 12:50 P.M. Second dose of antitoxin, 2,000 units, in afternoon of same day. Temperature on admission, 99.8° F.

April 2d, temperature, 104° F.; wet pack, etc.

April 3d, 11 A.M., tube removed; 11:25 A.M., reintubated; 1:30 P.M., temperature, 105.2° F.; 6:45 P.M., extubated; tube found plugged; reintubated, 7:15 P.M.

April 4th, tube removed at 1:15 A.M., plugged; reintubated at 1:50 A.M.; tube removed immediately after; intubated again at 1:55 A.M.

April 4th, 10:20 P.M., temperature, 101.6° F.

April 5th, temperature, 106° F. Child died at 8:07 A.M.

This child had been ill, according to the record, but one day when admitted to the hospital. Antitoxin was immediately injected; twelve hours later intubation became necessary. According to the record, a second injection of antitoxin was given at about the time of the intubation. The following day the tube was removed at 11 A.M. Notwithstanding the influence of 4,000 units of antitoxin on a child who had been ill but one day when admitted and who did not have severe croup, the tube had to be reinserted within twenty-five minutes. The rest of the record shows that in every instance after the removal of the tube it had to be reintroduced. In other words, antitoxin did not have the slightest influence on the diphtheritic process in the larynx.

CASE XXX.—Aged four years and five months; admitted February 26th; illness began February 23d. Strong, well nourished; tonsils very red and much enlarged; numerous small patches of dirty membrane on tonsils and uvula; abundant and slightly foul discharge from nose; slight nasal obstruction; K. L. B. Prognosis favorable. Antitoxin, 20 c.c., 1 to 200, in-

jected on admission; February 28th, antitoxin, 20 c.c., 1 to 200, injected. Temperature on admission, 99.5° F.; temperature ranged between 98.5° and 102° F. until March 18th, when it suddenly rose from 99° to 104° F.; on the 19th to 105° F. High but fluctuating temperature continued until March 28th, when patient died.

CASE XXXI.—Aged two years; admitted February 2d; illness began January 31st. Patient well nourished; small irregular patch of thin light grayish membrane on each tonsil; mucous membrane only slightly hyperæmic; tonsils and uvula about normal in size; K. L. B.; very slight dyspnoea; cough and cry croupy. Prognosis favorable. Antitoxin, 7 c.c., 1 to 400, injected on admission.

February 3d, condition of case satisfactory.

February 4th, antitoxin, 21 c.c., 1 to 400, injected.

Temperature on admission, 99.8° F.

February 15th, temperature, 99° F.; 16th, 103° F.; 17th, 104° F.; 18th, 106° F. Temperature fluctuated until March 25th, when the child died.

CASE XXXII.—Aged nineteen months; admitted March 13th; illness began March 9th. Patient well nourished; white patch well defined on left tonsil, posterior pillar, and uvula; K. L. B. Prognosis good. Antitoxin, 14 c.c., 1 to 500, injected on admission.

March 14th, antitoxin, 10 c.c., 1 to 500, injected.

March 16th, very little urine passed.

March 22d, patient died.

CASE XXXIII.—Aged two years; admitted April 27th; illness began April 23d. Thin white membrane on each tonsil, which were large and infiltrated; K. L. B. Prognosis good. Antitoxin, 8 c.c., 1 to 1,000, injected on admission. Albuminuria, enteritis, pulmonary symptoms, convulsions.

June 7th, patient died.

This child had almost no illness on admission to hospital, according to hospital record.

CASE XXXIV.—A. F.—, aged seven years; admitted June 4th; illness began June 1st. Well developed and nourished; thick dirty white membrane on both tonsils extending to uvula and soft palate; glands of neck moderately enlarged; slight nasal obstruction, K. L. B. Antitoxin No. 6, 6 c.c., 1 to 1,000, injected on admission.

June 5th, antitoxin, 9 c.c., injected.

June 12th, patient died.

CASE XXXV.—Aged seven months; admitted February 5th; illness began February 2d. General condition only fairly well nourished; no membrane on tonsils and very slight hyperæmia of tonsils and uvula; slightly croupy cough and cry; K. L. B. Prognosis favorable. Antitoxin, 17 c.c., 1 to 300, injected on admission.

February 6th, antitoxin, 10 c.c., injected.

February 20th, patient died.

CASE XXXVI.—Aged one year; admitted January 13th; three days sick. Throat much swollen; membrane on both tonsils and base of uvula; naso-pharyngeal discharge. Prognosis doubtful. Antitoxin, 1,000 units, on admission.

January 16th, temperature suddenly rose to 105° F.; remained high until January 19th, when child died at 12:30 P.M.

This child, one year old, admitted to hospital when three days sick, died after six days' treatment without a complication.

CASE XXXVII.—Aged three years six months; admitted December 13th; one day sick. Small patch of membrane on left tonsil, croup. Antitoxin, 3,000 units, on admission. Admitted at 3 A.M. and antitoxin given immediately; intubated at 3:15 A.M. Antitoxin, 3,000 units, at 6 P.M.

December 16th, tube removed at 4:30 P.M.; intubated at 5:20 P.M.

December 29th, tube removed at 11:47 A.M.; reintubated at 12:10 P.M.

January 4th, tube removed at 1:30 P.M.; had to be reintubated immediately.

January 8th, tube removed at 9:23 A.M.; reintubated immediately.

January 14th, tube removed at 10:10 A.M.; reintubated immediately.

January 17th, tube removed and immediately replaced.

January 24th, tube removed at 10:10 A.M.; replaced immediately.

January 25th, tube coughed up at 3:30 A.M.; reintubated at 3:35 A.M.

January 28th, tube coughed up at 11:15 A.M.; reintubated immediately.

January 28th, tube coughed up at 12:10 P.M.; reintubated immediately.

February 5th, temperature, 104.2° F.; rash over whole body; patient restless.

February 6th, temperature, 102.8° F.; free perspiration.

February 7th, had a restless night. Antitoxin was given, two doses of 3,000 units each.

December 17th, patient was transferred to North Brothers Island, and subsequently died.

CASE XXXVIII.—Aged five years; admitted November 14th; illness began November 13th. Croup. Prognosis unfavorable. Antitoxin, 3,000 units, on admission, poultices to neck, calomel, fumigation, etc.

Admitted at 12:35 P.M.; croup, in spite of treatment, increased. Patient was intubated at 3:30 P.M.

November 15th, antitoxin, 3,000 units; tube removed at 2 A.M.

November 15th, died at 7 P.M. Cause of death, heart failure.

CASE XXXIX.—Aged sixteen months; admitted May 19th; illness began May 18th. Dirty white membrane on each tonsil, general hyperæmia, moderately croupy; K. L. B. Child well developed and nourished. Prognosis doubtful. Antitoxin, 7.5 c.c., 1 to 1,500, injected on admission.

May 20th, 7.5 c.c., 1 to 1,500, injected.

June 12th, child died.

CASE XL.—Aged eleven months; admitted December 16th; two days sick. Dirty white membrane on both tonsils, thin white membrane on uvula, naso-pharyngeal discharge, croup. Prognosis unfavorable. Antitoxin, 2,000 units, on admission.

December 17th, intubated at 1:50 A.M.; 6 A.M. a note states on chart: "No urine since admission."

December 17th, antitoxin, 2,000 units; 5:25 P.M., tube removed; 6:35 P.M., intubated; poultices to kidneys constantly. Cream-tartar water, diuretin, etc.

December 18th, child died at 2:30 A.M.

CASE XLI.—Three years old; admitted June 30th; illness began June 28th. Nasal obstruction, thick dirty white membrane covering both tonsils, uvula, and soft palate, extending back toward pharynx; glandular enlargement. Prognosis good, no complication. Antitoxin, 13.5 c.c., 1 to 1,500, injected on admission.

July 2d, 13 c.c., 1 to 1,500, injected.

These histories are of cases brought under treatment in the early part of the disease—many of them on the first and second day. They had full doses of a supposed specific, and yet we do not find recorded in the clinical history one statement which would indicate that this specific modified in any particular a single manifestation of the disease, either in the laryngeal or non-laryngeal cases. Not one item in the clinical records can be found to indicate that any one of these patients was in any way benefited by the antitoxin. This is particularly noticeable in the laryngeal cases. Patients brought in without evidences of very marked croup and after receiving full doses of

antitoxin had to be intubated twelve and twenty-four hours after hypodermic use of this so-called specific. The clinical records of these cases are totally against the use of antitoxin in the treatment of diphtheria. A careful study of these records will, it seems to me, convince one who is familiar with diphtheria that there are clinical features here recorded which are due to the treatment and not to the disease. These features are referable to the kidneys, nervous centres, temperature, and respiratory organs.

Injurious Effects of Antitoxin.—At the beginning of this treatment Behring told us that an injection of his serum was as little injurious as an injection of a physiological solution of chloride of sodium. The records of serious complications and results which have followed the injection of antitoxin in many known cases warrant careful consideration. In certain individuals who show a special susceptibility to antitoxin, the gravest symptoms or death may result from a relatively small dose. The predominating symptoms of these cases are referable to the nervous centres, kidneys, heart, pulmonary organs, and the temperature of the body. One feature of these untoward manifestations following the use of serum, especially when the respiratory organs are involved, is the lateness of their appearance.

The cases of Professor Langerhans' sixteen-months-old son, and Miss Valentine, of Brooklyn, are too well known to need more than mere mention here. In neither of these was any cause for death found by post-mortem examination. In the case of Miss Valentine, the coroner's physician, Dr. John M. Clayland, reported "Cause of death, convulsion, due to the injection of diphtheria antitoxin."

In the *Journal of the American Medical Association* is reported an instance which occurred in the practice of Dr. Halderman, of Portsmouth, O., in which a sleeping boy, five years old, was given a preventive dose of Behring's serum. Up to the time of the injection he was in perfect health; five minutes afterward he was dead. The account in the *Journal* states that the doctor had withdrawn to another room to refill his syringe for use on another child, when the mother noticed the boy's lips puff up, and called to him that something was wrong with "Willie." By the time the doctor had reached him, the child was dead.

Dr. C. C. Gratiot, of Shullsburg, Wis., advised a woman in apparently good health to take a preventive dose of antitoxin, as she was nursing her husband and daughter who were ill with diphtheria. Six hundred units of Behring's serum were administered. In a few minutes the woman complained of feeling faint; her pulse was almost imperceptible, she became very pale, her feet and hands were cold, breathing rapid and shallow, pupils dilated, and face covered with cold perspiration. It was six hours before she rallied.

Johannessen* states that on December 9th eight patients of a hospital ward were immunized with six hundred units each of Behring's serum; seven of these children had no reaction, but the eighth, a boy of two years, with spastic spinal paralysis, had diarrhoea on the four following days. On the fourteenth day there were traces of albumin and indican, with a temperature of 103° F. The boy died on the tenth day after injection from collapse.

Alfoldi¹⁸ relates a case of a girl, three years old, who received a preventive injection of two cubic centimetres of Behring's serum, January 16th. January 18th her temperature rose to over 104° F. On the 19th there were severe albuminuria and hæmaturia, petechiæ appeared over the whole body, and on the twentieth day the child died. Alfoldi attributes death to antidiphtheritic serum.

Drs. Moizard and Bouchard¹¹ report the case of a girl of six years, who had a slight angina. Without

waiting for the result of the bacteriological examination they injected ten cubic centimetres of Roux's serum. Bacteriological examination proved that the trouble was not diphtheria. On the sixth day after the injection the child's temperature suddenly rose to 105° F. and over, there being at the same time perspiration and insomnia. During the next four days scarlatinoid eruption appeared, which extended over the whole body. On May 12th, after a very restless night, when the throat had been well for a long time, the patient was seized with general convulsions and died four hours later. Dr. Moizard states that "death in this case appears to me certainly to have been due to the preventive injection of serum, administered before the result of the bacteriological examination was known. The dose of serum was decidedly small, and as the source from which it was obtained is above suspicion death can only be attributed to the action of the serum toxins on the cerebral nervous system. The conclusion to be put upon this occurrence is that preventive injections of serum are inadmissible, and that no intervention should be permitted before the result of the bacteriological examination is known."

Dr. Le Gendre stated: "I fully agree with Dr. Moizard, and I have long ago expressed my views as to the inadvisability of resorting to preventive injections of serum."

Guinon and Roufilange¹² have reported a case which ended fatally in a child three years old, with mild diphtheritic angina. Fifteen cubic centimetres of Roux's serum were injected on the third day of the disease. The following day eruption appeared on the body and lower extremities, and mild albuminuria; the second injection, of five cubic centimetres, was followed by diminution in amount of urine and increase of albumin; the tongue and lips swelled. On the next day, after the third injection of serum, there were anuria, swelling of the eyelids, and fetid diarrhoea; three days after the third injection a fourth was given, which resulted in renewed suppression of urine. During the following day and night there were coma and convulsions, and death ensued.

Dr. Thibierge's¹³ four-year-old daughter had a benign diphtheritic angina; serum was injected and urticaria appeared on the third day, and again on the sixth and eighth days, with vomiting, articular pains, and scanty urine. On the fourteenth day there was severe vomiting, and on the eighteenth day suppression of urine, critical relapse, fetid diarrhoea, and pseudo-meningitic disturbances due to serum. The child finally recovered.

Professor Mya¹⁴ (Florence) states that serum injections frequently have no effect on simple follicular tonsillitis associated with a marked degree of hypertrophy of the glands. "I have had under observation five of these patients, in whom the renal functions were absolutely normal before treatment, who on the sixth day of the disease suddenly presented manifest symptoms of intoxication, such as anuria, etc. At the autopsy I found fatty degeneration of the viscera, incident with grave pathological changes in the lymphatic tissue."

Galler¹⁵ has reported similar cases in which on the ninth day miliary eruption appeared; two days later multiple petechiæ appeared, with œdema of hands and face and subconjunctival hemorrhages; two days later there were drowsiness, intense pain in the left leg with paralysis, petechiæ on the body, pains in the muscles of mastication and of the abdomen, effusion in the left knee-joint, with intermittent pulse. The child could not move on account of intense pain.

A similar case has been reported by Springorum¹⁶ in a girl of four years, which ended fatally.

Variot¹⁷ reports the case of a child of eighteen months who was suffering from slight pharyngeal diphtheria,

followed by croup; the child was treated by injection, two doses of twenty cubic centimetres of antitoxin, and died forty-eight hours later in a state of hyperpyrexia. Variot says "this death could not be accounted for by any of the lesions found at the autopsy. There was not a trace of membrane in the throat, which appeared to be perfectly healthy. The same was true of the pharynx. The cause of death is consequently a mystery. Whether in the absence of organic lesions we are to attribute it to serum-hyperthermia is a question which it would be difficult to answer unhesitatingly in the affirmative, seeing that we have no means at our disposal for uniformly detecting toxic substances possibly existing in the serum. This goes to prove the necessity of exercising great care in the use of this treatment in diphtheria, and strengthens me in my opinion that it should not be employed for preventive purposes."

Variot "further states: "The serum prepared by Aronson has always produced fever, and as it caused, in a great city of Europe [probably Berlin] nine deaths, one after the other, its use had to be discontinued."

Engel Bey," in a report of his clinical observations in Cairo, uses the following words:

"There was a frequent impression that the already present weakness is greatly increased by the injection, and that the children fall into a state of prostration, of which they will never recover."

Lennox Browne "states that of five patients who were treated with antitoxin, two died thirty-five and forty-five hours respectively after injection, with complete suppression of urine.

Soltmann "states that in nearly all cases the pulse remained frequent, small, and irregular. In four cases collapse followed immediately after the injection of serum and proved fatal.

Körte "states that of forty patients who died early in the disease and were treated with serum from the start, no less than nineteen died from paralysis of the heart.

Trimmer "reports cases of collapse after injection in five cases, but all eventually recovered.

Hagenbach "reports a case of a little girl who, three days after injection of ten cubic centimetres of serum had petechiæ in the skin, which began first at the neck and were distributed over the whole body; on the seventh day there was profuse vomiting, which could not be controlled. Death by collapse followed three days later. "During life we thought the petechiæ had a relation to the serum injection, and the autopsy, showing hemorrhages into the mucous membranes of the intestines, and the changes in the heart and kidneys, did not change our views."

The resident physician in the diphtheria ward of the Children's Hospital at Strassburg said to me during my visit there last year: "I have seen three children who, I think, were killed by the serum."

Korach "has reported a fatal termination in the case of a three-year-old who died on the fourth day from an immunizing injection of two cubic centimetres of Behring's serum No. 1.

Hutinel "states that the rise of temperature which occurs after the injection of antitoxin is often a great danger, especially for tuberculous children. Among the deaths of children treated with serum are a great many showing tuberculosis of the lungs and pulmonary glands, and it is probable that the tuberculous process, which had been latent, became an acute process by the fever-producing injection.

Sevestre "reports a case of a little girl of five, who, two weeks after an injection of twenty cubic centimetres of serum, presented symptoms of extreme gravity—vomiting, fever, enormous swelling of the glands, marked pain in the vertebral articulations, wrists,

knees, and ankles, offensive diarrhoea, anuria, severe cardiac disturbances, alternating attacks of delirium, and collapse.

Two of the internes of the Children's Hospital at Frankfurt," Drs. Gallus and Körte, were injected with Behring's serum the 24th and 25th of October respectively. They were ill with what appeared to be catarrhal angina (one had the Loeffler bacillus). Both were seriously ill afterward with high temperature, repeated attacks of urticaria, swollen glands, pains in joints, sleeplessness, headache, great prostration, sweating, and rapid loss of flesh (five and seven pounds each). These symptoms came on after the disappearance of local evidence of the disease and continued for about three weeks, when both young men were sent to their homes to convalesce and regain their strength.

A child aged four years "was desperately ill after an injection of thirty cubic centimetres of Roux's serum for an angina with a small white patch on either tonsil. The first injection of serum was given October 24th; October 28th the submaxillary glands commenced to enlarge, the false membrane on the right tonsil increased, and there was albuminuria. October 30th these glands continued to enlarge and the post-occipital glands began to increase. There was intense albuminuria. October 5th red spots appeared on buttocks and abdomen. November 6th the urine was scanty and still albuminous. October 7th the child was in a state of collapse the whole day with complete anuria. The child ultimately recovered.

A child of five years was admitted to Crown Prince Rudolph Hospital," Vienna, November 15, 1894, having been ill two days with uncomplicated diphtheria. Four injections of Behring's serum were given. November 23d the child died of paralysis of the heart.

Professor Glandinger, Crown Prince Rudolph Hospital, told me personally that he had seen more cases of paralysis of the heart in diphtheria since the use of serum treatment than he had seen during the entire eight years of his connection with the Crown Prince Rudolph Hospital.

Dr. Hutinel "states: "There can be no doubt of the gravity of post-sero-therapeutic ill-effects, for I have met with two cases of death from this cause in children. The injection of Roux's serum was followed in both cases by albuminuria, anuria, etc."

Dr. C. F. Withington "says: "In private practice I had a case in which I had a great deal of anxiety, not to say alarm from the use of antitoxin. It was a case of a lady with diphtheria involving one tonsil. She received fifteen hundred units of Behring's serum. Two days later the other tonsil began to be involved, with rapidly increasing membrane, and she again received fifteen hundred units. Four or five days after this she was in a condition of a great deal of gravity for about a week. There was first erythema, then intense urticaria; then purpura of a great deal of severity involving both legs and severe pains accompanying the course of the nerves. Her condition was one of high fever, delirium, and great prostration. She is now convalescing. The gravity of the symptoms referable to antitoxin in this case will cause me in the future to be a little conservative in its use."

One of the best practitioners on Staten Island, Dr. Scales, stated to me that he had never in all his experience been so alarmed as he was after an injection of antitoxin in a woman suffering from diphtheria. For six hours after the injection prostration was so extreme that he felt she was likely to die at any moment.

Vierordt "reports that "in one case of a girl of two and a half years we thought of the possibility of a bad effect from the serum. The child came in with moderately severe diphtheria of the throat. She received forty-two hundred immunizing units of Behring's serum. There was collapse and stupor. The

stupor remained till death, which resulted from heart failure. The autopsy revealed several points of hemorrhage of the mucous membrane of the intestines and the pericardium, and nephritis." Vierordt concluded that the case was not one showing harmful results of the serum, because it could be explained in different ways; but the case is an exact counterpart of numerous cases reported by other observers, in which the only explanation of the symptoms was the ill-effects produced by the serum.

Dr. Martin J. Fleming, of this city, has reported to me a case of a child, who after an injection of serum had repeated eruptions; finally eczema appeared, which persisted for two months. There was nothing in the family history or in the child's general condition to account for the eczema, the only cause being the use of antitoxin.

At the April (1895) meeting of this academy I stated that the pneumonia of the antitoxin cases of diphtheria differed from the pneumonia we were in the habit of seeing in diphtheria; that it was a totally different disease from that seen before in the course of diphtheria; that it occurred as a sequela and not as a complication.

Dr. J. W. Brannan²² in a report before the Society of Alumni of Bellevue Hospital, has shown that pneumonia was the cause of death in 53.22 per cent. of the fatal cases of diphtheria in the Willard Parker Hospital; whereas, before the antitoxin treatment, pneumonia was a cause of death in only 16.90 per cent. in this hospital. His report further shows that the average duration of stay in the hospital in fatal cases of pneumonia before antitoxin treatment was two days; but since the introduction of antitoxin, the average time of stay in the hospital in fatal cases of pneumonia was 13.7 days, bearing out the statement made by me in April, 1895, that the pneumonia of the antitoxin-treated cases occurred as a sequela and not as a complication of the disease. All conditions in the hospital were precisely the same in 1895 as in 1894, with the exception of the addition of the antitoxin treatment. The enormous increase of pneumonia as the cause of death in the Willard Parker Hospital during the antitoxin treatment has no other explanation than the hypodermic injection of serum albumin. These pneumonias are, as I stated in April last, septic pneumonias; clinically they have the stamp of a septic process.

In New York and elsewhere it has been claimed in defense of the serum that the unfortunate ill effects in the form of high fever and suppurations are due to streptococcus infection; but if this were really the case they should supervene while the morbid affection is in process of evolution in the throat, whereas they usually supervene after the disappearance of all throat lesions. It is now stated that the bad effects which formerly resulted from the use of antitoxin were due to the amount of serum injected, and that with the use of a more concentrated serum there will be less pneumonia and bad after-effects than formerly. This is a very weak admission. It is an admission that there are bad effects from the serum. Last year it was asserted most positively by the advocates of this treatment that there were no bad effects; that it was absolutely harmless in doses of any amount.

Antitoxin in Private Practice.—The experience of physicians in private practice is of much service in estimating the value of antitoxin.

Dr. Edwin B. Tefft (New Rochelle), a most careful and experienced practitioner, communicated the following cases to me:

CASE I.—Child, aged five years; antitoxin on first and second days; died suddenly on the third day from heart failure. Peroxide of hydrogen and salt solution locally to throat and nose. Other treatment consisted

of bichloride of mercury, iron, and stimulants internally.

CASE II.—Aged forty; treated without antitoxin; good recovery.

CASE III.—Aged twenty-seven; treated without antitoxin; good recovery.

CASE IV.—Child, aged fourteen; treated without antitoxin; recovered with slight paralysis as a sequel, which soon passed off.

CASE V.—Child, aged six, sister of Case IV.; antitoxin on second, third, and fourth days; died on fifth day.

CASE VI.—Child, aged four years, brother of Cases IV. and V.; antitoxin on first and second days; recovered.

CASE VII.—Child, aged ten years; antitoxin on second day; recovered. Other treatment in both of these cases the same as in Case I.

CASE VIII.—Child, aged twelve; antitoxin on second, third, and fourth days; died on seventh day. Other treatment same as in Case I.

CASE IX.—Child, aged twelve; treated without antitoxin; good recovery.

CASE X.—Boy, aged sixteen, brother of Case IX.; also treated without antitoxin; good recovery.

"These were all bad cases. In Case VII. I am confident recovery would have followed without the use of antitoxin. From my experience and from cases I have seen in connection with other physicians, I am not favorably impressed with the utility of antitoxin in the treatment of diphtheria."

Dr. Tefft reports five cases treated with antitoxin on the first and second day of disease, the youngest being a child of five, the oldest twelve. Three of the five died; mortality, sixty per cent. During the same period there were five cases, stated by Dr. Tefft to be equally severe, treated without antitoxin; all recovered. Cases treated with antitoxin had the same internal and local treatment as those treated without antitoxin. These antitoxin cases had a so-called specific at the very beginning of the disease, and in addition such tonic, stimulating, and local antiseptic treatment as one of our best physicians could devise—and yet show a mortality of sixty per cent., as contrasted with no deaths in five other cases treated without antitoxin.

Dr. de Kraft recently had three cases of diphtheria in one family. Two patients were treated with antitoxin at the beginning of the disease and both died. One treated without antitoxin got well. Another patient in Dr. de Kraft's practice died one hour after the injection of antitoxin.

During the spring of 1895 Dr. de Kraft saw a very severe case of diphtheria in the lower portion of the city, with another physician, in which it was decided to give antitoxin. Neither, however, having antitoxin, and not knowing just where it could be procured at the time, a physician who was known to have the serum was sent for. When he saw the child he refused to inject, saying that it would surely die and that it would do harm to the cause of serum treatment. He was willing that the child should not have a possible chance of benefit which might arise from the use of the so-called specific fluid, but he was not willing that the fame of the serum treatment should be jeopardized. The baby, however, recovered, on the ordinary medicinal treatment without antitoxin.

Dr. J. C. Shanon recently treated two patients in one family with antitoxin at the very outset of the disease and both died.

Dr. Koempel reports the case of a child taken ill on the night of April 22d. Antitoxin was given during the first twelve hours, and a second dose the following day. The child died twenty-four hours later.

Dr. J. H. Bache reports three patients treated at the beginning of the disease, two of whom died; the

third patient, the child of a physician, barely escaped death from the after-effects of the antitoxin.

Dr. P. H. Ernst²² reports twelve cases treated with antitoxin, seven deaths, mortality 58.3 per cent; sixty-five cases treated without antitoxin, eleven deaths, mortality 16.9 per cent.

In all these the clinical diagnosis was confirmed by bacteriological report of the health department.

Dr. John Dorning, who is known as a careful and skilful practitioner, employed antitoxin in his private practice in seven consecutive cases of diphtheria, treated in the early part of the disease—in some of the cases during the first twelve and eighteen hours—and all the patients died. He was compelled to give up the use of antitoxin more than a year ago because of the results in private practice.

Every member of this academy has the highest regard for the opinion of Dr. Francis Huber on anything pertaining to clinical medicine or therapeutics. Two weeks ago I asked him what he thought of antitoxin, knowing that he had a large experience with diphtheria. His answer was, "Dr. Winters, it is a humbug." That is the impression of a man who used it in private practice in conjunction with his brother, each anxious to get the best possible results and do the most he possibly could in every case. These are the results obtained by "Heilserum," a so-called specific against the toxin of the diphtheria bacillus, when used in private practice at the very beginning of the disease.

The percentage mortality in the Willard Parker Hospital during the year 1895 is very misleading, owing to the mild character of many of the cases received.

Dr. J. W. Brannan²³ has reported five hundred and ninety-three cases admitted to the Willard Parker Hospital during the first nine months of 1895 and treated with antitoxin; mortality 26.1 per cent. During the first nine months of 1894 there were four hundred and sixty-nine cases in the hospital, or one hundred and twenty-four less than in 1895. Every practitioner knows there was much less real or clinical diphtheria in New York City in 1895 than in 1894, and yet we have as the result of bacteriological diagnosis one hundred and twenty-four more cases received into the hospital during the first nine months of 1895 than there were during the corresponding months in 1894. The mortality in four hundred and sixty-nine cases in 1894 (non-antitoxin) is reported as being 35.1 per cent., but the report of the resident physician of the hospital to the health board gives the mortality for the first quarter of 1894 as 24.5 per cent.; second quarter, 26.5 per cent.; third quarter, 19.9 per cent.; fourth quarter, 26.8 per cent.; for the year, 29.3 per cent. The mortality of 35.1 per cent. in the report referred to was obtained by including all patients who developed or contracted scarlet fever or measles and were transferred to North Brother Island, and there died of mixed infection. The mortality of the Willard Parker Hospital is recorded as follows:²⁴

WILLARD PARKER HOSPITAL.

Year.	Cases.	Deaths.	Per cent.
1888	258	60	23.25
1889	383	79	20.62
1890	292	67	22.94
1891	289	85	29.41
1892	295	79	26.77
1893	343	108	31.48
1894	699	205	29.32
1895 (antitoxin) . .	778	190	24.42

Could those cases be eliminated which gave no clinical evidence of diphtheria, the mortality of twenty-four per cent. for 1895 would be greatly increased.

The report of Dr. James Ewing²⁵ gives fifty-three

cases of diphtheria in which his investigations were carried on. Fifty of these patients were injected with antitoxin, nineteen died, mortality thirty-eight per cent.

Dr. Ewing's investigation in the Willard Parker Hospital was in cases in which there was clinical evidence of diphtheria, and my impression is that this report (thirty-eight per cent. mortality) would fairly well represent the actual mortality of the Willard Parker Hospital at the present time, under serum-therapy, if patients who have clinical evidence of diphtheria were subjected to this treatment, to the exclusion and elimination of those cases which have no clinical data to warrant the diagnosis of diphtheria.

In order to determine the results with reference to larger or smaller doses of serum it was decided in the autumn of 1895 to give to alternate cases as admitted into the hospital, doses of serum of one thousand, two thousand, and three thousand units respectively. There were two series of cases, known as mild and severe, having one thousand and two thousand units respectively, and another series of cases of mild and severe having two thousand and three thousand units respectively.

RECORD OF DOSE IN PARALLEL CASES.

—Lesser Amount.—		—Greater Amount.—	
1,000 Mild.	2,000 Severe.	2,000 Mild.	3,000 Severe.
Case 1	Case 1*	Case 1	Case 1
Case 2*	Case 2	Case 2	Case 2*
Case 3*	Case 3	Case 3	Case 3*
Case 4	Case 4	Case 4	Case 4
Case 5	Case 5	Case 5	Case 5*
Case 6	Case 6	Case 6	Case 6
Case 7*	Case 7	Case 7	Case 7*
Case 8	Case 8	Case 8	Case 8*
Case 9	Case 9	Case 9	Case 9*
Case 10	Case 10	Case 10	Case 10*
Case 11	Case 11	Case 11	Case 11*
Case 12	Case 12*	Case 12	Case 12*
Case 13	Case 13	Case 13	Case 13
Case 14	Case 14*	Case 14	Case 14*
Case 15	Case 15*	Case 15	Case 15
Case 16*	Case 16*	Case 16	Case 16*
Case 17	Case 17	Case 17	Case 17
Case 18	Case 18	Case 18	Case 18*
Case 19	Case 19*	Case 19*	Case 19
Case 20	Case 20*	Case 20	Case 20
Case 21	Case 21	Case 21	Case 21
Case 22	Case 22	Case 22*	Case 22
Case 23	Case 23	Case 23	
Case 24		Case 24	
Case 25 (25—4 died)	Case 25 (23—7 died, 30.4 per cent.)	Case 25 (24—2 died)	Case 25 (22—11 died, 50 per cent.; one died after return home.)

94 cases, 24 deaths, mortality 25.5 per cent.

In the two series marked "severe" the cases were probably of nearly equal severity, inasmuch as they were alternate cases as received into the hospital. There were twenty-three severe cases which received two thousand units—seven deaths, mortality of 30.4 per cent., and twenty-two severe cases which received three thousand units—eleven deaths, mortality fifty per cent., the mortality being higher with the larger dose of serum in a series of parallel cases. It may be stated that since these experiments no child has received doses of three thousand units.

The mortality in children of two years old and under, with and without antitoxin, is most interesting and instructive:

1894.

163 cases of children two years old and under.

84 deaths. 51.5 per cent.

1895.—ANTITOXIN.

153 cases of children two years old and under.

95 deaths. 62.1 per cent.

Thus we see that at the very time of life when the disease is most dangerous we have in the Willard Parker

* Died.

Hospital a mortality of 10.6 per cent. greater with antitoxin treatment than without.

New York Foundling Asylum.—Prof. J. Lewis Smith* reports thirty-one diphtheria patients treated with serum in the New York Foundling Asylum, twelve on the first day of disease, seventeen on the second or third day, two on the fourth or fifth day; seventeen died; mortality, 54.8 per cent. All but two of the thirty-one cases were treated on or before the third day of the disease, and twelve on the first day, and yet the mortality was nearly fifty-five per cent. Certainly the antitoxin showed no specific influence in these cases.*

Results in Municipal Hospital in Philadelphia.

—During the year 1895 there were 706 cases of diphtheria treated in the Municipal Hospital, Philadelphia. Three hundred and two of these received serum treatment, 404 were treated without serum. In the serum-treated series, 16.88 per cent. were intubation cases. In the non-serum treated series, 17.57 per cent. were intubation cases. The patients in whom antitoxin was used were injected at an early stage of the disease, from the first to the fourth day. No patient was injected who had been ill more than four days at the time of admission to the hospital. Cases that were considered hopeless on admission did not receive serum treatment. All patients that were considered hopeless when brought to the hospital were placed with the non-serum-treated cases, and some of these died within an hour of their admission. This makes the serum-treated cases a far more favorable series than those that did not receive serum. There were more children under five years of age in the non-serum-treated cases, more intubation cases; all cases considered hopeless and late and neglected cases were in the non-serum-treated series. The mortality in the 302 cases treated with serum was 28.1 per cent.; in the 404 cases not treated with serum, 25.9 per cent. Had these 302 serum-treated cases of diphtheria received the same treatment that was given to the 404 cases that did not receive serum, they certainly should have shown a lower death-rate than the 404 cases treated without serum. They were by far a more favorable series, and should have shown under the same treatment better results. It should be stated that the cases treated with serum had the same local antiseptic treatment and the same internal medication and stimulation that were given to the series of non-serum-treated cases; and yet with a so-called specific added to the treatment there is a higher death rate.

Results in Blegdam Hospital (Copenhagen).—

Professor Soerensen* reports 51 cases of severe diphtheria treated with serum, and 46 cases of severe diphtheria treated without serum, during the same period; mortality, 33 per cent. in both series. During this period the total number of cases treated in the hospital was 385, with mortality of 16 per cent., showing that the epidemic was a mild one; but for comparison these severe cases were selected for treatment with and without serum. There was no choice of cases unfavorable to the serum, but it depended upon the supply whether it was used or not. The average age of those treated without serum was lower than those treated with serum, four to five years against five to six years. The youngest (six months old) was in the group of those not treated with serum. Among those who died who were treated with serum two were admitted on the first day of the disease, two on the second, and five on the third day of the disease. Of those treated without serum none were admitted on the first day of disease, four on the second, and one on the third day. Therefore, those who received serum were admitted earlier

to the hospital than those who were not so treated. At the time of admission to the hospital complications were more pronounced in the cases treated without serum, the air passages being affected in eight cases, while with those treated with serum the air passages were affected only three times. Severe complications of the kidneys (after admission to hospital) were observed only in those treated with serum. Rise of temperature to a high point occurred in injected cases only. The serum was used earlier in the fatal cases than in the cases which recovered; that is, the day of the first injection was on an average earlier in the fatal than in the successful cases. [This is the most extraordinary part of the report: that the serum was used earlier in the fatal cases than in the cases which recovered.] "From our experiments we cannot see any favorable action of the serum. On the other hand, we observed more severe hemorrhage, albuminuria, nephritis, toxic anuria, fever, eruptions, and more frequent and more pronounced paralysis in those treated with serum.

"The serum was also used in croup cases complicated by severe diphtheria, and in mild cases of croup for the purpose of preventing stenosis. The mortality in all cases (operated and not operated) was 28 per cent. and for operated cases 40 per cent.; but during this same period there were 87 cases of croup that were not injected; the mortality in these, for all cases (operated and not operated) was 25 per cent. and for operated cases 38 per cent.—therefore lower than in those treated with serum. The serum was generally used in mild cases to prevent possible operative interference. The serum could not prevent laryngeal stenosis. Severe diphtheria complicated with croup did very badly with this treatment. All such patients died, and the good result in milder cases is explained by the good type of the present epidemic. The mildness of the epidemic reached a height formerly unknown."

Report of the Medical Superintendents of the Metropolitan Asylums Board (London), 1895.—

This report embraces 2,182 cases of diphtheria treated with antitoxin; 615 deaths; mortality, 28.1 per cent. The medical superintendents compare this result with that of 1894, when 3,042 cases of diphtheria were treated in all the hospitals of the board (without antitoxin), 902 deaths; mortality, 29.6 per cent.*

There are divergencies in the mortality in the individual hospitals during the antitoxin and non-antitoxin years which show that the 1.5 per cent. reduction in mortality in 1895 over 1894 is not due to a single or specific factor.

In the Southwestern Hospital in 1892 there were 463 cases of diphtheria; 93 deaths; mortality, 22.5 per cent. In 1895, 316 cases treated with antitoxin; 94 deaths; mortality, 29.2 per cent.

In the Southwestern Hospital in 1893, 585 cases; 159 deaths; mortality, 27.1 per cent. In 1895, mortality in antitoxin-treated cases, 29.7 per cent.

In the Southwestern Hospital in 1894, 546 cases; 156 deaths; mortality, 28.5 per cent.

S. W. HOSPITAL.				N. W. HOSPITAL.			
Cases.	Deaths.	Per cent.		Cases.	Deaths.	Per cent.	
1892	463	93	22.5	682	138	21.8	
1893	585	159	27.1	1,249	332	26.5	
1894	546	156	28.5	1,147	309	26.9	
Total.	1,594	408	25.5	3,078	779	25.3	
Cases.	Deaths.	Per cent.		Cases.	Deaths.	Per cent.	
1895 (antitoxin)	316	94	29.7	363	117	32.2	

* In this antitoxin report it is stated: "In a certain number of patients, being moribund at the time of their arrival and beyond the reach of any treatment, no antitoxin was given." These cases are therefore all eliminated from the report. There were 1,347 patients in the hospitals during the year who did not receive antitoxin treatment; of these 181 died; mortality, 13.4 per cent.

* Mortality in N. Y. Foundling Asylum, 1894 (non-antitoxin year), 24 per cent.; mortality in 1895 (antitoxin year), 45.7 per cent.

IN S. W. AND N. W. HOSPITAL.			
	Cases.	Deaths.	Per cent.
1892, '93, '94.....	4,672	1,187	25.4
ALL THE HOSPITALS.			
	Cases.	Deaths.	Per cent.
1895 (antitoxin).....	2,182	615	28.1

An examination of the above table shows the following:

1. In the Southwestern Hospital a lower death rate obtained in each of the years 1892, 1893, and 1894 in unselected cases treated without antitoxin than existed in 1895 with selected cases treated with antitoxin.
2. In the Northwestern Hospital a lower death rate also obtained in each of the years 1892, 1893, and 1894, in unselected cases treated without antitoxin than existed in 1895 with selected cases treated with antitoxin.
3. The table also shows that in each of the three years 1892, 1893, and 1894 the mortality rate in the Northwestern Hospital was a little lower than it was in the Southwestern Hospital for the corresponding year.
4. The mortality rate for 1895 in the Northwestern Hospital was 2.5 per cent. higher than it was in the Southwestern Hospital.

Such a reversal in mortality rate shows plainly the pernicious effect of selection on statistics.

5. If, with selected cases, the mortality rate under antitoxin is not lowered, it is difficult to say what the rate might have been had all the cases received uniform treatment.

At the Northwestern Hospital in 1892, 682 cases, 138 deaths, mortality 21.8 per cent. In this hospital there were 363 antitoxin-treated cases in 1895, 117 deaths; mortality, 32.2 per cent.

At the Northwestern Hospital in 1893, 1,249 cases, 332 deaths; mortality, 26.5 per cent. Mortality in 1895 in antitoxin cases, 32.2 per cent.

At the Northwestern Hospital in 1894, 1,147 cases, 309 deaths; mortality, 26.9 per cent. Mortality in 1895 in antitoxin cases, 32.2 per cent.

Diphtheria cases were not admitted to the Metropolitan Asylums Board Hospitals until October 23d, and it should be noted that during the seven years that diphtheria patients have been received into these hospitals the mortality has steadily and uniformly declined from 59.3 in 1888, 47.7 per cent. in 1889, 33.5 per cent. in 1890, 30.6 per cent. in 1891, 29 per cent. in 1892, 30.4 per cent. in 1893, 29.2 per cent. in 1894. The one exception was in 1893, the explanation for this being an insufficient number of beds to accommodate the diphtheria patients; hence it is stated in the report for 1894, page 203: "The attention of the managers is specially directed to the fact with regard to diphtheria, a most unsatisfactory deficiency of beds has existed during a considerable portion of the year (1893), and that for many weeks the ambulance department was very frequently compelled to defer the removal of diphtheria cases." In the autumn of 1894 a new hospital (Fountain) for fever patients was opened with about five hundred beds. Hence, we find in the London *Lancet* the statement that 3,529 cases of diphtheria were treated in 1895 in the hospitals of the board as against 3,042 cases in 1894. The natural reduction of mortality which has taken place in these hospitals from year to year since 1888, owing to the board hospitals receiving a larger percentage of the notified cases in London and dealing with a better class of the population, was not even realized from 1894 to 1895. Indeed, it seems probable, when one studies carefully the reports of the Metropolitan Asylums Board from 1888 to 1894 and compares them with the mortality in the Managers' hospitals in 1895, that the mortality was higher with antitoxin than it it would have been without.

The age of the patients brought under treatment is

an important factor for consideration in determining the value of any method of treatment for diphtheria, the mortality being progressively less with the increasing age of the patient. We find that there were 244 children under two years of age in all the hospitals of the Metropolitan Asylums Board in 1894 (without antitoxin), whereas there were only 219 under two years of age in 1895 (with antitoxin). There were 1,171 children under five years of age treated in the board hospitals in 1894; 1,013 in 1895. There were 2,246 under ten years of age in 1894, and only 1,829 under ten years in 1895. The children under ten years treated in 1894 exceeded the total number of cases treated in all the hospitals with antitoxin in 1895. Had the ages been equal in the total number of cases treated during these two years, the mortality would in all probability have been higher with antitoxin in 1895 than it was in 1894 without antitoxin, seeing that the difference was only 1.5 per cent. even with the enormous age factor in favor of antitoxin-treated cases. The excess of children under two, under five, and under ten years in 1894 (non-antitoxin year) greatly vitiates the value of the report of the antitoxin treatment.

We find in the report of the medical superintendents on antitoxic serum a lack of uniformity in the results which is opposed to the theory of there being any single or specific factor at work in the inferred reduction of mortality under antitoxin treatment. For instance, at the Northwestern Hospital the mortality in those treated on the second day was 28.9 per cent. and at the Southwestern Hospital 3.8 per cent. There was but one hospital where the mortality was as high among the patients who came under treatment on the second day of the disease in 1894 (non-antitoxin) as it was in the antitoxin cases treated on the second day of the disease at the Northwestern Hospital. The mortality among those brought under treatment on the second day of the disease in all the hospitals of the board during the year 1894 (non-antitoxin) was only 27 per cent.; whereas at the Northwestern Hospital the death rate in 69 cases brought under treatment with antitoxin on the second day of the disease was 28.9 per cent. Had these 69 children received a specific, it certainly must have given a lower death rate than occurred in 539 cases during the year 1894 under ordinary methods of treatment.

Laryngeal Cases.—The most interesting portion of the report of the medical superintendents refers to tracheotomy cases. The mortality in these cases shows the same variation that is seen in the cases as a whole. At the Western Hospital the mortality in tracheotomy cases treated with antitoxin was 40.5 per cent.; at the Northwestern Hospital, 64.2 per cent.

There were 225 tracheotomy cases in all the hospitals treated with antitoxin; 113 deaths; mortality, 50.2 per cent. During the year there were 30 tracheotomy cases in all the hospitals that did not receive antitoxin; 12 deaths; mortality, 40 per cent. The mortality in all the hospitals in the tracheotomy cases treated with antitoxin in 1895 was 50.2 per cent. The mortality in all the hospitals in the tracheotomy cases not treated with antitoxin during the year 1895 was 40 per cent. Where is the specific influence of the antitoxin here? It cannot be said that the tracheotomy cases which were not treated with antitoxin were mild cases. The tracheotomy cases treated with and without antitoxin during the year 1895 were cases of the same degree and offer a very good field for comparison of results. The mortality in tracheotomy cases treated with antitoxin in 1895 was 10.2 per cent. higher than it was with those not treated with antitoxin. This is just the result to be expected when a depressant like antitoxin is added to the treatment of cases of diphtheria so serious as to require tracheotomy.

At the Northwestern Hospital in 1895 28 tracheotomy cases were treated with antitoxin; 18 deaths; mortality, 64.2 per cent. In 1892⁴² there were 58 tracheotomy cases in this hospital; 33 deaths; mortality, 56.8 per cent. In 1893⁴³ 78 tracheotomy cases, 44 deaths; mortality, 56.4 per cent. (One patient cured was a child thirteen months old.) In 1894 79 tracheotomy cases; 47 deaths; mortality, 59.4 per cent. There were in the Northwestern Fever Hospital during 1892-93-94, 215 tracheotomy cases; 124 deaths; mortality, 57.6 per cent. The mortality in this hospital in tracheotomy cases treated with antitoxin in 1895 was 64.2 per cent. During the year 1895 four tracheotomy cases in the Northwestern Hospital were treated without antitoxin and all recovered; as compared with mortality of 64.2 per cent. in the tracheotomy cases treated with antitoxin. Nothing could be more conclusive of the depressing and dangerous effect of antitoxin in that severe form of diphtheria of the larynx and trachea which necessitates tracheotomy than the records of the Northwestern Fever Hospital for the years 1892-93-94-95.

Antitoxin in Laryngeal Diphtheria.—About the only claim made for antitoxin at the present time by its advocates is that it has a favorable influence in laryngeal diphtheria, that it relieves stenosis, that it obviates the necessity for operative interference, that the mortality is lower in non-operated and operated cases treated with serum, and that the tube can be removed earlier when operation becomes necessary. If antitoxin does not cause a "melting away" of the membrane, as was first claimed, and does not lessen the duration of the membrane in the visible portions of the throat, what reason have we for supposing that it influences the duration of the membrane in the larynx?

Roux does not believe that serum is of any use in pseudo-membranous bronchitis. If it is not of use in pseudo-membranous bronchitis, how can it be of use against pseudo-membranous laryngitis?

Soltmann⁴⁴ (Leipzig) states that in 89 cases of diphtheria treated with serum the diphtheritic process extended downward in 13 cases, even to the involvement of the smallest bronchi.

The mortality in the Willard Parker Hospital for the first nine months of 1895 in intubation cases treated with antitoxin was 68 per cent., and for the last quarter 76.9 per cent. During the first quarter of 1896 there were 31 intubation cases; 21 deaths; mortality, 67.7 per cent. In April there were 11 intubation cases; 8 deaths; mortality, 72.7 per cent.* In May there were 16 intubation cases; 11 patients have died; mortality, 68.75 per cent. One patient was discharged; 4 are in hospital. One of these was tracheotomized June 12th, intubation not having been successful; two more of those in hospital are still very ill, and only one of the four now in hospital has clear prospects of recovering (June 15th).

In the Municipal Hospital, Philadelphia, 71 intubation cases were treated without serum in 1895; 40 deaths; mortality, 56.3 per cent.

Dr. P. H. Ernst⁴⁵ has reported nine cases of intubation treated without serum; two deaths; mortality, 22.2 per cent.

Dr. W. W. Seymour⁴⁶ recently stated before the Academy of Medicine that in his last ten intubation cases he had eight recoveries. In three of these cases antitoxin was used and one of these proved fatal. In seven cases antitoxin was not used, and of these only one was fatal. His mortality in intubation cases

treated with antitoxin was 33.3 per cent., and in intubation cases not treated with antitoxin 14.2 per cent.

Widerhoefer⁴⁷ gives a mortality of 43 per cent. for intubated cases (before serum treatment).

Von Ranke⁴⁸ gives in 326 intubation cases a mortality of 57.4 per cent. (before serum treatment).

Meisenbach⁴⁹ reports a mortality in tracheotomy cases of 57 per cent. (before serum treatment) in the Philadelphia Children's Hospital.

In Strassburg⁵⁰ in 397 tracheotomies (1891-94) the mortality was 44.3 per cent.

In Geneva⁵¹ from 1872 to 1888 the mortality in tracheotomy cases was 49 per cent.

In Basel⁵² in 333 tracheotomy cases there were 197 deaths; mortality, 59.2 per cent.

In the University College Hospital⁵³ (London) the mortality in tracheotomy cases in 1894 (non-antitoxin year) was 47 per cent.

Sonnenburg⁵⁴ states that in 13 tracheotomy cases treated with serum the mortality was 37.8 per cent., but during a period when serum could not be obtained the mortality in 35 tracheotomy cases was 37.1 per cent.—slightly better without serum. This statement by Sonnenburg shows the very great importance of taking into consideration the character of the epidemic in estimating the value of a mode of treatment.

Kohts⁵⁵ (Strassburg) reports a mortality of 29.1 per cent. in tracheotomy cases treated with serum, and a mortality of 25 per cent. in tracheotomy cases treated without serum.

Is not the very high mortality in intubation cases treated with serum in the Willard Parker Hospital when compared with the results in intubation cases without serum in the Municipal Hospital, Philadelphia, and in intubation cases reported by Widerhoefer and Von Ranke before serum treatment, and in tracheotomy cases in Philadelphia and in all parts of the world before serum treatment, a most positive warning against the use of this treatment in this serious and dangerous form of diphtheria? The divergencies in the results in laryngeal cases treated with serum is opposed to the theory of there being a specific agent at work. For instance, in Soltmann's⁵⁶ intubation cases treated with serum the mortality in June was 16.7 per cent.; in May it was 88.9 per cent.; in February 22.2 per cent.; in March 28.6 per cent.; in April 42.9 per cent. If serum had any influence on the low mortality in June of 16.7 per cent., it should be shown as well in the month of May; whereas, during that month we find a mortality of 88.9 per cent. The low mortality of June is due to the character of the cases (see Dr. Ernst's results without serum) and not to the serum treatment. If the antitoxin could bring about this low mortality in one month it certainly could in another.

In Soltmann's report we find the same variations in mortality in diphtheria of throat and nose. The mortality in these cases treated by serum was in February, 5 per cent.; March, 60 per cent.; April, 7 per cent.; May, 21.4 per cent.; June, 14.3 per cent.; July, 25 per cent. If the mortality of 5 per cent. in February were due to the action of a specific agent, we should find the same mortality in all uncomplicated cases of diphtheria of throat and nose throughout the entire period reported by Soltmann; whereas we find a variation ranging from 5 per cent. to 60 per cent., which variation is due to the character of the cases. I mean the low mortality of 5 per cent. was due to the character of the cases treated, and not to the treatment applied. It must be necessary to a method of treatment for it to be accepted as a specific, that its results be uniform in all parts of the world when applied to severe as well as to mild epidemics. Any considerable lack of uniformity of results in a method of treatment shows

* It has been stated (New York Med. Jour., February 15, 1896) that the mortality for operative cases in 1894 was 85 per cent.; but it is impossible to give the exact mortality of the operative cases in the year 1894, because many of the histories of the institution are missing and are not available.

that the treatment fails to exert any influence when applied to severe cases, and we may suppose that the good results are due to the character of the epidemic and not to the treatment.

A very striking feature of the serum treatment is a lack of uniformity of results, according to the day of disease on which treatment by serum is begun. Heubner¹⁷ reports that in cases in which treatment was begun on the second day the mortality was 6 per cent.; Soltmann, 4 per cent.; The Southwestern Hospital¹⁸ (London) in 52 cases, 3.8 per cent.; Seigert,¹⁹ 20 per cent.; the Willard Parker Hospital²⁰ in 130 cases, 25.1 per cent.; the Northwestern Hospital (London) in 69 cases, 28.9 per cent. In cases in which treatment was begun on the third day, Heubner's mortality was 4.5 per cent.; Willard Parker Hospital in 116 cases, 34.1 per cent.; Southwestern Hospital (London) in 45 cases, 33.3 per cent. From these varied results we are led to believe that the day of disease in which the patient is brought under treatment has much less to do with the results than the character of the epidemic. The individuality of the patient, individual susceptibility and resistance to the action of the toxin, has far more to do with the results than the day of disease on which the patient is brought under treatment.

Why Antitoxin is Popular.—Why is it that antitoxin has to-day the hold on the profession which it has? Certainly many prominent members of our profession have a strong affection for antitoxin. The fame of antitoxin is largely due to the influence of two hospitals, viz., the Empress Frederika Hospital, Berlin (Baginsky's), and the Hospital for Sick Children in Paris (Roux and Martin). Baginsky²¹ reports 525 cases treated with serum; 83 deaths; mortality, 15.6 per cent. From March 15, 1894, to March 15, 1895, Baginsky had 525 serum-treated cases and during the same period 126 cases not treated with serum. Before serum treatment began in 1894 224 cases of diphtheria were admitted to the hospital, or 875 cases of diphtheria received into the Empress Frederika Hospital in fourteen and a half months. Compare these figures with the previous records.

During the years 1890-93 there were 1,063 cases of diphtheria in this hospital (Empress Frederika) and during the serum period 875 cases in fourteen and a half months. It must also be borne in mind that this enormous increase in number was at a time when, as was stated to me in Berlin, diphtheria was not epidemic but existed only in sporadic form. The Empress Frederika Hospital is a general hospital for children, with medical, surgical, and contagious disease departments, there being separate pavilions for the contagious diseases. We find recorded in Baginsky's monograph on diphtheria serum the case of a boy brought to the surgical department of the hospital February 25th with a fractured femur; March 19th there was a yellow coating on the left tonsil and Loeffler's bacillus was found. He was transferred to the diphtheria ward, and 4.5 c.c. of antitoxin were given. March 20th 4.5 c.c. were again given. March 23d he was perfectly well. Again, a baby seven months old was brought to the surgical department March 15th on account of club foot. March 24th there was a white coating the size of a lentil on the right tonsil, and the Loeffler bacillus was found. She was transferred to the diphtheria ward and 5 c.c. of antitoxin were given March 25th. March 26th the dose was repeated. March 31st she was perfectly well. Case III. was that of a girl of five years, whose throat was red, but without membrane. The Loeffler bacillus was found. She was transferred to the diphtheria ward July 13th and 5 c.c. of antitoxin were given. She was discharged July 17th.

Of the first hundred cases in Baginsky's book the average time of stay in hospital was ten days. Should

statistics to influence the profession and the public be made from such cases?

When I visited the Empress Frederika Hospital while in Berlin, I was first invited to attend the Dispensary Clinic for diseases of children, which opportunity I availed myself of. Such care in the management of cases of slight illness I do not think can be seen anywhere else in the world. The waiting-room for children is under the charge of a trained nurse. Every child has its temperature, pulse, and respiration taken by the nurse and its clothing removed; it is then carefully wrapped and taken before the physician. There again you see the same minute, painstaking care in every case. Noticing this great care and that not in a single instance was the throat examined, I thought it strange. The doctor told me that the throat was not examined in this room, because the throat of every child was examined before being brought to this room, and if there was any affection of the throat the child was referred to the diphtheria polyclinic. A clinic for walking cases of diphtheria was a revelation to me. The next hour I visited the room where the diphtheria polyclinic is held, under the supervision of the same physician. Every child brought to the dispensary department of the Empress Frederika Hospital, if it presents any throat lesion, is placed in an isolation room of the hospital which they now have for these cases; it is immediately injected with antitoxin, and if Loeffler's bacillus is found, it is placed in the diphtheria pavilion and receives further serum treatment. It is in this way that the enormous number of cases, as compared with previous years, is taken into this hospital for serum treatment. When there is a lack of serum or when there is no serum, these walking cases of throat affection are not detained in the hospital, as it is not deemed safe to do so when they cannot be immunized and protected against their surroundings. It is this method of conducting the diphtheria department of the Empress Frederika Hospital which accounts for the reported low mortality and for the difference in mortality during periods when serum is used and when it is not used. It was this very feature of the reports from the Empress Frederika Hospital which made the strong impression on Virchow. But Virchow had not studied the details; he accepted the percentage mortality without knowing how such percentages were obtained.

At the hospital for sick children in Paris, it was impossible to ascertain the number of cases treated before and since the use of antitoxin; but we find at the Trousseau Hospital that the number of cases admitted before the antitoxin treatment averaged about eight hundred a year; the highest nine hundred. During the first year of antitoxin treatment there were between fourteen hundred and fifteen hundred.

In connection with the subject of Paris statistics, the following from the Paris *Medical Week*, January 10, 1896, page 24, is interesting: "The most remarkable fact of the last month of 1895 is a sudden increase in the number of deaths from diphtheria [in Paris] to twenty-three, which is identical with the average of the last five years. The number of cases of this disease reported, however, does not differ materially from the number notified during the weeks immediately preceding." The MEDICAL RECORD (February 15, 1896) in commenting on this report says: "This naturally brings up the question again: have we been passing through a period of mild diphtheria and will antitoxin prove less efficacious when the virulence of the epidemic is pronounced?" The mortality in Paris has been as high as thirty-two per week during some weeks of 1896.

Variot (Paris) states that bacteriology has included a great number of cases which previously were not considered as cases of diphtheria.

Von Ranke²² (Munich) reports 102 cases; mortality, 18.6 per cent. Von Ranke had 162 cases of diphtheria in six months, whereas in the same hospital they have averaged 146 yearly during the last seven years.

Landau²³ (Frankenberg) reports 448 cases treated by serum in six months; 100 deaths; mortality, 22.3 per cent. In this same hospital they had averaged 132½ cases per six months for the last fifteen years, whereas during the serum period (from February to July inclusive) 448 cases were admitted.

Rauchfuss (St. Petersburg) reports 101 cases treated with serum in four months; mortality, 34 per cent., previous mortality, 55 per cent.; but he had 101 cases in four months under serum treatment, or at the rate of 303 per year. During the previous twenty-five years they have averaged in this hospital but 142 cases per year.

Vierordt²⁴ (Heidelberg) reports a mortality of 25.4 per cent. in diphtheria treated by serum. Serum treatment was begun October 31st, and in four months he received into the hospital 70 cases of diphtheria. I find from the hospital report that they had received into this hospital during the previous ten months but 56 cases.

The interne at the Children's Hospital (Heidelberg) told me that there was a great influx of cases from the Necker Valley after the serum treatment began. Many apply to the hospital now who on account of the expense of the serum would not hitherto have applied. During the first ten months of 1894, without serum, 56 cases were received into the hospital, and during the succeeding four months, under the influence of serum treatment, 70 cases; and this at a time, as I was personally informed when in Heidelberg, when diphtheria was sporadic and not epidemic.

For increase in the number of cases during the serum period it remained for Dr. Ernest Germonig, of Trieste, to outdo all others.

Germonig²⁵ reports that from the 24th of August, 1894, to the 31st of January, 1895, a period of a little over five months, 362 cases of diphtheria were treated with serum in the Civil Hospital (Trieste). In this hospital they had in 1892 78 cases of diphtheria; in 1893 110 cases; the first eight months of 1894, 149 cases (before serum treatment). In five months and one week (serum treatment), 362 cases.

In 75 cases of diphtheria treated with antitoxin in the University College Hospital,²⁶ London, the mortality was 28 per cent.

Two hundred and forty-five patients treated with antitoxin in the American Urban Hospital,²⁷ Berlin, gave a mortality of 28 per cent.

Kossel²⁸ reports 233 cases; 54 deaths; mortality, 23.1 per cent. Some of these patients had flecks the size of a pinhead on the tonsils; no swollen glands; no fever.

Soltmann²⁹ (Leipzig) reports 181 cases of diphtheria with the Loeffler bacillus, treated with serum; 44 deaths; mortality, 24.3 per cent.

Contrast this with Heubner's³⁰ statement: "The mortality at my polyclinic (Leipzig), for fifteen years, for children of all ages and throughout the entire year, through severe and mild epidemics, was 22.5 per cent. This experience was with the same population as that from which hospital patients are drawn. Therefore the mortality was higher than it would have been in good private practice."

Report after report might be quoted, showing that the mortality at the present time under serum treatment ranges from 23 to 28 per cent., and even to 33 per cent. (Copenhagen) and 45 per cent. (New York Foundling Asylum).

Behring promised us that his serum would reduce the mortality to one-tenth of its former rate.

If antitoxin is a specific against the toxin of the Loeffler bacillus, the cardiac paralysis, the albuminuria, and the paralytic phenomena of diphtheria should no longer be seen. Albuminuria occurred in 40.9 per cent. of the cases treated with antitoxin in all the hospitals of the Metropolitan Asylums Board³¹ during 1895.

Albuminuria occurred in 24.1 per cent. of the cases in all the hospitals of the Metropolitan Asylums Board in 1894 (non-antitoxin year), and in 25.4 per cent. of the cases in 1892.

Soltmann³² found albuminuria in 72 per cent. of cases after the injection of antitoxin, which did not have albuminuria before the injection.

Post-diphtheritic paralysis occurred in 23.2 per cent. of the cases treated with antitoxin in all the hospitals of the Metropolitan Asylums Board in 1895; post-diphtheritic paralysis occurred in 13.2 per cent. of the cases treated in all the hospitals of the Metropolitan Asylums Board in 1894 (non-antitoxin year).

Heubner (Berlin) reported that in cases treated by him in which 1,100 immunizing units had been given, post-diphtheritic paralysis occurred in 7.5 per cent.; whereas, in cases in which 1,700 immunizing units were given, post-diphtheritic paralysis occurred in 12 per cent. of the cases.

Complications and sequelæ, which should be prevented by antitoxin, are greatly increased since the use of this treatment, and to an extent never before known.

Perregeaux³³ has reported of cases at the Trousseau Hospital that articular manifestations were observed at the hospital in eleven cases; after patients had returned to their homes, in nineteen. Diphtheritic paralysis occurred at the hospital twice; among patients who had left the hospital, twenty-one cases were found. Persistent and permanent albuminuria was found in six cases. In other words, it is not known when patients are free from a liability to after-effects from the disease or its treatment when antitoxin is used.

A child at the Willard Parker Hospital, which had recovered after an intubation and was sent home, within forty-eight hours after arriving at its home was taken with convulsions; it was seen by three physicians, but all treatment proved unavailing, and the child died in convulsions. This case is an exact counterpart of a case reported by Moizard (Paris). It is not known when after ill-effects of this treatment will supervene.

Dr. Chantemesse³⁴ states: "I have endeavored to ascertain whether it is not possible to avoid the ill-effects due to hypodermic injections of serum in general, by having recourse to some other method of introducing the remedy. For this purpose I have in twenty patients tried sero-therapy by means of intestinal injection. The effects of this injection appear to be as marked as those of hypodermic injection. In the twenty cases treated in this manner the preventive power of the same dose of serum was substantially the same, whether it was introduced under the skin or by the rectum."

Certainly it is not possible to get any therapeutic properties from the injection of antitoxin into the rectum, and yet here we have the statement that in twenty patients the results were precisely the same as when given hypodermically. The inevitable conclusion is that it has no curative properties when administered in either manner. From the beginning of this treatment at Buda-Pest, until the present time, not one fact has been presented which would tend to show that the serum treatment has any exact scientific value or scientific basis. We have, after all this period, no information to enlighten us as to the nature or the action of Behring's remedy. The theory of this

treatment based on laboratory work assumes that the result of infection by a specific bacillus is always the same, and independent of the organization of the individual; whereas the exact opposite is true. The same causes produce essentially different results in different individuals. Again, inasmuch as streptococci, staphylococci, etc., play a prominent part in every case of severe diphtheria, it is useless to treat the disease with a remedy which can at best be useful only in cases of pure Loeffler infection. Even in these cases of pure infection, to be thoroughly effective, it must be applied at the time or during the first twenty-four hours of infection. A positive clinical diagnosis is nearly impossible during the first twenty-four hours. A bacteriological diagnosis cannot be obtained in less than twenty-four hours, and then the mere presence of Loeffler bacillus in the throat is no proof of the existence of diphtheria.

Kohts" (Strassburg) sums up his conclusions on the serum treatment at the Congress für Innere Medicin, München, April, 1895, as follows:

"The mortality of patients treated with Behring's heilserum is for tracheotomy cases 29.4 per cent.; for those not operated on, 7.6 per cent.

"This result is less favorable than in the year 1891, when the mortality of tracheotomy cases was 25 per cent. without antitoxin; for those not operated on, 6.9 per cent.

"Secondary affections, as disease of the kidneys, affections of the heart, and paralysis, are not prevented by the serum. The result by injection of heilserum during the first two days of the disease does not differ from the results obtained without serum when the patients come under treatment within the first two days of disease. When there was coincidence of severe case of diphtheria with severe chronic and acute disease, pneumonia hæmorrhagica, thrombosis of the heart, and sub-pleural hemorrhages were observed."

After a thorough study in various hospitals in Berlin of the use of diphtheria serum, Passed Assistant Surgeon F. J. B. Cordeiro," U. S. Navy, in a report to the surgeon-general of the navy, concludes that, so far, proof is lacking of the value of the antitoxin in the treatment of diphtheria:

"1st. A large number of children treated with both small and large immunizing doses have, within a few weeks, acquired diphtheria, and some of them have died of it. We do not possess a single scientific proof that a case of diphtheria was ever prevented by the immunizing process.

"2d. Children, who during the first sickness have been treated with large doses of serum, have a short time after acquired diphtheria anew. They were not rendered immune either by their sickness or by the largest doses of the antitoxin.

"3d. In a large number of cases, children have been treated on the first or second day of their illness with the fullest dose of the antitoxin, and have died.

"4th. It is certain that a large part of those who have died, notwithstanding the serum treatment, did not die from the effects of a mixed infection, but directly from the specific effects of Loeffler's bacillus.

"5th. Heart and other post-diphtherial paralyses are also seen in early and fully treated cases, and they occur as often as they did before the serum treatment.

"6th. Of a fever fall by crisis in the first twenty-four hours, and of a pronounced antipyretic effect of the serum, most observers have seen nothing or next to nothing.

"7th. The separation of the membranes follows in the cases that run favorably in the customary manner; but often there is an extension of the local process and a renewal of the already separated membranes during and after the serum treatment.

"8th. The burden of proof lies with Behring and his

coworkers. The world eagerly and only too willingly received this proof. We know that the former extravagant promises are out of the question; but we should be grateful to have it demonstrated that the serum can reduce the mortality by even one per cent. As yet we have not the slightest basis on which to found an expectation that fewer children will die in the future of this disease on account of the serum treatment."

One of the strongest arguments against the antitoxin treatment of diphtheria is the attitude of those who are living in hospitals and watching its results, who formerly were earnest advocates of the treatment, and who, after experience, have from conviction become opposed to it.

Dr. William M. Welch (Municipal Hospital, Philadelphia), who has injected over three hundred patients, stated to me that he would not have antitoxin used on himself if he had diphtheria; that if his children had diphtheria of any type, he would not allow them to be injected; and if left to act independently and from his own conviction, he would never inject another patient.

Dr. Steinsieck (North Brothers Island Hospital) says he would not have antitoxin used on himself; that recently he has thought it all over as to what he would do in case his children had diphtheria, and he has decided he would not have them injected with antitoxin, no matter how severe or what the form of the disease might be.

Dr. Warmuth, Dr. Tyler, and Dr. Bemis, of the Municipal Hospital, Philadelphia, were believers in antitoxin, and are now opposed to it.

Dr. Hardin, of Washington, and Dr. Levy, of Richmond, came to the Willard Parker Hospital thorough believers in antitoxin, and are now opposed to it.

Dr. Warmuth (Municipal Hospital, Philadelphia) had diphtheria and refused to have antitoxin used on himself.

Dr. Levy and Dr. Hess, of the Willard Parker Hospital, had diphtheria and refused to have antitoxin.

Not one of the nurses of the staff of these hospitals would have antitoxin used on themselves for immunizing purposes.

Variot states that the doctors and nurses of the Trousseau Hospital (Paris) would not have antitoxin used for immunizing purposes, though one of the doctors had a severe diphtheria.

It has been said that I have been prejudiced against the use of antitoxin. My impressions with reference to the use of antitoxin were gained first in the autumn of 1894, when I saw Dr. Halliday come under treatment at the Willard Parker Hospital. He was brought to us as soon as the diagnosis of diphtheria was made, partly for isolation and partly to get the benefit of the antitoxin. He had an uncomplicated, but severe, diphtheria, involving most of the throat. He was a strong, healthy young man of perfect habits. He was given antitoxin as soon as admitted—given the full dosage, I understand—and in addition, every other possible treatment, of course, that could be suggested. At the end of two weeks and one day he died of a straight, uncomplicated diphtheria, the antitoxin not having had the slightest influence on a single symptom from beginning to end. This made me wonder, for the man seemed to have every possible chance to be saved by this specific. I was so impressed by it that I went to Dr. A. L. Loomis, and talked over the matter with him on three different occasions. He wanted me to come out then and express my opinion, but I said: "No; there is a possibility that I am mistaken, and I do not wish to deprive any one of the use of it." In that autumn only five patients with diphtheria were treated with antitoxin. Four out of the five died, and the fifth was desperately ill. He had a peculiarly long and tedious convalescence. It was these five

cases that led me to study with the greatest care and anxiety—an anxiety such as I have never experienced in connection with any other subject—the action of antitoxin.

With reference to a prejudice, it is monstrous to speak of it—a prejudice against anything which could do any good in such a disease as diphtheria! A man who would have a prejudice against a specific for diphtheria, should not be allowed to practise medicine. If there is a specific for diphtheria, I want it; no member of this academy, no member of the profession in any portion of the world needs it more than I do; and every man who knows me, knows that it would not be possible for me to cast a word of doubt upon any remedy which could be of the least possible use in the treatment of diphtheria. I could not possibly have brought myself to the position in which I find myself to-night had it not been for my strong conviction regarding the injurious effects of antitoxin. Could I have found that antitoxin did not do any harm, even though it was valueless in the treatment of diphtheria—even though it did not reduce the mortality—I would never have said anything against it. It is because I believe that it is dangerous that my convictions compel me to speak. The time will come, gentlemen, when every member of this academy will feel with reference to it as I do to-night, and you will come to it from conviction, as various members have already.

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HOW THE FACTS ABOUT THE ANTITOXIN TREATMENT OF DIPHTHERIA SHOULD BE ESTIMATED.¹

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THE grounds for scepticism on the part of physicians in questions connected with therapeutics are natural enough, when the complexity of the conditions inseparable from such problems is taken into account. This is particularly the case when the treatment of acute infectious diseases is in debate. Here an element of uncertainty meets us at the outset, in the fact that most acute infectious diseases run a course specifically defined in each, and naturally ending in the recovery without treatment of a greater or less majority of those attacked by them. Therefore, until this element is given its proper place, or, in other words, unless the percentage of recoveries without treatment can be approximately estimated and duly allowed for, no trustworthy comparison between different lines of treatment can be justly made.

Another factor in the problem is diagnosis. It happens that this is quite a factor in the case of diphtheria. Other microbic infections beside diphtheria produce anginous affections in the throat, accompanied by exudations which in many patients cannot be distinguished by their clinical characters or initial accompaniments from those of diphtheria. It is claimed that diagnosis here is dependent upon identification by bacterial cultures, and therefore that conclusions or statistics not so verified are unreliable.

Another consideration is that all infectious diseases depend for their development upon the animal body which receives their germs. In the majority of persons those germs do not develop at all, as was known in the case of small-pox itself before the days of vaccination. Their entrance in others is followed by the most varying results; in some the yield to the seed sown is so small that they cause but little disturbance; in others it is considerable with considerable disturbance; in others the growth is luxuriant from the beginning with corresponding severity in the symptoms. How, therefore, are we to know beforehand which are

¹ Read at the discussion at the New York Academy of Medicine, June 4, 1896, of the paper of Dr. J. E. Winters.

to be the mild cases and which the severe ones among those who are infected? The mild would get well and many of the severe would die in any case. We all have occasionally seen in these diseases what we term malignant cases, in which the fatal outcome scarcely could have been prevented by treatment any more than after certain surgical accidents. Therefore, these two classes, the mild and the severe respectively, ought to be estimated separately in order to pronounce correctly upon the effects of treatment. But how often can this be done in practice?

Another factor is that pathogenic microbes themselves change in their degrees of virulence within such wide limits that uncertainty arises from this source alone. An instructive illustration of this is found in the behavior of one form of them which is specially pertinent to our present subject, as it undoubtedly often joins forces with the diphtheria microbe in its attacks, and that is the streptococcus pyogenes. "Starting from a streptococcus harmlessly inhabiting the buccal cavity, we may pass experimentally (by cultivation in successive rabbits) through all stages till we obtain an organism of such exalted virulence as to be capable of producing a rapid and general infection."¹ This fact in the life history of microbes offers a plausible explanation of the seasonal variations in severity of infectious diseases, rendering them much more difficult to treat in one year than in another. Now, neither of these features of infectious diseases—that is, different development in different persons and the same agent varying in virulence at different times—find the least counterpart in chemical reactions, which, instead, can always be predicated according to their defined conditions. It is wholly illogical, therefore, to suppose that any alleged remedy against an infectious disease could ever be a specific against it in the fashion that acids and bases react specifically against each other in chemistry, and hence that its results should be the same with every physician who uses it and everywhere. There are no varying acids nor varying bases in chemistry, nor does chemistry know anything of seasonal variations. But it is precisely these elements of variability which must be taken account of fully in all discussions about remedies against infectious diseases. It is curious to note how this palpable difference between agents which act according to unvarying physical laws and agents which act according to the ever-varying laws of growth is ignored by the opponents of the diphtheria antitoxin, who repeatedly assume that this complex serum derivative should have the properties of an inorganic chemical body, always of the same composition and potency from the beginning, on the one hand, and that diphtheria itself should become a purely chemical disease on the other, to be chemically neutralized by the antitoxin.

Still another element in the course of many infectious diseases (notably of diphtheria, as already stated) comes in to disturb our calculations, and that is what is termed polymicrobial infection. Thus, to what extent may the claim be allowed to the advocates of the diphtheria antitoxin that it may fail in many of the fatal cases because, while it is efficacious against the toxin of the diphtheria bacillus, it could do nothing against the toxin of the streptococcus?

Another element in the problem also should not be lost sight of, and that is time, as regards the administration of a supposed remedy. Our knowledge of the structural damage which the diphtheria toxins are capable of producing before death show that no chemical or corrosive poison can surpass them in the causation of important tissue changes. Arsenic itself could not more hopelessly destroy living tissues than diphtheria does in the case of muscle and nerve fibre,

not to speak of glandular cells. The best antidotes to arsenic would be useless after some of the characteristic changes have been already caused by this poison, and the same must be said of any supposed neutralizer of the diphtheria toxin—that it would be equally useless if it came too late.

Thus, as the matter stands, there are so many considerations which have to be taken into account, first on one side and then on the other, ere we can come to any conclusions on a question like the one before us to-night, that to many it may seem a hopeless undertaking to settle it at all. Nevertheless, we are prepared to show that this discouraging anticipation is quite unwarranted on account of certain conditions which now obtain in the medical world and which allow of even such a complex question as the efficacy of the diphtheria antitoxin to be very fairly tested. Preliminary, however, to adducing this evidence, we insist that decisions on therapeutic questions, including the use of antitoxin, must rest on the question of comparative success, and on that alone. Unless that postulate be granted, there can be no decision about the use of any remedy whatever. In the instance of the antitoxin, the advocates on the negative side often argue as if cases of failure were sufficient to establish their contention. But failures of a remedy are, *per se*, no proof that it is not a remedy. Quinine, for example, often fails to cure ague. Is it on that account not the remedy for ague? Vaccination likewise often fails to prevent small-pox. Is it on that account not the preventive against small-pox? Where would mercury stand as a remedy for syphilis if all one need do to prove its inefficacy would be to walk through the wards of a hospital and show how many syphilitics there are as badly off as ever, if not worse after they have taken a through course of it? We can justly maintain, instead, that the opponents of the antitoxin treatment may be cheerfully allowed to detail case after case of failure with antitoxin, without thereby affecting the decision in any non-partisan mind when the whole evidence is in, because that evidence is of a kind which excludes both failures and successes alike which do not come within the conditions laid down, and which conditions alone determine the verdict.

The conditions are these: Diphtheria is a widespread disease which has been characterized by a pretty uniform range of mortality and of the conditions which influence its mortality in all civilized countries of the globe. Therefore, the verdict about any alleged remedy for it should depend upon the findings of a jury whose members should not only be competent, but also so numerous and of such difference in locality and nationality that all personal or local influences can be safely left out of account. The summoning of such a jury would have been impossible in former times, but the recent impressive incident of Koch's tuberculin shows that it can be now, as well as demonstrating that the medical fraternity of our age constitutes the only real international fraternity in the world. In that case the competency of the jury was proven by the fact that, notwithstanding the interest in the disease concerned was quite equal to that manifested in regard to diphtheria, and the reputation of the originator of the supposed remedy was the most calculated to influence the jury favorably, yet the verdict was rendered in the negative virtually within four months.

The antitoxin treatment of diphtheria, therefore, had to come before the same jury with the disadvantage of a presumption against it on account of the failure of its predecessor in serum therapeutics. It has now been on trial about a year and a half, with reports upon it coming from scientific observers both in public institutions and in private practice, from Austria, Germany, Holland, Belgium, Denmark, Russia, Japan,

¹ Bullock: London Lancet, April 11, 1896.

France, Italy, the British empire, including Australia, and, finally, from all America. It is the general verdict, if such there be, of these reports which any candid physician will care to consider. In questions of therapeutics personal opinions or supposed personal experience are so beset with fallacies that errors can be minimized only by the calculus of very large averages, and if the elements for these are not yet enough we must be content to wait until they are. No one voice, or, for that matter, a score of voices, however loud or vehement, are sufficient to affect the final verdict, for observations alone and not individuals have any standing in this court.

As it is both wearying and difficult for an audience to listen to tables of figures, we will endeavor to shorten this task by limiting it to one aspect of the subject only, namely, the verdict of hospital reports on the comparative mortality in the treatment of diphtheria with and without antitoxin. My sources for this summary are Prof. William H. Welch's admirable paper in the *Johns Hopkins Hospital Bulletin*, July-August, 1895, and also a remarkably complete communication on the whole subject of the statistics of the antitoxin treatment brought up to May, 1896, by Dr. Arthur R. Guerard, of this city. I have been privileged to read this paper, which for wealth of material and careful analysis of the different branches of the subject is so thorough and valuable that I hope it will soon be published in full.

Beginning with Austria, we quote first from the official hospital reports for the years 1894-95, the period just before and since the introduction of the antitoxic serum:

St. Anne's Hospital, Vienna: Treated without antitoxin, 760 cases; died, 385, or a mortality of 50.68 per cent. Treated with antitoxin, 159; died, 40, or a mortality of 25.15 per cent.—a reduction of more than 50 per cent. Treated to the end of June, 1895, 560; mortality, 97, or 19.1 per cent.—a reduction of about 65 per cent.

We may here compare these statistics with those of the Kaiser and Kaiserin Frederika Hospital, Berlin: Treated without antitoxin, 217 patients; died, 103, or a mortality of 47.4 per cent. Treated with antitoxin, 384; died, 64, or a mortality of 16.6 per cent.—a reduction of 75 per cent.

The official reports of the other hospitals for this period unfortunately give the total mortality both with and without antitoxin, but even with this element, which reduces the mortality from what it should be if the tables included the deaths without antitoxin alone, the antitoxin reports taken separately show a decided gain. Thus:

St. Joseph's Hospital, Vienna: Total cases treated, 299; deaths, 151, mortality 52.6 per cent. Treated with antitoxin, 42; deaths, 11; mortality 26 per cent.—a reduction of 50 per cent. from the figures of the total of both without and with the antitoxin.

Leopoldstadt Hospital, Vienna: Mortality with and without antitoxin, 34.9 per cent.; mortality with antitoxin alone, 26.9 per cent.

Crown Prince Rudolph Hospital: Mortality with and without antitoxin, 36.5 per cent.; with antitoxin alone, 20 per cent.

Kaiser Franz Joseph Hospital, Prague: First mortality table, 28 per cent.; with antitoxin alone, 13.2 per cent.

University Clinic, Prague: First mortality table, 36.2 per cent.; with antitoxin alone, 20.8 per cent.

Anna Hospital, Prague: First mortality table, 13.7 per cent.; with antitoxin alone, 9.9 per cent.

Child's Hospital, Buda-Pest: First mortality table, 41.1 per cent.; with antitoxin alone, 17.5 per cent.

From other parts of Germany the official hospital reports for the same period show the same general uniformity of decline. Thus:

Child's Hospital, Dresden: First table, mortality, 45.6 per cent.; with antitoxin alone, 28.8 per cent.

New Hospital, Leipzig: First table, 32 per cent.; with antitoxin alone, 14.5 per cent.

Child's Hospital, Frankfurt: First table, 28 per cent.; with antitoxin alone, 12 per cent.

Olga Hospital, Stuttgart: First table, 34.8 per cent.; with antitoxin alone, 12 per cent.

Child's Hospital, Nuremberg: First table, 38.3 per cent.; with antitoxin alone, 1.0 per cent.

Child's Hospital, Lübeck: First table, 56 per cent.; only three cases treated with antitoxin; all recovered.

From Switzerland there is a report from the Child's Hospital, Hettlingen, Zürich: First table, mortality 19.6 per cent.; with antitoxin alone, 3.4 per cent.

The total figures of these tables are 4,472 patients treated, of whom 2,511 had no antitoxin and 1,961 had antitoxin alone. Only two of these hospitals, as above stated, give the comparative mortality of those who did not and those who did have antitoxin treatment, and yet with all that the mixed tables of mortality of the whole 4,472 cases treated give a mortality of 37.2 per cent. compared with a mortality of 17.2 per cent. among the 1,961 who were treated with antitoxin alone.

Other hospital reports given by attending physicians in Austria:

Unterholtzen: With antitoxin, 37 cases; deaths, 8, or 21.6 per cent. Previous mortality without antitoxin stated at 66.7 per cent.

Heim: 27 cases; deaths, 6, or 22 per cent.; previous mortality, 52.5 per cent.

Monti: 25 cases; deaths, 1; mortality, 4 per cent.

Ganghofner, Franz Joseph Kinder Clinic in Prague: 110 cases treated; deaths, 14; mortality, 12.7 per cent. Treated without antitoxin, 144; deaths, 62; mortality, 43 per cent.

Von Engel, Brünn, Bohemia: 39 cases treated with antitoxin; deaths, 10, or 25.5 per cent.; 62 cases treated without antitoxin; deaths, 31, or 50 per cent.

Jakenowski, Prague: 100 cases, 30 deaths, or 30 per cent.; previous, 50 per cent.

Germonig, Hospital at Trieste: 224 cases treated with antitoxin; 44 deaths, or 20.3 per cent. Treated without antitoxin, 65; deaths, 33, or 50 per cent.

Bókai reports 120 cases; deaths, 31; mortality, 25.8 per cent.; mortality previous to antitoxin, 60.2 per cent.

From other parts of Germany we have hospital reports by way of Munich.

Siegel, 100 cases treated with antitoxin; mortality, 12 per cent.; mortality without antitoxin, 50.3 per cent.

Rumpf, Munich: 22 cases; mortality, 2, or 8 per cent.; previous, 25 per cent.

Ehrlich, Kossel, and Wassermann: 233 cases treated with antitoxin; 53 deaths, or 23 per cent.; previous mortality, 54.8 per cent.

Baginsky: 525 cases with antitoxin; mortality, 83, or 15.6 per cent.; mortality without antitoxin, 48 per cent.

Von Mering: 74 cases; deaths, 4, or 5 per cent.; previous, 30 per cent.

Körte: 121 cases; mortality, 40, or 33.3 per cent.; previous mortality, 57.4 per cent.

Schroeder: 63 cases; deaths, 8, or 12.7 per cent.; previous, 33 per cent.

Moeller: 76 cases; mortality, 27, or 35 per cent.; previous mortality, 43.8 per cent.

Von Ranke: 225 cases; 43 deaths, or 19.1 per cent.; previous, 50 per cent.

Hilbert: 11 cases; no mortality with antitoxin.

Vierordt: 63 cases; 16 deaths, or 25 per cent.; previous, 54 per cent.

Börger: 100 cases; mortality, 8, or 8 per cent.; previous mortality, 25 per cent.

Tiemmer: 147 cases; 13 deaths, or 8.8 per cent.; previous mortality, 40 per cent.

Sonnenburg: 107 cases; deaths, 22; mortality, 20.4 per cent.; previous mortality, 27.6 per cent.

Soltmann: 181 cases with antitoxin; 44 deaths; mortality, 24.2 per cent.; previous mortality, 80 per cent.

From Switzerland, Seitz at Constance reports 27 cases treated with antitoxin with 1 death, or 3.8 per cent.; previous mortality among 293 cases treated without antitoxin, 88, or 30 per cent., and Von Musal 58 cases with only 2 deaths, or 3.4 per cent.

Holland, Van Noorden: 81 cases; deaths, 19, or 23 per cent.; previous, 30 per cent.

Van Neo: 52 cases; 12 deaths, or 23 per cent.

From Belgium, Choron at Brussels reports 13 cases; 4 deaths, or 30.8 per cent.

Christiania Hospital, Sweden: 212 treated with antitoxin; 21 deaths; mortality, 9.9 per cent. Without antitoxin, 576 cases; 114 deaths; mortality, 19.2 per cent.

From Denmark Soerensen reports 385 cases treated with antitoxin in the Blegdam Hospital with 61 deaths, or 16 per cent. Previous mortality not stated, but it could scarcely have been so low as 16 per cent.

From Russia, Rauchfuss: 34 cases treated with antitoxin; 7 died; mortality, 21 per cent.; previous mortality, 52 per cent.

Geloczy: 55 cases; deaths, 15, or 27.3 per cent.

Stinzing: 59 cases; 12 deaths, or 20.3 per cent.; previous mortality, 25 per cent.

From Japan, Kitasato, of Tokio: 353 cases; 31 deaths, 8.78 per cent.; previous, 56.5 per cent.

From Australia there is a report as late as February, 1896, by Drs. Clubbe and Lichfield, of 100 cases treated at the Sidney Children's Hospital with antitoxin and compared with that of 100 consecutive cases just preceding them without antitoxin. All diagnoses were verified bacteriologically. Of those without antitoxin the death rate was 51 per cent. Of those with antitoxin the death rate was 23 per cent. We may add that they give 59 tracheotomies with a mortality of 67.7 per cent. without antitoxin, and 48 tracheotomies with a mortality of 39.5 per cent. with antitoxin.

Turning now to France, we have the report of Roux and Martin, Hôpital des Enfants Malades, of 300 cases treated with antitoxin. Mortality, 78, or 26 per cent.; previous mortality, 50 per cent.

Le Gendre, Hospital Trousseau: 17 cases; mortality, 2, or 12.5 per cent., previous mortality, 55 per cent.

Mayzard and Perregaux Hospital: 231 cases; 34 deaths; mortality, 14.7 per cent.; previous mortality, 55 per cent.

Sevestre Hospital: 150 cases; deaths, 15, or 10 per cent.; previous mortality, 55 per cent.

D'Espine: 60 cases; mortality, 6, or 10 per cent.

Le Breton and Magdeleine Hospital: 258 cases; 31 deaths, or 12 per cent.; previous mortality, 55 per cent.

Dreyfus, Hospital Lyons: 51 cases; 5 deaths, or 9.2 per cent.

From Italy, hospital reports from Tantucci and Mucci: 13 cases; 3 deaths, or 23 per cent.; previously, 57 per cent.

Pietororo: cases treated 20; deaths, 4, or 20 per cent.; former mortality, 50 per cent.

Giarré and Matteucci: 46 cases; deaths, 18, or 28.2 per cent.

From England the earliest hospital report was from Goodall, Washbourne, and Card: 177 cases treated; deaths, 37, or 20.8 per cent.; previous mortality, 30.8 per cent.

Winkfield, 22 cases; deaths, 4, or 18.2 per cent.; previous mortality, 36 per cent.

Matthews: 61 cases; deaths, 10, or 16.3 per cent.; previous mortality, 30.8 per cent.

Gayton: 43 cases; deaths, 2, or 4.6 per cent.

Bruce: 68 cases; deaths, 10, or 14.7 per cent.

Hall: 11 cases; deaths, 3, or 27 per cent.

Fraser: 95 cases; deaths, 22, or 23 per cent.

Johnston: 105 cases; deaths, 15, or 15.4 per cent.; previous, 35.0 per cent.

Raw: 16 cases; deaths, 2, or 12 per cent.; previous, 47 per cent.

Ruffer, 274 cases; deaths, 37, or 13.5 per cent.

Sidney Martin, 75 cases; deaths, 21, or 28 per cent.; previous, 37.8 per cent.

In America, Withington, of Boston, reports 50 cases; deaths, 13, or 16 per cent.; previous mortality, 30 per cent.

Louis Fischer, of New York, hospital and private practice, 225 cases; 35 deaths, or 15.5 per cent.

Mason, 306 cases; 81 deaths, or 26.4 per cent.; previous, 48 per cent.

McCollom, 844 cases; 96 deaths, or 11.3 per cent.

Welsh, of Philadelphia, 302; deaths, 85, or 28.1 per cent., against previous mortality of 25.9 per cent. He is the one reporter with an unfavorable showing, except Springoram, in Germany, who reports 206 cases with 78 deaths, or 37.9 per cent., against a mortality of 25 per cent. without antitoxin.

We can sum up, therefore, this list of reports from 85 hospitals in every part of the world giving the treatment with antitoxin of 9,893 cases, with 1,820 deaths, or a mortality of 18.3 per cent. In 53 of these hospital reports there are given statistics of 7,277 cases with a mortality of 20 per cent. under serum treatment in which definite comparisons are made with the mortality previous to the use of antitoxin of 44.3 per cent.; thus justifying the contention that so far as hospital practice goes antitoxin has caused a reduction of fully 50 per cent. in the general death rate.

We have advisedly limited this review to hospital reports, just because it affords the best chances for the opponents of antitoxin. First, because hospital cases are much less likely to be brought in early for antitoxin treatment. Secondly, because mild cases are apt not to be brought in at all. Thirdly, because it is the uniform report from all parts of the world that the proportion of laryngeal cases is far greater in hospital than in private practice cases. On the other hand, hospital statistics afford a much more certain gauge of the previous mortality before the antitoxin treatment was used than could be obtained from the practice of physicians at large, who unfortunately so often neglect to record their cases.

Moreover, it should be noted that taking the world at large, we are more apt to have the best-trained observers on hospital staffs. Hospital experience, especially when extensive, tends to engender a safe scepticism about remedies. Indeed, the diphtheria antitoxin by no means took the profession by storm, as its predecessor, tuberculin, on its first promulgation did, but rather it had to meet with a cool reception at best both in Europe and elsewhere.

Another deduction from these statistics of a mortality of 18.3 per cent. shows that antitoxin is certainly no specific in the sense in which Dr. Winters uses the term. Whoever reports treating diphtheria with antitoxin has a number of deaths, some more, some less. Dr. Winters laid much stress upon this fact, and endeavored to substantiate by it his contention that antitoxin is no specific by citing the very different percentages of recoveries given by different hospital physicians, one percentage in Vienna, another in Berlin, another in Paris, etc. His inference, therefore, so far as we could understand him, was that if antitoxin were the specific which Von Behring alleges it

to be, then it ought not to vary in its action anywhere. As we have before remarked, such a proposition involves two things. First, that antitoxin is as definite a body in its composition and in its properties as tartar emetic, which will produce emesis alike in Paris and in Berlin. Secondly, that diphtheria may equally take on unvarying characters, so that it will then show just the same percentages of recoveries or deaths in one place as in another.

We need, therefore, only reply that the question now at issue is not whether antitoxin be a specific or not, simply because there are no specifics in the sense in which Dr. Winters uses the term, and therefore antitoxin cannot be a specific. Instead, the subject in debate is whether the treatment of diphtheria by antitoxin, when compared with other methods previously employed, shows a greater percentage of recoveries or not. All discussion not limited to this plain question is a waste of words.

We have not alluded to the great mass of testimony which is steadily accumulating from private rather than from hospital sources, because others may this evening have better opportunities than I have to adduce this evidence. No one who follows such reports in our journals will long doubt, I think, how the verdict is trending. Thus, from 33 reports in medical journals of private practice collated by Dr. Guerard, statistics are given of 3,760 cases treated with antitoxin with 296 deaths, or 7.8 per cent. These added to the 9,893 above given from hospital reports, make a total of 13,653, with a total mortality in both hospital and private practice of 15.5 per cent.

We have not alluded, either, to one of the severest tests to which the antitoxin treatment can be subjected as to its efficacy, and that is in laryngeal diphtheria. To do this part of the question justice would require a separate paper. All that we need do now is to challenge the opponents of antitoxin to answer the verdict of the medical world on this point. It will not do to report individual cases of distressing failure with antitoxin in this or that man's experience, whether in hospital or elsewhere. The answer must be why so many of the first and most eminent physicians and surgeons, not here and there, but in every civilized country unite in proving by comparative statistics of their own experience a most marked improvement, both after operations and in the prevention of the necessity for operations, in laryngeal cases since they tried antitoxin. It is ludicrous to ascribe this to an epidemic of self-deception which since the autumn of 1894 has spread its wave more universally over the medical world than ever did Asiatic cholera in its march among mankind. If so, the very ablest and best-trained men in our profession have been its victims. Rather than be forced to such a sad conclusion, it seems much more probable that a really great advance in the practice of medicine now marks the close of the nineteenth century in the introduction of the serum treatment of diphtheria and that it is a promise of greater triumphs still in this progressive branch of therapeutics.

The Chaput and Murphy Button Compared.—Chaput claims, according to the *Gazette Médicale de Liège*, that his technique is more rapid, only one suture being required instead of two; that his largest button has a smaller circumference than Murphy's smallest; that it is safer, as it does not sphacelate the intestine as does Murphy's; that it may always be inserted in good order, no matter how thick the walls of the stomach or intestine; that while Murphy's cannot be detached, this one may easily be detached by means of a sound; that it has no complicated mechanism and yet cannot be so easily imitated as the Murphy button.

A CRITICAL ANALYSIS OF DR. WINTERS' CLINICAL OBSERVATIONS ON THE ANTITOXIN TREATMENT OF DIPHTHERIA.¹

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MR. PRESIDENT AND MEMBERS OF THE NEW YORK ACADEMY OF MEDICINE: When asked some weeks ago to take part in the discussion of the antitoxin treatment of diphtheria, it was only after considerable hesitation that I decided to accept the invitation. There were several reasons for my hesitation. In the first place, my experience with antitoxin, like that of Dr. Winters, is practically confined to hospital practice, and I believe that the time has passed when hospital experience can contribute much of value to the subject under discussion this evening. One year ago the case was different. At that time we had to rely entirely upon the experience of hospital physicians, who alone had a large number of cases at their disposal. Although the testimony of those connected with these institutions has been, with one or two exceptions, favorable to the use of antitoxin in diphtheria, it was nevertheless soon recognized that the conditions of hospital practice limited greatly the value of the remedy. Antitoxin must be administered early in order to secure the best results, and we all know that cases do not, as a rule, reach the hospital until several days have elapsed from the beginning of the disease. It is in private practice only that the disease can be recognized and treated at the moment when antitoxin exerts its greatest effect. Fortunately, we have now at our command the experience of a large number of private practitioners, and it is they alone who can speak with authority on this subject. There are in this room this evening many physicians who have treated from twenty to one hundred or more cases of diphtheria with the new remedy, and I do not think that either Dr. Winters or myself is competent to express an opinion in their presence on the real value of antitoxin.

A second reason for my reluctance to engage in this discussion lay in the fact that I could hardly criticise Dr. Winters' observations of antitoxin without at the same time commenting upon the attitude which he has publicly assumed toward the administration of the Willard Parker Hospital, an institution with which I am connected in the same capacity as himself. If Dr. Winters' position is sound and his observations are correct, the city of New York has been maintaining a hospital to which children have been taken and subjected to a method of treatment which is not only useless, but has in many instances led directly to the death of those children. This has been distinctly stated by Dr. Winters at various times in his writings, and cases apparently proving the same have been described by him with the greatest detail. As these statements have been made more than once in this Academy of Medicine, it is here that they must be met and disproved if possible. It is with regret that I feel compelled to enter upon this task, but having so decided I shall perform it to the best of my ability.

A few words are first necessary as to what led to the use of antitoxin in the Willard Parker Hospital, and as to who is responsible for its administration. In the autumn of 1894 the board of health, in view of the favorable results claimed to have been obtained abroad by the use of the remedy, decided to give it a thorough trial in the hospitals under their charge as soon as a sufficient supply of serum could be obtained. The hospitals of the health department differ from the other hospitals of the city of New York in that they are provided with resident physicians, men of

¹ Read at a meeting of the New York Academy of Medicine, June 4, 1896.

mature years and of proved experience in the class of diseases which they are called upon to treat. These resident physicians are directly responsible to the board of health and only indirectly to the board of visiting physicians attached to the hospitals. The board of health, also, in addition to the medical men who compose it in part, has a number of physicians trained in their specialties to assist it in the efficient management of its hospitals. When the board of health determined to make use of antitoxin, the medical board, of which Dr. Winters and I are members, had been in existence only one year. It was eminently fitting, therefore, that the use of the new remedy should be mainly entrusted to those men who were making of it a special study, and who had proved their efficiency in the conduct of the hospitals before our medical board had been called in to assist them. Our position in the matter, therefore, has been rather that of advisers and consultants. We as a body were entirely in favor of the step taken by the board of health, and the treatment has gone on without interruption, no matter which one of us has happened to be on duty as visiting physician to the wards of the hospital. I state these facts simply to make it evident that all the visiting physicians of the Willard Parker Hospital stand on the same plane with regard to the use of antitoxin. No one of us has any special interest in its use other than to determine its real value in the treatment of diphtheria. All of us, with the single exception of Dr. Winters, have from the beginning been in favor of the thorough trial of the serum treatment, which is still going on in the Willard Parker Hospital. Having stated the above by way of explanation, I shall now take up the position of Dr. Winters, as shown by his paper read in this academy at the last meeting, with some reference also to his previous expressions on the subject. In doing so, I wish it understood that I am attacking his position, not himself. All the members of the medical board have the greatest friendliness for Dr. Winters, but we believe that he has made a grave mistake, and that he has done great wrong to the hospital of which he is one of the attending physicians, and that his words have caused widespread harm among the people of New York and of the whole country.

Before considering the evidence submitted by Dr. Winters in support of his views, let us see whether he entered upon his observations in the hospital with a mind open to conviction and free from bias. One cannot read the arguments of any of the vigorous opponents of antitoxin without being struck by the fact that they all start with a distrust of the bacteriological diagnosis of diphtheria and with a reluctance to accept the help offered by the bacteriologists to the clinicians. Dr. Winters is no exception to this rule, and as long ago as December, 1894, it was evident to the other members of our board that he had strong doubts of the curative power of antitoxin and was prepared to find it of no value. The systematic use of antitoxin was not begun until January 1st of the following year, and from the very beginning he had no faith in its virtues and was daily proving to himself that he was right in his opinion. He, however, kept his counsel and no one had any inkling of what was to take place on that memorable evening of April a year ago. After barely three months of observations on some one hundred and fifty hospital cases, Dr. Winters had decided for all time that antitoxin was absolutely without value, and, in addition, produced great harm, even to the extent of causing death in those to whom it was administered. From that time to this he has become more fixed in his convictions and has confirmed them by a personal investigation of the hospitals in Europe. I, unfortunately, was not present at the meeting last year, but I have read and reread his

vivid descriptions of patients who have died of antitoxin poisoning in the Willard Parker Hospital. Though I was not present at that meeting, I was present two weeks ago and I am here to-night.

I shall now take up some of the statements made by Dr. Winters in his last paper—first, those bearing on his observations in the Willard Parker Hospital; and, second, those relating to his visit to Europe last summer.

The Character of Dr. Winters' Evidence in the Willard Parker Hospital.—The advocates of the use of antitoxin in diphtheria insist that it must be given early in the disease and in adequate dosage in order to secure efficient action. Dr. Winters claims that even under these conditions antitoxin does not cure diphtheria. Further, he asserts that it may cause the death of the patient, as shown by the fatal result in mild cases in which it was administered in the Willard Parker Hospital. In proof of these views he cites some twenty-five or thirty cases of diphtheria of favorable prognosis in which it was given on the first, second, or third day of the disease. These cases were taken from the spring months of 1895 and 1896. Lack of time prevented his giving full details of these cases in his paper of two weeks ago, but he gave the following summary or what he called the "gist" of the cases. The formula ran somewhat as follows:

"Patient, M. C—, one day sick, small bit of membrane on the tonsil, favorable prognosis, antitoxin injected, death on the fourteenth day."

I have taken the records of the hospital and collected all the cases with fatal termination admitted in the months of January, February, March, and April, in the years 1895 and 1896, in which antitoxin was administered on the first, second, or third day of the disease. In 1895 there were nineteen such cases in which antitoxin was given on the second or third day of the disease. All cases in which treatment was begun on the first day resulted in recovery. In order to judge of the character of these cases from the standpoint of prognosis, I have first arranged them according to the age of the patient. Of the nineteen patients twelve were two years of age or less, two were between two and three years of age, one was four years old, two were five years old, one was seven years old, and one was forty-five years old. It will thus be seen that of the nineteen patients only five were above the age of three years. Now let us study the lesions in these patients. Twelve of the nineteen had laryngeal stenosis, requiring intubation or tracheotomy in all; seven of these twelve had pneumonia in addition. In five of the non-laryngeal cases there was also pneumonia. It thus appears that of the nineteen patients, seventeen had laryngeal stenosis or pneumonia or both. The single adult had impending delirium tremens on entrance. This description of these cases shows that they cannot be called mild in type nor could a favorable prognosis be given of them. In fact, the records state distinctly that the prognosis on entrance was good in only six, doubtful in five, unfavorable in eight. Now let us take the fatal cases admitted on the first, second, and third day of the disease in the early months of 1896—thirty-three in all. These patients averaged even less in age than those of the previous year. Seven were under one year of age, thirteen more were less than two years of age, four were just two years of age, five more were between two and three years of age, making twenty-nine in all, leaving only four patients over three years of age. The grade of severity of the cases is indicated by the fact that twenty-two patients had laryngeal stenosis on entrance, requiring operation in nineteen. Fifteen of the thirty-three had pneumonia, two suffered from sepsis, one (the only adult) was intoxicated on admission. The prognosis at time of entrance was

given as good in only two, doubtful in twenty, unfavorable in eleven. In view of the above, the "gist" of these cases selected by Dr. Winters should be about as follows:

"M. C—, two years old, two days sick. No membrane visible, marked croup, retraction of the chest, cyanosis. Intubation required. Prognosis doubtful. Antitoxin injected. Death on the fourteenth day. Broncho-pneumonia on autopsy"; or,

"M. C—, ten months old, three days sick. Throat full of membrane, covering tonsils, soft palate, uvula, and posterior pharynx; nose not plugged, but full of foul discharge; bilateral cervical adenitis; septic rash over body. Prognosis doubtful. Antitoxin injected. Death in nine days from sepsis."

It may be well to give a brief analysis of two or three of these fifty-two cases of the spring months of 1895 and 1896:

CASE I.—William Ashley, eleven years old, three days sick, admitted February 3, 1896. Large sheet of membrane covering tonsils and soft palate and pushing forward the soft palate from behind. Odor septic. Nose plugged so that air could not pass through nor could it be irrigated; bilateral cervical adenitis. Prognosis doubtful. Antitoxin injected.

February 24th, hemorrhagic spots on neck and legs; retraction of chest marked, owing to obstruction of the nose by membrane and of the throat by tonsils and membrane. Stiff rubber tube inserted between tonsils and breathing thus much improved. More hemorrhagic spots in afternoon.

February 25th, patient died of sepsis.

CASE II.—Harry Tarakosky, one and one-half years old, three days sick, admitted February 24, 1896. Croup, cyanosis, retraction of chest, and stridulous breathing; abscess of neck, which had been opened before admission; no membrane in throat. Prognosis doubtful. Intubation. Antitoxin. Death in three days of exhaustion.

The following case is given in order to show one type of disease in which antitoxin, in my opinion, should not be used:

CASE III.—John Leddy, thirty-two years old, three days sick, intoxicated on admission, with marked tremor. Much membrane on both tonsils, uvula, and arches of the palate. In spite of intoxication prognosis recorded as good. On the following day the patient, who had become sober, asked to have antitoxin injected, and one thousand units were given him, this small dose being considered sufficient. In ten minutes after the injection the patient became cyanosed and almost pulseless, and in five minutes more an urticarial rash appeared, covering the entire body with erythematous patches and wheals. Patient's circulation improved under stimulants, but he became violently delirious and died twenty-four hours later. On autopsy diphtheritic membrane was found extending from the pharynx down through the larynx to the lower end of the trachea, though there had been no symptoms of laryngeal or tracheal obstruction during life. Advanced nephritis, oedema of the lungs, and cirrhosis of the liver were also noted. This case would seem to show the necessity of caution in the use of antitoxin in alcoholic patients.

I have gone into the above cases somewhat in detail, as Dr. Winters insists that we should weigh, not count, our cases. These cases have been both weighed and counted, fifty-two in all, comprising all the fatal first, second, and third day cases, in the period selected by himself, the spring months of 1895 and 1896. Were he to select the other eight months of the sixteen during which antitoxin has been used, the results would be the same. Dr. Winters also insists that we should study the fatal cases, not those that result in recovery. Therefore he has not told you that for every eight of the

first-day patients who died, ninety-two recovered; and that for every twenty-four of the second-day patients who died, seventy-six recovered; and that for every twenty-seven of the third-day patients who died, seventy-three recovered.

In his paper of two weeks ago Dr. Winters stated that because of the depressing effects of antitoxin upon the heart, alcoholic stimulation was now resorted to to an extent which was never known in former days. The observation of the other attending physicians to the hospital is directly to the contrary. Since the introduction of antitoxin we have noticed that the treatment of the patients has apparently been much simplified. There has been less need of irrigation of the nose and throat, less necessity for the use of iron and other tonics, as well as a smaller consumption of alcoholic stimulants. For fear, however, that our observations were wrong and that Dr. Winters was right, I have secured a statement from the clerk of accounts and supplies of the Health Department, giving the amount of alcoholic stimulants used in the Willard Parker Hospital in the year 1894 and in the sixteen months since January 1, 1895, when the systematic use of antitoxin was begun. In 1894 there were 14,088 ounces of whiskey consumed in the hospital. In 1895 and the first four months of 1896, there were 18,240 ounces of whiskey consumed. In 1894, with 700 cases of diphtheria and 259 of scarlet fever, there was an average daily attendance of 59.38 patients, giving a daily consumption of alcohol per patient of .65 ounce, or about two-thirds of an ounce. In 1895 and 1896 to May 1st, there were 1,099 cases of diphtheria and 274 of scarlet fever, with an average daily attendance of 85.8, giving a daily consumption of alcoholic stimulants per patient of .43 ounce, considerably less than one-half of an ounce. It appears, then, that there has been less alcoholic stimulation since the introduction of antitoxin instead of an increased amount as observed by Dr. Winters.

It was stated by the writer of the paper two weeks ago that during the past year there has prevailed in the hospital a new type of uncontrollable diarrhoea. Here again Dr. Winters' observations are at variance with those of the rest of the attending staff. In the fifty-two cases which I have had occasion to analyze this evening, a slight diarrhoea is mentioned in just three. There has been but one severe case of diarrhoea during the past winter—a case of colitis—which lasted for some weeks, the patient finally recovering. I should say that we have had more trouble with constipation of the bowels than with diarrhoea. Frequently when a rise of temperature would make us apprehensive of a complication such as broncho-pneumonia or otitis media, a dose of laxative salts or an enema would bring the temperature down to normal. The ward charts of perhaps a majority of the cases show a record of laxatives ordered by the resident physician.

It has been stated by Dr. Winters on more than one occasion that he had observed a peculiar type of broncho-pneumonia during the past year in the hospital, and that there was much suppression of urine and an increased amount of albuminuria, with other signs of renal disease. It has seemed to the rest of us that the broncho-pneumonia was quite of the usual type so commonly seen in the infectious diseases of childhood. Suppression of urine has occurred with about the usual frequency and has generally been relieved by local applications and the use of diuretics. Albuminuria has perhaps been noted somewhat more often, owing possibly to the more careful examination of the urine, but it has seldom been accompanied with casts or other evidence of serious involvement of the kidneys. Cardiac weakness has not been observed more frequently than in former years. Post-diphtheritic paralysis, with the exception of temporary par-

esis of the palatal muscles, has been noteworthy by its absence. I can recall but one case in the past sixteen months in which serious paralysis occurred. In that case the respiratory muscles were involved and the patient died.

It has been stated that since the introduction of antitoxin, cases of a milder type have been admitted to the hospital, many of them having no clinical evidence of diphtheria. In my opinion, cases admitted to the hospital during the past sixteen months have been fully as severe as in the year 1894; the records show that in that year over one-third of the patients had no membrane in the throat or only a small patch on the tonsils. I remember that in the spring and autumn months of 1894 it was with difficulty that I could find patients to show students the characteristic diphtheritic deposit in the throat.

In commenting upon the present mortality of intubated cases in the Willard Parker Hospital—seventy-two per cent., Dr. Winters stated that a former resident of the Willard Parker Hospital reported a mortality of but fifty per cent. without antitoxin in laryngeal cases. Note the two classes of cases compared by him, intubated cases under antitoxin compared with laryngeal cases without antitoxin, laryngeal cases including both operated and non-operated cases. Not even Dr. White, the resident physician referred to, and whom all know to be a most skillful operator, claimed to have saved fifty per cent. of intubated cases without antitoxin. The percentage of mortality as given by him was eighty-five per cent., which are the proper figures to be compared with the present percentage of seventy-two.

In order to show the fatal effects of even a small dose of antitoxin, Dr. Winters cited the case of a child who had been exposed to diphtheria in Bellevue Hospital, had been given an immunizing dose of the serum, and had been sent to its home in Brooklyn, where it died shortly afterward, presumably from the effects of the antitoxin, as it did not develop diphtheria.

The facts of the case are as follows: The patient, Elsie Biershank, four years old, of 200 Freeman Street, Brooklyn, was admitted to the first division of Bellevue Hospital, April 3, 1896, with a history of convulsions. During her stay in the hospital she had occasional convulsive attacks. Another child in the same ward having developed diphtheria, it was deemed advisable to immunize the other children. This was done, but the supply of antitoxin not being sufficient it was given to those most exposed. Elsie Biershank was one of the children who received no serum, and was discharged before a fresh supply could be obtained. This is the statement made to me at the close of the meeting two weeks ago by Dr. E. H. Wright, the house physician of the first division of Bellevue Hospital. The further history of the case is as follows: The patient was discharged and remained well until April 29, when, after exposure to cold, she was taken with dyspnoea. Dr. J. A. Jenkins, of 271 Jefferson Avenue, Brooklyn, was called and made the diagnosis of inflammation of the base of the brain and croup. The child died at 8:30 P.M. of the same day. These are the facts of this case of antitoxin poisoning.

I have not referred to Dr. Winters' general criticisms of the results of immunization, as they will be dealt with by other speakers this evening.

There was one curious omission in Dr. Winters' paper. Although he has attributed the death of patients in a number of instances to antitoxin and has described the clinical features of antitoxin poisoning, he has failed to describe the post-mortem findings in such cases. We have made an especial effort during the past year to secure autopsies in the hospital, and a large number have been made. Dr. Winters was pres-

ent at many of these, and portions of the organs were obtained by him and sent to a laboratory for thorough histological investigation. I have heard of as many as one hundred and fifty microscopical sections having been made of the various organs, and I naturally expected a report from him of the lesions caused by antitoxin and resulting in the death of the patient. He has, however, presented none. It is possible that it may be contained in the portion of his paper which lack of time compelled him to omit at the meeting two weeks ago. I have been present at many of the autopsies myself, and have noted with care the appearances of the various organs. I do not profess to be an expert pathologist, but I have had some experience in gross pathology. Nothing was observed by myself or by any of the gentlemen present at these autopsies which had not been seen over and over again in patients dying of diphtheria and its complications before the use of antitoxin. I believe that Dr. George P. Biggs, the pathologist of the hospital, has expressed himself to the same effect. In view of the importance of this branch of our subject I shall here give somewhat at length the report made by Professor Kolisko, of the University of Vienna, of the results of seventy-five autopsies made by him on patients dying of diphtheria who had been treated by antitoxic serum. Kolisko's competency is attested by the fact that previous to the introduction of antitoxin he had made one thousand autopsies on patients dying of diphtheria during the twelve years from 1882 to 1894. His conclusions are as follows:

1st. He is convinced that the serum influences the diphtheritic process most favorably.

2d. He states that the membranes in the throat, larynx, trachea, and bronchi are more easily separated and are often already loosened or converted into a soft pultaceous mass; he had seen the same thing before the serum treatment, but never to such an extent, or with such uniformity, or so soon after the onset of the disease. It is necessary, however, that a certain period of time shall have elapsed after the injection of the antitoxin. He estimates this period as at least twenty hours. Adequate doses are also required. No such loosening of the membranes is observed after small doses. This favorable effect of the serum is especially noted when the membrane is still in the croupous stage, lying rather superficially upon the mucous membrane. When the process has penetrated deeply into the tissues the effect is much less, or absolutely *nil*.

3d. The anatomical changes in the internal organs are the same as under former methods of treatment. Purulent bronchitis and pneumonia, fatty and parenchymatous degeneration of the heart are constantly observed. The changes in the kidneys are absolutely the same, both as regards the grade of severity and the time of their appearance. Kolisko states that in former years he had often observed that for a period of time every case of diphtheria would be complicated with nephritis, and then for weeks no renal changes whatever would be seen. He has had exactly the same experience since serum has been used. Cases of the largest dosage may perhaps show no nephritis, and those of the smallest dosage may present degenerative changes. He is positive that antitoxin has no effect on the kidneys.

4th. Kolisko lays stress upon the important clinical fact that the diphtheritic process may remain localized at some hidden point, as in a crypt of the tonsil or in the nasal cavity for a considerable time, and then suddenly break out with great virulence, with fatal termination. Microscopical examination often shows a localized lesion of several days' duration in cases of seemingly rapid course in which the disease had set in suddenly in individuals apparently healthy. Such

cases illustrate how we may be deceived when we believe that we are injecting a case on the first or second day of the illness.

In his paper, two weeks ago, as well as in his former publications, Dr. Winters attributed certain statements condemning antitoxin to various physicians attached to the hospitals of the health department of this city. The resident physician of one of these hospitals was quoted as saying that he was sure that at least one of the patients under his care had died from the effects of antitoxin. I am assured by many of these physicians that they do not hold the views attributed to them by Dr. Winters, nor did they authorize him to repeat any of their statements. They differ among themselves in their opinions of the value of antitoxin, but no one of them believes that he has seen death result from its administration. The fact that Dr. Winters should attribute such statements to these men who hold official position under the health board shows how little he appreciates the significance of his own expressions on the subject.

Let me now read to you an extract, taken from the *MEDICAL RECORD* of April 20, 1895:

"I will ask you to go with me for the time being to the Willard Parker Hospital and see some of the effects of antitoxin which I have witnessed there. Babies have been brought to that hospital with slight clinical evidence of diphtheria; babies, with the exception of a slight exudate in the throat, and perhaps a slight croupy cough, that were apparently healthy and with rosy color. They remained in good condition for perhaps ten days or two weeks after receiving antitoxin, when one day as you enter the ward you hear a moan, and approaching the crib you find the baby lying on its side with its head retracted, its arms and legs flexed, and moaning piteously. This is the condition in which I have seen many of the little babies in the Willard Parker Hospital. The temperature chart shows a record of 105° to 106.8° F., and a note of the night nurse tells that the patient has hardly slept at all. What is this condition? It is due to the action of the antitoxin on the blood. *Horse¹ serum dissolves human blood corpuscles, and thereby produces new elements of decomposition. The condition of the babies just spoken of was one of antitoxin septicæmia, and brought about by the influence of the antitoxin on the blood.*

"Autopsies asked for but not granted in any of these cases. Physical examination revealed no evidence of organic disease in either of these cases; they were unquestionably cases of antitoxin poisoning."

The above words were spoken by Dr. Winters in this academy on the evening of April 3, 1895, in the course of a discussion in which he was asked to take part by the gentlemen who had been using antitoxin in the Willard Parker Hospital during the three previous months. Compare the description of these unquestionable cases of antitoxin poisoning with the nineteen fatal cases of the early months of 1895, which have been analyzed above. They are the same cases. Comment is unnecessary.

European Evidence of Dr. Winters.—I shall now take up the evidence obtained by Dr. Winters in the course of his visit to Europe last summer. Who are the great European opponents of antitoxin? Hansemann, of Berlin, Kassowitz, of Vienna, and Lennox Browne, of London.

Hansemann² read a paper condemning antitoxin early in December, 1894, at a meeting of the Berlin Medical Society. Hansemann was attached to the University of Berlin in the capacity of instructor and was also a demonstrator of anatomy. In addition, he held the place of assistant to Virchow, and it was

this last circumstance which gave importance to his words. In the *New York MEDICAL RECORD* of December 29, 1894, an editorial entitled "An Attack on Diphtheria Antitoxin," was given great prominence. The editorial states that "Hansemann's paper carries especial weight because the author is announced as the assistant to Professor Virchow, and his work and conclusions are presumably endorsed by the dean of modern pathology." In the discussion, however, which followed the reading of Hansemann's paper, much to the surprise of some of those present, Virchow announced himself as having become convinced of the value of diphtheria antitoxin. Some months previously Virchow had expressed great scepticism of the specific nature of antitoxin, and it was not known that he had changed his views. He had, however, been so impressed by the reduction of the mortality of diphtheria under the serum treatment in the Berlin Children's Hospital during the previous six months, that he was obliged to admit that the serum had curative value, although he refused to accept Behring's explanation of its action. Other speakers at the meeting, such as Von Bergmann and Baginsky, disputed Hansemann's conclusions, and proved that the great weight of evidence was against him. From that day to this, Hansemann has not said one word in regard to antitoxin, though he has continued to publish articles on other medical subjects.

Kassowitz¹ made his protest against antitoxin in January, 1895, at a meeting of the Vienna Medical Society. Like Hansemann, he did not believe in the specific nature of the antitoxic serum. His own personal experience of the remedy was limited to eight cases, all of which recovered, but, in his opinion, showed no effect from the treatment. He had also made an elaborate study of the mortality figures of the various children's hospitals of the world, and was convinced that they proved nothing in favor of antitoxin. Kassowitz was answered by Widerhoefer, the chief exponent of the serum treatment in Vienna, and it was done so thoroughly that Kassowitz has expressed no further interest in the subject.

I do not know whether Lennox Browne has changed his views of antitoxin or not. I think, however, we can safely leave him to the English, who, though they may be slow, usually come to sound conclusions in the end. Perhaps when they have successfully analyzed the recent report of the London Metropolitan Asylums Board they will be able to convince even Browne that diphtheritic antitoxin has some value.

Let us now turn to the European authorities quoted by Dr. Winters. He first mentions Dr. Cortheron, whom he describes as a London graduate, who afterward studied in Paris under Roux, and subsequently took charge of a diphtheria hospital in London. Dr. Cortheron, after watching the effects of the antitoxin treatment for a few months, went to the medical superintendent of his hospital and protested against further use of the remedy, saying that it certainly did no good—the children died just the same. Dr. Winters' next authority is Dr. Grant, "an Edinburgh student, who studied in Paris under Roux, and subsequently took charge of a diphtheria hospital in London." Dr. Grant told Dr. Winters that his experience with it had convinced him of its uselessness and of its injuriousness in certain directions. It would appear from the above that neither of these two young physicians had had any experience with diphtheria previous to the introduction of the serum treatment. Such evidence as this can hardly outweigh that of such men as von Ranke, Baginsky, Heubner, Widerhoefer, Roux, Bókai, and many others who, after an experience of from ten to twenty years in the treatment of diphtheria with

¹ Italics in original text.

² Berliner klinische Wochenschrift, 1894, pp. 1127, 1195.

¹ Wiener medizinische Wochenschrift, 1895, pp. 185, 246, 257, 291, 336.

the older methods, have now pronounced unanimously in favor of antitoxin.

Dr. Winters quoted one other European authority, Variot, whom he called a "firm believer in antitoxin," but who had, with greater experience, come to doubt its value. If Dr. Winters will turn to the *Journal de Clinique et de Thérapeutique Infantile*, 1895, No. 9, he will see that even as early as March, 1895, Variot was inclined to dwell upon the untoward effects of antitoxin, rather than upon its curative powers. Variot there ascribes to antitoxin various hurtful effects, such as excessive elevation of temperature, increased pulse rate, weakness of the heart, and arrhythmia. The last number of the *Index Medicus*, issued a few days ago, shows that Variot has continued to dwell upon the unfavorable side of the serum treatment. The following are some of the titles of papers written by him during the year 1895, and published in the French journal referred to above:

1. Are we justified in employing the diphtheritic serum for immunizing purposes in man? p. 181.

2. Observations on the new formation of diphtheritic membrane after injections of serum, p. 241.

3. Remarks on cases of diphtheria associated with tuberculosis, treated by serum and followed by death, p. 281.

4. Uselessness of diphtheritic serum in sixteen cases of toxic diphtheria followed by death, p. 381.

5. Remarks on the pathogenesis and diagnosis of the eruptions following upon injections of serum, p. 881.

There are several more titles of papers, which I shall forbear reading, not one of which indicates a favorable attitude toward antitoxin. Variot could never have been justly called a "firm believer in antitoxin." In fact, I should have included him among the opponents of antitoxin had it not better suited my argument to bring his name in at this place.

Dr. Winters mentioned two continental hospitals as having been visited by him, but, if I remember rightly, his observations extended only to the out-patient department of those hospitals. In Berlin he was much impressed with the methods by which all patients with slight affections of the throat applying to the hospital for treatment were promptly sent into the wards of the hospital, to be there subjected to the administration of antitoxin. In Paris he again noted the loose methods of administration of one of the great children's hospitals, by which children with no clinical evidence of diphtheria were allowed to pass into the hospital, to be there included as real cases of diphtheria and treated as such. It does not appear that Dr. Winters passed any considerable time within the wards of any of the great continental hospitals, in order to judge for himself whether or not the statistics of reduced mortality, of which we have heard so much, had been honestly compiled. I may note in passing that Dr. Winters, though he admits that in every part of the world the use of antitoxin has been followed by an apparent reduction in the mortality of diphtheria, claims that if such reduction be really due to the specific action of the serum it should be uniform everywhere. As he gives no reasons in support of this contention, I would simply ask "Why?"

In his paper of two weeks ago Dr. Winters stated that all the earlier claims for antitoxin had been abandoned. A very short search of the medical literature of the last few months would convince Dr. Winters that directly the contrary is the case. I shall cite a few only of the recent writings on the subject, taking them from such widely separated places as Massachusetts, England, Germany, and Japan.

Dr. J. H. McCollom,¹ of the Boston City Hospital, in an address in February last, at the Boston City

¹ Boston Med. and Surg. Jour., February 13, 1896, p. 178.

Hospital Club, gave a résumé of the experience in his hospital during the previous year. He stated that, under the serum treatment there had been but 96 deaths of 844 patients treated, or a mortality of 11 per cent., as compared with 40 per cent. in previous years. Of 79 patients intubated only 36 had died, a mortality of 45 per cent. In the previous year of 86 intubated patients 74 had died, a mortality of 86 per cent. He stated also that there was a great change for the better in the appearance of the diphtheria wards, due to the favorable effect of antitoxin on the patients. His whole address was enthusiastic in praise of the new remedy.

Turning now to England, we have the report of the Metropolitan Asylums Board. Although this report leaves much to be desired from the standpoint of clearness, there are some results which are unmistakable. Among these the following are most striking: The mortality in laryngeal cases is reduced, under the serum treatment, from 62 per cent. to 42 per cent., and in operative cases the death rate has fallen from 70 per cent. to 50 per cent. The conclusions, which are signed by all the superintendents of the six hospitals, are as follows: "We are of the opinion that in antitoxic serum we possess a remedy of distinctly greater value in the treatment of diphtheria than any other with which we are acquainted."

In Germany the most recent decided expression of opinion on the value of antitoxin is by Professor Bäumler,¹ of Freiburg. In his opening address, as president of the Congress of Internal Medicine, at Wiesbaden, April 8, 1896, Professor Bäumler said that "the antitoxic serum represents the most important therapeutic advance of modern medicine." He continued that "after eighteen months' trial in Europe and America, the fact is established that the serum treatment is an extraordinarily effective method of curing diphtheria, and is not injurious if given with the necessary precautions."

I shall also refer here to a paper by Dr. Crohn,² of Halberstadt, because he states that he wrote it on seeing the notice in the Berlin papers of the death of the son of Professor Langerhans. Fearing the effect upon the public mind of the words of Professor Langerhans, Crohn believed it to be the duty of every one who had had experience with diphtheria antitoxin to publish that experience. Dr. Crohn had had occasion to use antitoxin in one hundred and fifty cases of diphtheria in private practice. He had had but five deaths in the whole number, although, in his opinion, he would have had at least twenty without serum. The five deaths occurred in cases which had not been seen early or had not been recognized as diphtheria. He had not had any evil effects beyond eruptions, joint pains, and temporary albuminuria, although forty of the cases were severe. In his opinion, "He who does not admit the value of serum, must be bound by theoretical considerations, and cannot have seen an epidemic in which the serum has been properly given, in sufficient dose, in the beginning of each case." Dr. Crohn also used antitoxin for immunizing purposes, and states that of three hundred children immunized not one was injuriously affected beyond urticarial rashes. Of the three hundred patients not one took diphtheria within four weeks of the injections. Seven had the disease after from four to six weeks. All were mild cases, lasting three days only.

Perhaps the most conclusive evidence of the appreciation of antitoxin by the Germans is afforded by their changed views in regard to intubation. The Germans have been reluctant to accept intubation in place of tracheotomy because they feared that the pro-

¹ Centralblatt für innere Medicin, April 25, 1896, p. 430.

² Deutsche medicinische Wochenschrift, April 23, 1896, p. 268.

longed stay of the tube would injure the larynx. Von Ranke and others now state, however, that the use of antitoxin permits the earlier removal of the tube, and that they can now make use of intubation with advantage where formerly they employed tracheotomy.

Finally, we have the report of Kitasato.¹ Among 353 cases treated in Tokio there were only 31 deaths (8.78 per cent.). The death rate in Japan in previous years averaged 56 per cent. Of 110 cases injected within forty-eight hours of the onset of the disease, all recovered. Kitasato noted the early separation of the false membrane as well as a fall of temperature, almost critical in many cases.

In the foregoing analysis of Dr. Winters' clinical observations I have not attempted to estimate the exact value of antitoxin in the treatment of diphtheria. I have kept steadily in view the task I set myself at the outset, the task of proving that the children in the Willard Parker Hospital have not been injuriously affected by the administration of antitoxic serum. This purpose I believe I have accomplished. Incidentally it has also been demonstrated that the position of Dr. Winters in regard to antitoxin does not stand the test of critical examination. His descriptions of cases of antitoxin poisoning in the Willard Parker Hospital have no sound basis of fact, and they have not been confirmed by other observers, though they were published to the world more than a year ago.

DIPHThERIA WITH AND WITHOUT ANTI-TOXIN.²

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THE study of infectious diseases is one of the most important and interesting in medicine.

The astonishing claims made for this new remedy, antitoxin, led me to review my records of cases and to some extent the literature for the same period.

From March, 1888, to March, 1895, inclusive, I treated 176 cases for Demilt Dispensary without antitoxin. As this period in part antedates the bacterial diagnosis, I counted the tonsillitis cases for the same period. There were 551 cases of tonsillitis. In earlier years many membranous cases in scrofulous children were called exudative tonsillitis; therefore no tonsillitis cases are among the diphtherias. The mortality for the seven years was 13.06 per cent. During the year from March, 1895, to March, 1896, I treated 64 cases with 5 deaths; a mortality of 7.8 per cent. The mortality of the total number, 240 cases, was 11.25 per cent. This compares more than favorably with the report of the health inspectors, who treated 255 tenement-house cases with antitoxin, with a mortality of 15.69 per cent.³

Saltmann, of Leipsic, reports 122 antitoxin cases with a mortality of 18 per cent. However, in 1884-85 the physicians of Leipzig collected 1,141 cases under general treatment with a mortality of 15 per cent. before antitoxin was known. In 1,321 cases collected by the *British Medical Journal* in 1858-59 the mortality was 14.28 per cent. without antitoxin.⁴ These were average years in all respects, and tend to show that from 10 per cent. to 15 per cent. is the ordinary mortality in Germany and England as well as in America.

Such cases form a better practitioner's standard than statistics from hospitals, because the latter receive

many very severe cases, while mild ones remain at home.

It seems a singular coincidence that the number of cases of diphtheria should increase so markedly with the establishment of bacterial cultures in 1893. During the three years previous to that year the number of reported diphtheria cases in this city was 4,359, 4,974, and 4,654 respectively. The numbers then jump to 6,469, 9,155, and 9,925 for the next three years, *i.e.*, to the end of 1895.

Similar reports come from Berlin, the cases treated in that city being 3,502 and 3,772 in 1891 and 1892; but bounding to 4,296 in 1893 and to 5,240 in 1894. The ratio of deaths had a corresponding fall from 36.7 per cent. in 1893 to 28.5 per cent. in 1894. The antitoxin used in the hospitals could not so change the death rate of the entire city.⁵

My personal experience showed me that many persons never presented clinical evidence of disease. A case in point is the C—— family. A boy of five years had diphtheria on October 12th. The Klebs-Loeffler bacilli were found. On November 7th the rooms were fumigated. One week later the inspector reported bacilli in the throats of the mother and another child. A week later he reported a fourth child, though neither children nor mother believed themselves ill nor took any treatment. Such instances swell the number of reported cases to 9,925.

In the New York Infant Asylum when diphtheria existed there "a systematic examination of the throats of the healthy children showed that diphtheria bacilli were present in so large a number that in order to isolate these nearly one-half of the inmates were quarantined."⁶

We know that the bacilli are in many places and in many throats without giving rise to symptoms. Klebs-Loeffler bacilli were found upon the floor of the diphtheria ward of Boston City Hospital, on scrapings from the shoes of attendants and upon their hair.⁷

Roux and Yersin found identical bacilli in 26 of 50 healthy children. They believed them to be Klebs-Loeffler bacilli deprived of their virulence.⁸

Park says: "As is well known, cultures of living bacilli vary from day to day in their virulence."⁹

Something more than the presence of bacilli is needed to constitute the disease diphtheria. Koplik gives more practical advice when he says: "It is proper to regard all specks on the tonsil as suspicious and liable to be diphtheria." "Virulent diphtheria may coexist with follicular tonsillitis."¹⁰ There certainly is an intimate relation between diphtheria and tonsillitis, and I feel sure that in future we shall diagnose fewer cases of tonsillitis and more of diphtheria. In fact, while making the distinction, I have for years given to exudative tonsillitis the same iron treatment I would prescribe for its congener, diphtheria.

The number of deaths from diphtheria in this city in 1894 was 2,359; in 1895, from the same cause, 1,634. The two years are compared, and by some persons antitoxin is credited with the fall in mortality.¹¹ This is not entirely fair, as 1,634, a low rate in a mild year, is compared with the fatal list of 1894, the greatest diphtheria death list on record in this city, *i.e.*, 2,359. The nearest approach to this was in 1875 when 2,329 died. The following year, in 1876, the diphtheria deaths fell to 1,750 and in 1877 dropped to 951, a fall of 800 in a year, and no enthusiasm was created. In 1881 the diphtheria deaths were 2,249,

¹ Behring: *Deutsche Med. Woch.*, 1895, No. 38, p. 623.

² Biggs: *Med. News*, November 30, 1895.

³ Weight and Emerson: *Sajous' Annual*, 1895, vol. i., 1-4.

⁴ *Sajous' Annual*, 1892, J. 2.

⁵ *MEDICAL RECORD*, 1895, vol. xlvii., p. 485.

⁶ *Arch. Pediat.*, 1892, vol. ix., p. 662.

⁷ Fowler: *Minutes N. Y. Co. Med. Soc.*, November 25, 1895.

¹ *The Lancet*, March 7, 1896, p. 637.

² Read before the New York Academy of Medicine, June 4, 1896.

³ Biggs: *N. Y. Med. Jour.*, April 13, 1895.

⁴ Reynolds' "System of Medicine," 1879, vol. i., p. 77.

but fell the next year 724 points to 1,525. These and many marked fluctuations may be seen by any one who will consult the health board reports.

Fractional reports are very misleading.

Farr lays down the rule "that the determination of mortality requires an extensive area of observation, both in space and time, . . . as the causes affecting life are so various that we can only hope to unravel their influence by a general analysis through a series of years."¹

In the reports of the health department regarding the Willard Parker Hospital, we, as New Yorkers, may take just pride. The mortality in that institution as published in the official reports has averaged 24.08 per cent. from 1889 to 1895 inclusive, the time parallel to my records. In 1894, 703 patients with diphtheria entered, of whom 195 died; mortality 27 per cent. In 1895, 822 entered with diphtheria and 190 died, a mortality of 23.10 per cent. The gain is, therefore, less than 4 per cent. for 1895, an antitoxin year, as compared with the most fatal year on record. Many tables quote a series of 32 cases treated at this hospital with a mortality of 25 per cent. against a previous mortality of 42 per cent. By reference to the original article² it is seen that these were cases of three years and under and not representative of all treated. By reference to the table showing percentage of deaths to age in 1894, we find under two years 70.07 per cent. and the same in 1895, namely, 70.59 per cent. From two to four years we have 46.28 in 1894 and 41.50 in 1895, and that with only eight months of 1895 in the count.³ The gains were nearly all made in children over four years old. Much is said of the wonders of 1895 with antitoxin and its low fatality, 23.10 per cent.; but the mortality was still less in 1888, 1889, 1890, and 1893 without antitoxin.

The hospital's best years are in the enthusiasm of the moment forgotten. Lennox Browne⁴ gives the statistics of the Asylums Board hospitals in London from 1888 to 1894, the same period just quoted. During the six years 11,598 cases of diphtheria were treated, with a mortality of 30.3 per cent. During 1895 the same hospitals treated 2,182 cases by antitoxin with 615 deaths, *i. e.*, 28.1 per cent. There were 1,347 more cases treated in the same places and year without antitoxin. It is only when these 1,347 cases without antitoxin are included that the mortality falls to 22.5 per cent.

The report from the Boston City Hospital for December, 1894, and January, 1895,⁵ is an honest example of antitoxin enthusiasm. Eighty patients were given antitoxin, with a fatality of 16 per cent. At the same time 40 were treated without serum, "partly because of the patients entering moribund in five cases, in six because the patients entered very late in the disease. It seemed wise to withhold it in favor of more promising cases, but the majority of cases was mild." The treatment of these mild moribund cases resulted in 30 per cent. of deaths. The health officer who came to Randall's Island hospital declined to give antitoxin to those whom he thought would die, because "it would increase the percentage of deaths." Nor would I inject such cases. The point I insist upon is that all the deaths under any treatment and all hopeless cases are compared with antitoxin, but that it is given when there is promise of good results and withheld in hopeless cases. The advantage of early treatment has been insisted upon for every method ever recom-

mended. Of course the time to put out a fire is at its beginning.

Before giving my results in treatment I will quote what success has attended other remedies than antitoxin.

'Huebner' reports 117 cases treated by antitoxin with 10.2 per cent. mortality. He had 46 complicated cases, with 21 per cent. mortality. Yet in 1889 he reported a reduction of scarlatina diphtheria from 35.5 per cent. to 10 per cent. by injecting carbolic acid into the tonsils.⁶

Hennig gives a collective report of 1,054 cases, with a mortality of 2.7 per cent. by the same carbolic-acid treatment.⁷

Seibert's mortality with chlorine injections was only 5.7 per cent. in 35 cases.⁸

Hübner,⁹ of Frankfort, extols frequent applications of chloride of iron locally. He treated 52 cases with a mortality of 3.8 per cent. Six of them were thought hopeless.

Rosenthal reports 79 genuine cases treated by the same iron treatment; mortality, 8.8 per cent.¹⁰

Flahaut reports 40 cases in which petroleum was brushed on the throat every hour or two. There were no deaths.¹¹

Larcher reports 42 with same treatment and 2 deaths; mortality, 4.7 per cent.¹²

Loeffler himself uses alcohol, toluol, and ferric chloride locally. He reports 71 cases in private practice with no deaths. Also 30 hospital cases with 16.66 per cent. mortality.¹³

Jacobi reports 40 consecutive cases treated with mercury and iron. Mortality, 2.5 per cent.¹⁴

The diphtheria cases at the New York Foundling Asylum from 1890 to 1893 inclusive are especially interesting, as all showed the Klebs-Loeffler bacilli.

The treatment was trypsin, papoid, and hydrogen peroxide. The results were a mortality of 50.7 per cent. in 1890, 52.2 per cent. in 1891, reduced to 38.3 per cent. in 1892 and to 27.64 per cent. in 1893—321 cases in all. Dr. J. L. Smith in reporting them modestly remarked: "Results due in part to change of type and also improved treatment."¹⁵ These ratios surpass that of antitoxin and they are neither ancient nor foreign history. Their mortality in 1895 with antitoxin was 45 per cent. Billington reported a total of 225 cases in dispensary tenement practice. The diagnosis was corroborated by Dr. A. H. Smith, Dr. W. T. White, and others. The treatment was iron internally, with carbolic acid and lime water locally. The result was a mortality of 8.4 per cent. in cases fairly tested.¹⁶

But I will pause. In one evening's work I noted more than 7,000 cases with a mortality of 8.8 per cent., and this without including reports of 571 cases with only 6 deaths, and the like. Most of them are from private practice.

Examining my own cases for the year 1895, I was surprised to find so many more than in previous years.

The explanation is not difficult. With the profession at large, I found myself more particular about exudates in the throat than in former years and more ready to say "diphtheria." The bacterial culture would often help and often fail. Of the 64 cases 14 were reported in the negative as to Klebs-Loeffler bacilli.

¹ Deutsch. med. Woch., 1895, No. 42, p. 687.

² Sajous' Annual, 1890, vol. i., J. 7.

³ Berlin klin. Woch., 1889, p. 130.

⁴ Arch. Ped., 1891, vol. viii., p. 428.

⁵ Therap. Monatsh., Berlin, 1892, 6, p. 690.

⁶ Loc. cit.

⁷ Brit. Med. Jour., April 22, 1893.

⁸ Sajous' Annual, 1894, vol. i., H. 26.

⁹ Deutsche med. Woch., October 18, 1894.

¹⁰ Med. News, June 15, 1895, p. 679.

¹¹ Sajous' Annual, 1894, H. 30.

¹² Billington and O'Dwyer: "Diphtheria and Croup," Wm. Wood & Co., 1889, p. 211.

¹ Annual Rept. Health Dept., N. Y. C., 1892, p. 15.

² White: Medical News, No. 1,140.

³ Park: Trans. N. Y. State Med. Association, 1895, vol. xii., p. 173.

⁴ "Diphtheria and Its Associates," 1895.

⁵ Withington: Boston Med. and Surg. Jour., 1895, March 14, p. 249.

Two of these 14 were foetid cases. In two the germs were found on subsequent examination. Two had extensive exudate and nose bleed. Another had exudate on the palate, uvula, and tonsils. Another was the mother of four children with diphtheria, one of whom died of the septic form. The mother complained of the inflammation of her throat, but no membrane presented. Two died without culture reports, yet the bureau of records did not discredit the diagnosis.

Two cases not in my diphtheria report are of interest—a brother and sister who were typical scarlatina patients. Both had exudate in the tonsils which

clinically was not diphtheria. However, cultures showed Klebs-Loeffler in one but not in the other. Both recovered without treatment. Another girl had scarlatina with marked exudate in the throat and had discharge from the nose. Loeffler bacilli were found and paralysis developed later.

The general mildness of the cases is shown by the fact that only two were intubated. One of these had pneumonia during the week that he wore the tube. He recovered after a hard struggle.

My treatment during 1895 was the same as for several years previous. A few initial doses of calomel, tincture of ferric chloride throughout, strychnine when

TABLE SHOWING RESULTS OF TREATING DIPHTHERIA WITHOUT ANTITOXIN.

No.	Name.	Number of Cases.	Deaths.	Per Cent.	Treatment.	Operations, etc.	Reference.
1	Sutton	43	13	3	Turpentine.	3 Tracheotomy obviated.	Deutsche med. Zeitschrift, 1883, p. 157.
2	Roose	58	3	5.03	" ice bag	1 Tracheotomy...	Therap. Monatsh., Oct., 1887.
3	Baruch	39	2	5	"	"	MEDICAL RECORD, Dec. 24, 1887, p. 784.
4	Dellteil	134	8	5.9	" vapor	Mild cases	Jour. de Méd. de Paris, July 12, 1886.
5	Murray-Gibbes....	163	1	.0	Oil-of-eucalyptus vapor ..	14 laryngeal; 1 died, 8 months; 19 nasal.	London Lancet, 1883, i., p. 316.
6	S. W. Smith	30	5	16.66	Tent " no stimulants	New Zealand	Australian Med. Jour., Oct. 15, 1888.
7	Billington	98	10	10.2	Iron, carbol. ac., aq. calcis	"	Trans. N. Y. Acad. Med., 1876
8	"	55	2	3.6	" " " " "	"	"
9	"	32	3	10	" " " " "	All seen by White, Bullard, and others.	MEDICAL RECORD, Jan. 12, 1878, p. 21.
10	"	40	(?) 4	10	" " " " "	Consecutive	MEDICAL RECORD, March 27, 1880.
11	Stowell	240	28	11.25	Iron, hydrogen peroxide..	Died, 9.5%, if those who died in 24 hours are eliminated.	MEDICAL RECORD, 1895, vol. xlvii., p. 556; Trans. N. Y. Acad. Med., 1896.
12	Aggregate of the Leipzig physicians.	1,141	171	15	.....	.....	Sajous' Annual, 1888, vol. iv., p. 307.
13	Collected by Brit. Med. Jour.	1,321	189	14.28	.....	.....	Reynolds' "System of Medicine," vol. i., p. 77.
14	Hennig collects...	1,054	28	2.7	Carbolic acid in tonsil....	.....	Berlin klin. Woch., 1889, p. 130.
15	Seibert	35	2	5.7	Chlorine in tonsil .....	.....	Arch. Ped., 1891, vol. viii., p. 428.
16	Hübner, Frankfort	52	2	3.8	Iron locally .....	.....	Therap. Monatsh., Berlin, 1892, vi., p. 690.
17	Rosenthal	79	7	8.8	" " .....	.....	Therap. Monatsh., Berlin, 1892, vi., p. 690.
18	Flahaut	40	0	.0	Petroleum locally .....	.....	Brit. Med. Jour., April 22, 1893.
19	Larcher	42	2	4.7	" .....	.....	Sajous' Annual, 1894, vol. i., H. 26.
20	Loeffler, private...	71	0	.0	Iron and toluol .....	.....	Deutsche med. Woch., Oct. 18, 1894.
	" hospital	30	5	16.6	" " " .....	.....	.....
21	Jacobi	40	1	2.5	Iron and mercury .....	.....	Med. News, June 15, 1895, p. 679.
22	J. L. Smith	183	27	13.1	Papayotin, H ₂ O ₂ .....	.....	Sajous' Annual, 1894, H. 30.
23	Hutton, Minn....	209	12	5.74	Arg. nit., 20 gr. to 3 i., so long as any membrane.	.....	MEDICAL RECORD, April 9, 1887, p. 417.
24	Carter, U. S. A....	34	0	.0	Mercury—12 had paralysis; in 11 previous cases 4 died.	.....	Med. News, Nov. 27, 1886, p. 593.
25	Werner	17	2	11.76	Bichloride	Prev. 60-70%	St. Petersburg med. Woch., 1886, R. F., iii., p. 81.
26	Stumpf	31	2	6.45	"	Prev. 22 of 29	Munch. med. Woch., 1887, p. 219.
27	Oatman, Nyack...	34	1	2.94	"	Prev. 10 of 23	MEDICAL RECORD, April 23, 1887, p. 465.
28	Rothe	40	0	.0	" .....	.....	.....
29	Bree and Sellden, provincial officer with colleagues.	1,400	69	4.9	Cyanide of mercury .....	.....	London Lancet, March 24, 1888, p. 591.
30	Corbin, Brooklyn..	30	5	16.6	Mercuric sublimate; 4 died septic.	.....	N. Y. Med. Jour., March 10, 1888, p. 261.
31	Ahlfeld	110	30	28	Chinolin, 5% sol .....	.....	Jahrb. f. Kinderh., 1884, p. 463.
32	Knaggs, London..	75	0	.0	Ppt. sulphur .....	.....	Therap. Gazette, March 15, 1888, p. 153.
33	Fruitnight, N. Y..	30	2	6.6	Iron and sod. hypophos..	Atomizer	Arch. Ped., Oct., 1888, p. 601.
34	Adamson	55	2	3.6	Bromine .....	.....	Practitioner, London, July, 1885, p. 16.
35	Mercier	100	5	5	Chloral locally .....	.....	Le Concours Méd., Aug. 27, 1887, p. 411.
36	Hatfield, Chicago..	18	0	.0	Hydrogen peroxide .....	.....	Arch. Ped., Feb., 1888, p. 102.
37	Noël (epidemic)...	60	2 or 3	5	Borax hourly .....	.....	Le Concours Méd., May 26, 1888.
	TOTAL	7,262	644	8.8			

needed as a late stimulant, but no alcohol. Locally, peroxide of hydrogen, fifteen volumes, reduced to half strength by water and a little soda sometimes added. This is sprayed or syringed according to circumstances. Practically no remedy will so readily find and so thoroughly clear the many tortuous chambers of the naso-pharynx as the hydrogen peroxide. With the same class of patients and the same remedies I unconsciously lowered my mortality from 13 per cent. to 7.8 per cent. Had this been a new treatment these results would have been wonderful.

In reviewing the results of antitoxin treatment I find that I could not escape the unusual complications.

A table will show the frequency of broncho-pneumonia, nephritis, etc., with and without antitoxin:

HOSPITAL OF NEW YORK FOUNDLING ASYLUM.

1894, no antitoxin: 133 cases, 32 die = 40.62 per cent., with broncho-pneumonia.
1895, with antitoxin: 94 cases, 43 die = 79 per cent., with broncho-pneumonia.

CASES IN LONDON. (Brit. Med. Jour., April 4, 1896.)

1894, no antitoxin: 50 cases, 1.6 have broncho-pneumonia.
1895, with " 80 " 3.6 " " "

WILLARD PARKER HOSPITAL.

1894, no antitoxin: 24 cases, 16.9 per cent. with broncho-pneumonia.
1895, with antitoxin: 66 cases, 53.2 per cent. with broncho-pneumonia.
1894, no antitoxin: 1 case, 0.7 per cent. has nephritis.
1895, with antitoxin: 3 cases, 2.42 per cent. have nephritis.

The increase of broncho-pneumonia is so marked that we must believe that the presence of antitoxin favors the development of pneumonia germs.

The proportions of laryngeal stenosis and sepsis fell off in 1895 as compared with 1894.

The paper by Dr. Welch¹ has had a wide reading because of the great number of cases tabulated. But if the premises are wrong the conclusions cannot be right. The paper is based on the reports of antitoxin advocates, and those alone. The only comparison is with the deaths these same men think they had before antitoxin, when all deaths were counted.

No. 68 in his tabler eports 225 cases, with mortality of 15.5 per cent. *vs.* about 55 per cent. previously—an accurate statement against a guess. This author says: "I have therefore reduced my mortality somewhat by not injecting hopeless cases of septicæmia."

No. 69 is a report of 255 cases, "mostly in tenelements." Mortality, 15.69 per cent. *vs.* 25 per cent. to 45 per cent. previously—hundredths of a per cent. against a sliding scale of 25 to 45 per cent. The only published records I can find of similar cases are by Smith, Billington, and Stowell, which aggregate 495 patients, with mortality of 10.50 per cent.

No. 70 is of 164 hospital cases, with a fatality of 27.4 per cent. *vs.* 32 per cent. previously. The official reports of the same hospital have averaged 24.08 per cent. since 1888, as published by the health board.

No. 82 is Mason's report of 306 cases in Boston City Hospital, with a mortality of 26.4 per cent. As stated previously in this paper, 40 cases were eliminated in this hospital in the six weeks from December 13th to January 31st, and their mortality was 30 per cent.

In Dr. Welch's Table II. the mortality in operative cases with antitoxin is given as 61 per cent. *vs.* "90 per cent. (?) previously"—another inference. Lovett² recorded all the operations from 1886 to 1891—in all, 719 cases; mortality, 74.13 per cent.

In Table II. Kraske is reported as treating 16 cases

by tracheotomy and antitoxin; mortality, 31.25 per cent. Previously he did twelve tracheotomies without antitoxin. The mortality was 6.25 per cent. better without antitoxin than with it, yet Dr. Welch says: "Kraske's exceptional series is of so few cases [only 5 (?) with and 12 without serum] as to be without significance." If such numbers have no significance, thirteen reports based on the same and smaller numbers should be dropped from Table I., and fifteen reports, *i.e.*, one-third, from Table II. of operative cases.

Körte reports 81 recoveries to 40 deaths, *i.e.*, 33.1 per cent. mortality, but the original article says 10 moribund cases at the same time were not injected.

Heim³ reports his cases in two groups: one of 27 cases, mortality 22.2 per cent., one of which cases was on hand when the report was made. Group 2: "21 cases, 4 of which died and 12 of which are on hand at time of report, but 10 of them will surely get well, giving a probable mortality of 28.5 per cent." Only half of this report appears in the table.

In four hospitals the mortality rose as the supply of serum failed, and fell when serum was resumed. Naturally so, as all suspected cases get serum and all moribund and hopeless ones are eliminated. When there is no serum there is no elimination of hopeless cases. A chain is no stronger than its weakest links.

As a method to convince myself of the value of antitoxin, I resolved to use it entirely in my service at the Randall's Island hospitals and at Demilt Dispensary during the following year. If it will do as claimed (Welch)—reduce my mortality by one-half and give me 3.5 instead of 7.8 per cent. for 1896—I shall be glad to report myself next year a hearty advocate of the treatment.

Thus far my mortality with antitoxin at Demilt has been 12.5 per cent., and at the hospital 53 per cent. This study of my personal experience will, of course, convince no antitoxin advocate; but with more than 7,000 creditable cases to agree with mine, it seems that the "behind-the-times" physician has good ground for a conservative view.

For immunizing nothing is better than fresh air and sunlight. My cases last year occurred in fifty families. In only eight of them did the cases duplicate. As Rotch⁴ says: "With extreme care there is not much danger of the spread of diphtheria in a household, as its tendency is not to disseminate itself in the surrounding atmosphere."

This study of my own and others' cases convinces me of the following points:

That diphtheria is very variable in extent and severity, both epidemically and clinically.

That the diagnosis of true or false diphtheria requires as much care bacteriologically as clinically.

That the unusual number of cases recorded is in part due to bacterial cases without symptoms and the general alertness of physicians now to report suspicious cases.

That the same causes plus elimination give the apparently low ratio of deaths.

That cleanliness and ventilation will immunize as well as hypodermic serum.

Diphtheria is a treacherous disease under any treatment. Selected cases and faithful treatment of any reasonable kind lead to success. Jules Simon was correct in saying: "Efficiency of remedy not only, but fidelity in its use" give results.

28 WEST THIRTY-SIXTH STREET, NEW YORK.

Ether Collapse.—One part of camphor to ten parts of olive oil used hypodermically is effective in ether collapse. One grain of camphor may be given.

¹ Johns Hopkins Bulletin, July, 1895.

² MEDICAL RECORD, 1895, vol. xlvii., p. 421.

³ Quoted by McNaughton in Med. News, August 27, 1892.

⁴ Wien. med. Woch., 1895, No. 4.

⁵ J. M. Rotch: Pediatrics, 1896, p. 829.

PERSONAL EXPERIENCE IN THE TREATMENT OF DIPHTHERIA WITH AND WITHOUT ANTITOXIN.¹

By P. H. ERNST, M.D.,

NEW YORK.

SINCE May, 1895, I have treated in private practice and as visiting physician to the Demilt Dispensary seventy-seven cases of diphtheria. I report only those cases in which the clinical diagnosis was sustained by the bacteriological report from the board of health. Of these seventy-seven cases twelve were treated with antitoxin, and sixty-five were treated without antitoxin. In all cases iron was given, with the local application of peroxide of hydrogen to the nose and throat; mercury was not used, except an occasional dose of calomel to act on the bowels.

I wish to say that most of these cases were of dispensary patients, and that their sanitary surroundings and nursing were often of the very worst. A brief account of the twelve cases treated with antitoxin is interesting.

CASE I.—J. S——, aged four years. Ill two days; membrane on tonsils and pharynx; some dyspnoea, showing involvement of larynx. In twelve hours laryngeal obstruction became so severe I resorted to intubation, with relief of dyspnoea; at the same time I injected twenty cubic centimetres of Gibier's antitoxin. On the fourth day I removed the tube, but three hours later had to reintubate. Another injection of ten cubic centimetres of antitoxin was given. The membrane did not disappear until the tenth day, when the tube was removed and the child recovered.

CASE II.—M. K——, aged five years. Had complained of sore throat for several days; examination showed tonsils and palate covered with pseudo-membrane. Three hours later I gave injection of fifteen cubic centimetres of Gibier's antitoxin. The next day marked dyspnoea showed extension of membrane to larynx; the same night intubation had to be done for the relief of the dyspnoea. I removed the tube on the seventh day. Convalescence was very slow and at the end of three weeks the patient developed a bronchopneumonia, which terminated in a cavity of the right lung.

CASE III.—A. K——, aged three years. Ill two days; when I saw her there was diphtheritic membrane on tonsils and palate. I injected fifteen cubic centimetres of Gibier's antitoxin; the throat cleared of membrane on the eleventh day and she recovered.

CASE IV.—A. L——, aged eight years. Had been ill two days; diphtheritic membrane on tonsils, pharynx, and in nose; glands of neck much swollen. I gave twenty cubic centimetres of Aronson's antitoxin. Next day the membrane had extended; the patient grew worse, and died on the third day, with marked meningeal symptoms.

CASE V.—P. B——, aged twelve years. Ill seventeen hours; diphtheritic membrane on tonsils, palate, and pharynx; cervical glands swollen. I immediately gave injection of ten cubic centimetres of antitoxin prepared by the board of health. The patient grew steadily worse, and two hours before death had convulsions. He died twenty-eight hours after injection of antitoxin. No examination of urine had been made.

CASE VI.—W. G——, aged six years. Parents stated that the child was in perfect health until 5 P.M.; he then complained of headache and vomited. I saw him two hours later. Examination of throat showed a small patch of membrane on the left tonsil. Ten hours later and twelve hours after the child was first taken ill, I injected five cubic centimetres (or fifteen hundred units) of antitoxin prepared by the board of

health. The membrane continued spreading and covered both tonsils and palate; death ensued twelve hours later.

CASE VII.—G. B——, aged two and one-half years. Had been ill three days before I saw her; membrane on tonsils and palate; cervical glands swollen. I gave injection of ten cubic centimetres of board-of-health antitoxin. As there was no improvement in twenty-four hours, I gave another injection of five cubic centimetres of antitoxin. The child died on the fifth day.

CASE VIII.—G. S——, aged two years. Diphtheritic membrane on tonsils only; had been ill twelve hours. I injected ten cubic centimetres of Aronson's antitoxin. Next day the membrane had extended to the pharynx and dyspnoea showed invasion of the larynx. Another injection of antitoxin was given; stenosis increased and it became necessary to intubate. This was done, with relief to dyspnoea. The third injection of antitoxin was given without the slightest sign of improvement in the child's general condition or the appearance of the throat. He died on the fifth day. Two brothers of this child were suffering from diphtheria at the same time; they were treated without antitoxin and both recovered.

CASE IX.—J. K——, aged three years. Had been ill four days; when first seen examination of throat showed pseudo-membrane on tonsils and palate. Fifteen cubic centimetres of Aronson's antitoxin were injected. Next day the membrane had invaded the larynx. Intubation was done for the relief of laryngeal obstruction; the membrane cleared away on the seventh day and recovery followed.

CASE X.—M. M——, aged twenty months. Diphtheritic membrane on tonsils only. I gave injection of ten cubic centimetres of antitoxin prepared by the board of health. The child died in convulsions fifteen hours after injection.

CASE XI.—B. F——, aged nine years. The child was ill twenty-four hours before I saw her; tonsils, palate, and pharynx covered with pseudo-membrane; glands of neck much swollen. I at once gave injection of ten cubic centimetres of antitoxin (board-of-health preparation). No improvement was noted; the child died on the fourth day.

CASE XII.—G. K——, aged three and one-half years. Ill two days; tonsils and palate covered with membrane. I gave injection of five cubic centimetres of antitoxin of board of health. The throat gradually cleared of membrane; the child was well on the tenth day.

Of these twelve cases treated with antitoxin I considered eight as severe and four as mild in character. Four patients were intubated, one of whom died. Ages of those who died: Three were from twenty months to two and one-half years old, one six years, one eight years, one nine years, and one twelve years. The ages of those who recovered ranged from three to five years. Recovered, five; died, seven. Mortality, over fifty-eight per cent.

A description of a few of the cases treated without antitoxin is in order:

CASE I.—J. R——, aged five years. Had just recovered from measles; membrane on tonsils and pharynx; glands of neck much swollen. The throat cleared on the eighth day. On the tenth day there was suppression of urine, and the child died of uræmic convulsions.

CASE II.—J. C——, aged two and one-half years. Had been ill several days; membrane on tonsils and pharynx; severe dyspnoea showed invasion of larynx. The child had rickets, and was anæmic; the cervical glands were much swollen, and his body was covered with large sores, supposed to be pemphigus. Intubation gave relief to dyspnoea. On the fourth day I removed the tube; three hours later I was called to re-

¹ Read before the New York Academy of Medicine, June 4, 1896.

insert it. The following day broncho-pneumonia was diagnosed and treated. The pneumonia resolved; the tube was removed on the tenth day and the child made a good recovery. This was the worst case I ever saw, and recovery was little short of miraculous.

CASE III.—R. S—, aged two years. Membrane on tonsils and palate; laryngeal obstruction became so severe that intubation was done. The tube was removed on the fourth day; dyspnoea gradually subsided, and the child was well on the twelfth day.

CASE IV.—J. A—, aged three and one-half years. Had been ill three days without medical care; pseudo-membrane on tonsils and pharynx; glands of neck much swollen; dyspnoea severe. The same night I saw the child it almost died from laryngeal obstruction. Intubation was done, the tube being removed on the fifth day. Twelve hours later it again became necessary to intubate. The tube was removed on the eighth day; recovery was complete.

Forty-two of the sixty-five cases treated without antitoxin were of a severe form, while twenty-three I considered mild in character. Eleven patients were intubated, with four deaths. Of the total number of sixty-five cases treated without antitoxin there were eleven deaths, giving a mortality of seventeen per cent. Five deaths occurred in children between the ages of six months and two years, two between two and four years; one was five years, one six, and two ten.

When I began the use of antitoxin I had implicit faith in its remedial effects, but careful observation of the cases just enumerated convinced me that antitoxin does not exert the slightest favorable influence on the course of diphtheria. In fact, it is my opinion that the antitoxin patients who recovered had a more protracted convalescence, the anæmia especially being more marked and less amenable to treatment than in those who recovered without antitoxin.

Progress of Medical Science.

Painful Temporary Paralysis in Children.—Dr. Brunon discusses painful temporary paralysis occurring in young children. Out of twenty-two cases two had paralysis of the lower extremities, all others having the arm only involved (*British Medical Journal*). In all there was an absolutely sudden onset, sometimes following the slightest traumatism; often no cause was observed. The paralysis is complete from the onset; amelioration is gradual. The child screams when the slightest examination is attempted. No anatomical lesion is found except occasional creaking of the joints. Recovery takes place in from twenty-four hours to a week. Most authors take the view that there are in such cases anatomical lesions such as subluxation, stretching or twisting of ligaments. Brunon believes with Chassaignac that in the cases in question any idea of fracture, dislocation, or tearing of ligaments may be dismissed, as no deformity, ecchymosis, or interrupted movement of joints can be found. A differential diagnosis is needed between this and the form of paralysis due to partial dislocation of the head of the radius, a pathognomonic sign of the latter being the impossibility of supination. In the cases under consideration all hung limply by the side and could be freely flexed, pronated, or supinated. The initial lesion may be an injury to ligaments, but examination fails to localize the injury. Pain is general from shoulder to finger tips. The condition appears to be due to a reflex inhibitory action, of which other examples are numerous and which affords a rational explanation of the paralysis. An intellectual factor, the memory of the initial pain, explains the persistent crying of the child, the fear of being touched. There

is no pain when the child is not handled. Much depends on the influence of suggestion made by those in charge of the child.

Blood Changes in Syphilis in Relation to Therapy.—Dr. Reiss has studied the hematic changes observed in a number of syphilitic patients who were under systematic mercurial treatment. Two hundred cases in all were observed, and in most of these subcutaneous injections of sublimate were administered. The results of his investigations have been published in the *Deutsche Medizinische Zeitung*, March 2, 1896, and may be briefly summarized as follows: The red-blood corpuscles are diminished in number even in the earlier stages of primary syphilis. When the cutaneous manifestations appear this diminution becomes more marked and gradually increases as the disease advances. Even after treatment has been begun this corpuscular decrease continues for a certain length of time. The number of leucocytes remains unchanged during the period of primary invasion. Later on, when the skin eruptions appear, a gradually increasing leucocytosis is observed. In regard to the reduction of the proportion of hæmoglobin, it begins as early as the first appearance of induration in the primary sore. Later on it steadily increases. But the appearance of the eruption has no further perceptible effect in this connection. Under mercurial treatment a steady increase in the proportion of the red corpuscles is observed. After a systematic course of mercurial treatment the proportion of leucocytes to other corpuscles is found to be normal. Pushed beyond a certain limit, mercurial treatment no longer results in an increase of red corpuscles. On the contrary, a reduction in their number is noticeable. The blood plaques of Bizzozero are in no way affected either by the disease or by mercurial treatment. It will be seen that these observations merely confirm what has been generally accepted by the profession as explaining the beneficial effects of mercurial treatment in syphilis.

Gonorrhœal Immunity.—Dr. Janière recently endorsed the theory of Guiard to the effect that gonorrhœa is a self-limited disease, recovery following after a varying length of time, without any treatment other than ptisanes, bath, and hygiene (*American Journal of the Medical Sciences*). Abortive treatment does not succeed rapidly and fully until the period of acute inflammation has passed. A patient, either male or female, apparently though not really cured, is capable of transmitting a subacute gonorrhœa—that is, the colorless drop of secretion is capable of inoculation if it contains a few gonococci. He believes that the gonococcus during its evolution modifies its culture medium—i.e., the urethral mucous membrane. It continues to grow there, but becomes more and more attenuated and latent, until it finally disappears. Unless this be true, a gonorrhœa untreated would last indefinitely, the cocci multiplying and reinoculating themselves in the infected urethra continuously. When the virulence begins to diminish abortive treatment succeeds. If, on the other hand, this attenuated gonococcus comes in contact with a healthy mucous membrane in another individual it is immediately rejuvenated, prospers, and produces acute gonorrhœal symptoms, since it finds there a suitable culture medium, which is not exhausted like that whence it came and where it was about to die. The objectors to this theory say: If you admit that the rôle of the culture medium is thus superior to that of the microbe, how can you explain acute attacks in men having gleet? How can their exhausted mucous membrane become reinoculated? Guiard believes reinfection is impossible in cases where the gleet discharge contains cocci. He, however, reserves his opinion regarding this form of relative immunity until further facts are procured.

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THE ANTI-VIVISECTION BILL OF THE DISTRICT OF COLUMBIA.

THE anti-vivisection bill of the District of Columbia, concerning which so much has been said and written and against the passage of which so many protests from leading medical societies have been made, is apparently holding its own against the opposition of the entire medical profession of the country. So far as has been learned, the United States Senate is committed in its favor, and there will be a struggle in the House the coming autumn to secure its passage. The influences behind it are all-powerful, and although it is nominally backed by the Humane Society of the District alone, the latter organization has the endorsement of the National Humane Society, with active working branches throughout the different States. The bill itself is ingeniously framed with the apparent intention of conceding everything reasonable to experimental scientists, but is in reality intended to hamper them in every possible way by the restrictions as to details of procedure in given cases, which are virtually under the supervision of laymen, whose knowledge of requirements is naturally biassed by preconceived notions of antagonism. The movement is founded almost entirely on the erroneous assumption that most if not all experimental work in the line of vivisection is founded on cruelty and that parties interested in its development are necessarily brutal. Any appeal based on such arguments is very apt to enlist the active co-operation of every humane individual, lay or scientific, and to be convincing to every one who may give the subject casual attention. For the purpose of enlisting popular sentiment against present methods numerous stories are told of cruelties perpetrated in physiological laboratories which are calculated to arouse indignation and to stimulate every laudable instinct of antagonism against their continued perpetration. Especially is this evident in connection with some of the so-called horrors of foreign vivisection. While some of these may have enough of truth in them to call for action, they are nevertheless so highly colored with impossibilities as to lose their true force on calm examination. The profession of medicine is humane by instinct, its training is such as to stimulate and develop sympathy for the weak and suffering, and why it should be charged with such an entirely opposite character it is more than difficult to imagine. Its highest mission is the avoidance of pain and suf-

fering in all conceivable varieties of these conditions, and that any exceptions should be made in the case of helpless animals passes every reasonable conception. So far as mere cruelty is concerned, which is never necessary, the profession is only too willing to lead any and every movement calculated to lessen its infliction rather than be forced by a few cranks to act on the defensive. It does not become us to go over the old story of the benefits which mankind has derived from laboratory investigation, of the knowledge of living processes that otherwise would never have been known, the countless number of lives saved as the result of such work, the extent to which preventable diseases has been limited, the improvement in operative methods which has guaranteed safety to the human subject, the increased number of valuable therapeutic agents added to our materia medica, the practical knowledge of toxicological actions of valuable remedies, and the indispensability of animals in the proper scientific proving of bacteriological problems upon which in future may depend the wider and grander possibilities of orrhototherapy. All these are so much matters of history as to require no reiteration, nor does it serve any practical purpose to offer arguments on facts which are either purposely misinterpreted or boldly denied. All such matters were settled long ago by such as are best able to judge. What concerns the profession now, however, is the means to the end of defeating the intentions of the advocates of the bill in question. Unless something more is done than appears to have been done already, Congress may pass the bill, and it may be both too late for protest and past the time for prayer. There is no doubt that if this bill becomes a law it will be the basis of a similar law for every State. Every physician should in his individual and public capacity use every influence upon members of Congress to avoid the chance of trusting such vital scientific interests to the mere chances of a passing vote. When the bill comes before the House the friends of progressive science should be ready and in waiting.

INCOMPATIBLES FROM THE DRUGGISTS' STANDPOINT.

PHYSICIANS are very apt to be critical as to the work of the druggist who compounds their prescriptions. In a series of articles and discussions in the *Journal of Medicine and Science*, several druggists have presented their side of the question, and show that doctors sometimes do not prescribe in an ideal way. Mr. T. J. Stevens, of Portland, Me., after making some observations upon the subject of "Incompatibles, Chemical and Therapeutical," states that a rather common mistake is made in prescribing the salts of the alkaloids. The addition of an alkaline hydrate to a solution of these salts causes them to precipitate. He had, at the time of his writing, a prescription containing a mixture of morphine sulphate, bromide of soda, and cinnamon water, in which the bromide of soda decomposed the morphine salt, precipitating the pure alkaloid. Another noteworthy incompatibility is that of

tannin with the salts of the alkaloids. A prescription was received containing tannic acid and sulphate of morphine. This produces an insoluble tannate of morphine. Another curious thing, that still continues to be prescribed, is "colorless tincture of iodine," made by the addition of hydrate of potassium to tincture of iodine. This is really a solution of the alkaline iodides. Mr. Stevens remarked that the medical profession is unusually generous in supplying material for his discourse, and soon after getting his morphine and bromide prescription he received one containing calomel and syrup of iodide of iron. The calomel is decomposed by the iodides or bromides and metallic mercury is liberated, which is described as "a powerful poison"—a statement to which we can hardly agree; but, all the same, it is not what the patient is expected to receive when calomel is prescribed. A frequent incompatibility is the addition of tincture of iron to some bitter tonic containing tannin, by reason of which the patient receives a more or less agreeable preparation of ink. If water is added to tincture of cannabis indica in a prescription, as is sometimes done, the resin of the cannabis rises to the top and the patient gets a very strong dose, unless the bottle is well shaken.

The Portland physicians seem to be, on the whole, however, rather careful prescribers. The occasional mixing up of mucilage of acacia with spirits of nitre or other strongly alcoholic fluids, and the addition of iodine to oil of juniper, are examples of what might be considered "breaks" in the matter of proper prescribing.

In the discussion by physicians, which followed that of the druggists, the possibility of making mistakes or prescribing incompatibles does not seem to be very much considered. The burning question in Portland seems to be, rather, whether a physician should prescribe at all or should dispense his own drugs. Radical opinions were expressed upon both sides, but the general view was the very sensible one, that both practices should be adhered to.

LAPAROTOMY FOR PTOSIS.

THE activity of the surgeon as regards the opening of the abdominal cavity has undergone many changes, with, however, a constant tendency to an increase in the indications for the operation. From laparotomy, at first simply for ovarian tumors, the operation extended to the entire removal of the ovaries and adnexæ, and then to that of the uterus and pretty nearly all the pelvic organs. An important diversion was made when the operation for appendicitis became popular. Later, the vogue became and still exists to operate upon the kidneys, although this, of course, does not usually involve entering the abdominal cavity. For a long time operations upon the liver, stomach, or bowels have been frequently undertaken.

Perhaps the latest extension of the application of abdominal section is to the treatment of Glénard's disease. Mr. Frederick Treves, in a recent number of the *British Medical Journal*, gives a description of

this trouble, and reports a case in which he opened the abdomen for the purpose of relieving the condition. Glénard's disease, or abdominal ptosis, has been described in these columns a number of times. It can hardly be called a disease at all, but is a series of symptoms, more or less definite, depending, it is supposed, upon relaxation of the abdominal wall and of the supporting ligaments of the viscera. The right bend of the transverse colon is first to fall, then the stomach is drawn down, then the rest of the transverse colon, and, finally, the whole mass of the small intestine becomes prolapsed. The liver and kidney become loose and are described as "floating." The result of these conditions depends necessarily upon the extent to which the ptosis has involved the viscera. There are general disturbances of an anæsthetic character, nervousness and hysterical phenomena, and dyspeptic obstruction of the bowels, sense of weight and dragging, and pain over the region of the viscera.

Mr. Treves' case was that of a young woman who had suffered from this condition for a long time. He advised the operation of laparotomy, and found that the liver and stomach were low down. The great omentum was rolled up into a round and rigid cord, and fixed in a collection of old tuberculous glands, situated in the mesentery of the ileum. These glands were removed and the viscera replaced. The patient made a good recovery and was much improved.

Mr. Treves' case will probably set surgeons to work upon this new field, which, we trust, will be explored with wisdom and caution.

THE DISCUSSION OF ANTITOXIN BEFORE THE ACADEMY.

THE interest manifested in the discussion of the use of antitoxin in diphtheria before the New York Academy of Medicine at the last two meetings of that body has called forth such a large quantity of valuable material on the subject that we have been compelled, contrary to our custom, to devote an unusual amount of space to one topic. This has been done in view of the apparent necessity for giving all parties concerned an impartial hearing, and in thus presenting the fullest authoritative report possible under the circumstances. We venture to say that never before in the history of antitoxin have so many and valuable facts been presented in a single number of any journal, bearing upon the practical applications of the agent to so large and varied a number of cases. The data thus collected have their own importance in enabling our readers to judge for themselves as to the real value of this new but extensively tried treatment for diphtheria. The pros and cons have a fair presentation, and the disputants show an earnestness of purpose and purity of motive in the presentation of their respective sides which must commend itself to the thoughtful consideration of every seeker after truth. It is fair to state, however, that all the available testimony has not yet been offered, as in a future issue we shall publish a carefully prepared report from the American Pædiatric Association, comprising an analysis of many thousands of cases bear-

ing upon the present questions at issue. In view of the great popularity of the antitoxin treatment, the whole subject deserves the most careful study, the most impartial examination of facts, and the greatest deliberation in arriving at a calm and just conclusion. It is for the sake of affording the necessary means to such an end that the *MEDICAL RECORD* virtually devotes one of its issues to the discussion in question, to the necessary omission of its more usual variety of contents. Whether or not any apology is necessary under the circumstances, we leave our readers to determine.

News of the Week.

Contract Medical Practice in California.—At the recent meeting of the California State Medical Society in Los Angeles, a resolution was introduced to the effect that in the opinion of the society it is contrary to the spirit and letter of the code of medical ethics to perform contract lodge practice, and that in the future no physician be admitted to membership in the society who holds such a position, and that members who may now be thus engaged be warned that a renewal of their contract will be construed as contrary to the spirit of this resolution. This was referred to the executive committee, which reported favorably, and it was decided by the society to bring the resolution up for consideration at the next meeting.

Two Suits against Ohio Doctors are reported in the *Columbus Medical Journal*. In her petition in the first case the plaintiff states that she was ill and required the use of hot applications to her body, and her sufferings were so intense that the defendant, as her physician, deemed it advisable to use anæsthetic remedies and narcotics, so that the plaintiff became unconscious, and while in such condition defendant caused hot plates and irons to be placed upon and about her, heated so hot that they burned her feet to a crisp, leaving wounds and sores from which she has never recovered. In the second case a woman sues for \$10,000 damages sustained by the death of her husband. She alleges that the surgeon told her her husband was suffering from appendicitis and that it would be necessary to perform an operation upon him to save his life. She gave her consent, but for a week after the diagnosis had been made and the arrangements made for the operation, her husband was allowed to suffer until he became weak and emaciated, and was then carried ten miles in an ambulance into the country for operation. She claimed that her husband was under the influence of the anæsthetic for an hour and a half, the effects of which, with the alleged unskillfulness on the part of the surgeon, are said to have been the cause of the patient's death on the day following the operation.

Medical Nomenclature.—There seems to be a tendency, in the coinage of new words to express new thoughts, to choose the most cumbersome word to the exclusion of one that is euphonious and correct in its

formation. Thus, the barbarous sero-therapy or serum-therapy appears to have gained the field in place of the much better "orrhotherapy." Organo-therapy is another wretched word, which might well be replaced by "opotherapy" (from the Greek word for juice), as suggested by Professor Landouzy, of Paris.

A Scientific Objection to a Hygienic Measure.—It is not often that a public measure of known sanitary value is opposed because its action cannot be satisfactorily explained, yet this is what Dr. Patrick Manson has recently done. He has been delivering the Goulstonian Lectures on malaria, and in his last lecture warns the Indian government against the unwisdom of sanctioning the expenditure of large sums of public money on certain drainage schemes which have been proposed for rendering salubrious some pestiferous districts, and bases his opposition to the scheme on the ground that our knowledge of the plasmodium malariae is incomplete. He holds the theory, which has been advanced also by Marchiafava, that the plasmodium is conveyed to man by the mosquito, and his idea appears to be that, because this pestiferous insect is not driven from a locality as soon as this is drained, therefore drainage is of doubtful utility as a sanitary measure, in regard, at least, to malaria. But the mosquito does not create the plasmodium, and if the latter be exterminated, it is difficult to see how the mosquito can still transport it.

The Medical Profession Passed By.—In the list of "birthday honors," that is to say, of persons upon whom a knighthood or baronetcy is conferred by the Queen on her birthday, there appears the name of no medical man in civil practice this year, although some army surgeons have received decorations. It is seldom that some one of the British profession is not so honored each year, and there is more or less keen disappointment in consequence.

Autotoxice Insanity.—At a meeting of the Medical Society of London, on May 11th, Dr. Allan McLane Hamilton, of this city, read a paper on the connection of autotoxis with certain forms of insanity, in which he considered at length the dependence of certain forms of psychic disturbance on the absorption of the soluble products of intestinal putrescence. The following were the conclusions of his paper: (1) Urines rich in indican contain very little or no preformed sulphuric acid, and are toxic; (2) when the sulphate ratio is materially changed it probably indicates autotoxis in connection with an increase in the amount of combined or ethereal sulphates; (3) such indications are generally found with acute insanities in which rapidly developing symptoms occur; (4) fugacious and changing illusions and hallucinations, unsystematized delusions, confusion, and verbigeration in connection with insomnia, pallor, intestinal indigestion, constipation, and rapid exhaustion are due to autotoxis; (5) paranoiac states, or those in which concepts are the main feature, chronic stuporous conditions, and certain forms of dementia have little to do with the formation of the intestinal products of putrefaction; (6) various post-febrile, traumatic, alcoholic, or drug insanities

are those in which autotoxis is most constant; (7) the variations in the excretions of combined sulphates keep pace in the changes with the progress of an established insanity, *accès* and epileptiform attacks being directly connected with putrefactive processes; (8) the most successful treatment consists in lavage, intestinal douches, gastric and intestinal antiseptic by means of hydrochloric acid, borax, salicylate of soda, charcoal, guaiacol, or naphthalin, in small and repeated doses, associated with the administration of a combination of the red marrow from the small bones, blood, and glycerin.

Passaic River Pollution.—The Passaic River pollution commission, consisting of Dr. Herold, of Newark, Dr. Marsh, of Paterson, W. T. Hunt, of Newark, and W. G. Scott (secretary), of Paterson, which has been gathering statistics as to the quantity of refuse daily dumped into the river by the cities along its course, recently held a conference with the health officers and property owners of towns along the river, in order to obtain information as to its effects upon the public health and real estate values in these towns. The unanimous opinion was that the Passaic River was in a frightful condition. According to the report of this conference in the *Evening Post*, property values have become depreciated in both the towns, and prominent residents have been obliged, because of the stench arising, to close their houses and move elsewhere. All along the river roads stand a string of mansions which are deserted by their owners. Within the recollection of young men the river was a clear stream and the fishing industry cut a considerable figure. Now it is a dirty, noisome mass of sewage. It was formerly a favorite boating resort, but the boat-houses along its shores are being abandoned and turned to other uses. The residents along its banks are obliged to close their windows even on hot summer nights in order to keep out the smells. It is impossible to rent desirable houses, and property owners are consequently unable to pay taxes. The sewage, instead of being carried out to sea, is floated back and forth on each tide until it is deposited to decompose. The acids formed have so eaten the boilers of some of the factories that the owners have had to put down artesian wells to secure a water supply that they could use.

The *British Medical Journal* of May 23d is a Jenner centenary number, the greater part of its space being devoted to the life and works of Jenner and to a discussion of vaccination. Among the special features the most interesting is the reproduction of thirty colored plates by George Kirtland, contrasting the sore resulting from small-pox inoculation with that following vaccination, the differences being shown day by day from the second to the sixteenth day inclusive. The plates were published in 1802, and were accidentally discovered in a London bookstall some ten years ago by Mr. G. W. Collins. Little seems to be known of Kirtland except that he was an artist who did good work, having among other things illustrated Freeman's "Mechanism of the Horse's Foot," published in 1796, in which work the author speaks of

him as "a draughtsman who could represent with accuracy anything that was set before him." The reproduction in the *British Medical Journal* is excellently done.

Diphtheria Antitoxin in Hungary.—Prof. J. Bókai, of the Stefania Hospital, in Budapest, has treated four hundred and two children suffering from diphtheria with antitoxic serum of German, French, and Hungarian make respectively. He noted a mortality of 22.5 per cent. In those cases which required operative measures the mortality rose to 44.5 per cent, while in lighter cases it sank to 10½ per cent. Taken as a whole, the mortality from diphtheria in Budapest attained in pre-antitoxic times an average of from 34 to 37 per cent., while in the days of serum treatment the mortality is 21 per cent. It is also to be noted that formerly only from 8.6 to 15.2 per cent. of the diseased escaped operative interference, while under serum treatment 26 per cent. of the cases did not require any operation for laryngeal obstruction. In 22 per cent. a more or less marked exanthema followed the injections, especially those which had been effected with Hungarian serum.—*The Lancet*.

Curious Methods of Hospital Begging in London.

—In commenting on the expressed disapproval by the Hospital Sunday Fund of street collections on Hospital Sunday, *The Lancet* says that on a recent Sunday in a certain part of London there was a street procession organized in aid of a hospital, the name of which is charitably withheld. In addition to the usual bands and banners of friendly societies which accompany these processions, there were tradesmen's carts, decorated with flowers and vegetables, the name of the owner of the vehicle being, of course, conspicuously visible. But the principal "attraction" was a man on what was supposed to be a sick-bed, and attended by two nurses, one of whom was a qualified nurse and the other a person masquerading in a nurse's costume.

Jefferson Medical College.—At the annual meeting of the Philadelphia chapter of the Alumni Association of Jefferson Medical College, on June 1st, Dr. Allen H. Hulsizer was elected *President*, Dr. John Lindsay *Secretary*, Dr. William B. Atkinson *Corresponding Secretary*, and Dr. H. Hansell *Treasurer*. It is announced that the trustees of the college have purchased the property immediately adjacent to the college on the north extending to Sansom Street, so that it has now secured control of all the property on the west side of Tenth Street from Walnut to Sansom. Mr. William M. Singerly has given \$6,000 to Jefferson Medical College Hospital. The provost of the University of Pennsylvania, Mr. C. C. Harrison, and also Mr. Thomas McKean, have each contributed \$1,000. Dr. Daniel Baugh has been elected a member of the board of trustees.

Poisonous Fish.—The item with this title in a recent issue, which, when we found it, had become a newspaper waif of unknown paternity, was originally, we are informed, published in *Our Animal Friends*.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 4, 1896.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

THE meeting was devoted to the completion of the programme of May 21st, when Dr. C. G. Coakley read a paper, "Statistics of Diphtheria," and Dr. Joseph E. Winters one, "Clinical Observations on the Antitoxin Treatment of Diphtheria, and a Report of Personal Investigation of This Treatment in the Principal Fever Hospitals of Europe during the Summer of 1895" (see page 877).

Personal Experiences with the Antitoxin Treatment.—The discussion was opened by a paper by DR. P. H. ERNST with this title (see page 907).

Diphtheria with and without Antitoxin.—DR. W. L. STOWELL read a paper on this subject (see page 903).

How the Facts about the Antitoxin Treatment Should be Estimated.—DR. W. H. THOMSON opened the general discussion with a paper bearing this title (see page 893).

DR. GEORGE L. PEABODY said the criticisms which he had thought of making upon Dr. Winters' paper had already been stated by Dr. Thomson. It certainly was not fair to claim that a remedy was no remedy at all because the reduction in mortality produced by it was not uniform in all parts of the world. Some doctors did allow antitoxin to be used upon themselves; he himself received a large dose last winter, and with no unpleasant effects except a local urticaria, which soon passed off. If deaths had occurred he believed the cause must have been some extraneous substance. As with other remedies, some persons were more susceptible to its benefits and exceptional effects than others. Dr. Peabody had given antitoxin and had seen it given frequently, and thought one who had seen the diphtheritic child come out of a semicomatose state under its influence and within forty-eight hours sit up in bed and play with toys must have been impressed with its remedial power. Dr. Peabody said he was awaiting further testimony.

DR. ANDREW H. SMITH sent a communication, which was read by the secretary, containing statistics received from Washington regarding diphtheria throughout the country and in Washington before and since the introduction of the antitoxin treatment. It was remarkable how the reduction in mortality had gone hand in hand with the administration of antitoxin. Where a considerable quantity had been used the death rate had been low; where but little or none was used the death rate had been about the same as in former years. The figures from boards of health in various cities gave 5,125 cases treated with antitoxin, with a death rate of ten per cent.; without antitoxin in the same places 2,936 cases, with a death rate of 41 per cent. Of 2,400 children who were given immunizing doses, 19 developed mild diphtheria within two days after the treatment. No other effects were noted. In Washington the mortality had been reduced more than one-half. The secretary also read limited statistics received from Chicago. Dr. Smith said in his communication that personally he was in favor of antitoxin.

A Critical Analysis of Dr. Winters' Clinical Observations on the Antitoxin Treatment of Diphtheria, was the subject of the remarks made by DR. JOHN WINTERS BRANNAN (see page 897).

DR. H. W. BERG thought that if there was more broncho-pneumonia since the introduction of the anti-

toxin treatment the explanation lay in the fact that more patients lived a sufficient number of days to develop that complication. Dr. Winters had spent much time and money to make out a case against antitoxin, yet, after all the evidence had been summarized, Dr. Berg felt that there was not much to it. In the first place, it was all based on hospital cases, which were well known to be the least favorable for antitoxin treatment. "A judgment based on hospital statistics was necessarily and absolutely fallacious." Yet, as Dr. Brannan had said, they had had fair results at Willard Parker's compared with the pre-antitoxin period. In private practice he had found antitoxin the most marvellous remedy for diphtheria which he had ever used.

DR. AUGUST CAILLÉ said he had come prepared to prove that Dr. Winters' communication had no scientific value whatever, but some of the other speakers had already done that. Dr. Winters had not given the latest figures; these had been given to-night, and went to show that even in hospitals the reduction in mortality had been very great. Dr. Caillé had recently returned from the meeting of the American Pædiatric Society at Montreal, and had some of the figures of a collective investigation as to the use of antitoxin in private practice, by which it appeared that the mortality from diphtheria when treated early with antitoxin was less than five per cent. Dr. Caillé's own experience had been very favorable indeed, and the cases which had been most convincing were those of diphtheritic croup. His former mortality in this class of cases had been seventy per cent., whereas under antitoxin he had had ten croup cases recover in succession, an experience which he had never had before. Dr. Joseph O'Dwyer had written him of like favorable results, and said that where he used to put the tube in he now took it out.

Dr. Caillé thought we should not take this whole matter very seriously. It seemed that opposition was one of the accompanying features in the evolution of scientific medicine. It existed with regard to vaccination even to-day, as well as on the day of its birth.

DR. ERNST, of Boston, said that he and his colleagues in Boston had been extremely interested to know on what grounds the attacks on antitoxin were based. He had charge of the production of antitoxin for Boston, and was in a position to give the statistics of its use up to date. Returns had been made to him in 1,164 cases, all told. Of these, 983 were from the Boston City Hospital, 181 in private practice. Of the 983, 831 recovered, 152 died, making a mortality of 15.6 per cent., compared with a mortality of about 40 per cent. for years previously. Of the 181 cases in private practice, 161 recovered, 15 died, or a mortality of 8.2 per cent. That was exceedingly interesting, because the general mortality taken from the report of the board of health showed for no year the past twenty years a lower mortality than 26.5 per cent. Dr. Ernst had reports of 346 cases in which antitoxin had been used for immunizing purposes, 273 of which were in the Children's Hospital, where it was the routine practice to immunize nurses, patients, and resident staff once a month. During the last eighteen months they had succeeded in completely obliterating two epidemics by that procedure; 84 cases were in outside practice. In no instance had there been a report of albuminuria or unfavorable result. He thought that alone ought to be a sufficient answer to the charge that antitoxin had produced the ill-results charged against it. There had been no report of diphtheria developing after the use of immunizing doses.

DR. GEORGE MCNORTON, of Brooklyn, said he had been called in consultation to 89 patients with laryngeal diphtheria, all of whom except 5 were intubated; 59 recovered, 30 died, just about reversing his figures

during the period when antitoxin was not employed—72 cases, with 48 deaths, 24 recoveries.

DR. W. H. PARK said that of two thousand cases in which antitoxin had been used for immunizing purposes in the city there had been no symptoms except in two: in one of these convulsions, in the other hyperpyrexia. In only six did diphtheria develop between the sixth and the thirtieth day. A number of hospital epidemics had thus been wiped out. Recently they had sent out notes to a number of physicians who had reported fatal cases, and of 25 fatal cases it was stated that antitoxin was not used in 15, and in only 1 of the 10 in which it was used was it used early; in that instance only 500 units—an insignificant dose, in Dr. Park's opinion. Regarding experience at the Willard Parker, he must agree with Dr. Brannan, not having seen the ill effects mentioned by Dr. Winters, which were said not to have existed before the introduction of antitoxin.

DR. HEROLD, of the board of health of Newark, gave some figures regarding diphtheria in Newark prior to and since the board of health had begun to supply its physicians free with antitoxin in July, 1895. The figures showed a marked reduction in mortality for the period during which antitoxin had been used.

DR. H. F. KOESTER had injected for the board of health of New York in 200 cases in tenement houses; 160 recovered; 40 died, a death rate of 40 per cent. Properly, 12 of the fatal cases should be excluded from the list, which would leave the mortality 14 per cent. During the same period he immunized 214 cases, in none of which he saw bad results. Since then his immunization cases had been increased to 355. Four developed diphtheria within twenty-four hours, showing that infection had already taken place. They recovered. During another period he had injected 60 diphtheria patients, 15 per cent. of whom died. There was occasionally a rash, but less frequently since the more concentrated serum was being used.

DR. J. M. MABBOT believed the actual number of deaths from diphtheria had not diminished markedly since the introduction of the antitoxin treatment. There was now frequently a bacteriological diagnosis where formerly physicians would not have considered it diphtheria. He thought that where antitoxin had been used in private practice it was usually in mild cases, in which a favorable result could be expected. He was awaiting further experience before feeling assured of the value of this treatment.

DR. WINTERS, in closing, corrected some errors in the statistics given by Dr. Thomson for England and Germany, which seemed to present the case against antitoxin instead of for it in those particular hospitals. Likewise in the case of Boston, an analysis of the facts presented a different picture from that made by the statistics which Dr. Ernst had just read. It was stated that the mortality in that city for 1895 was 14.4 per cent., while for 1893 it was 32 per cent. But Dr. Ernst had neglected to state that in 1895 there were 112 more deaths from diphtheria in that city than in 1893. All the reports from over the world had a similar stamp. Where there was a decreased mortality reported, there was an increased total of cases, not a decrease in the actual number of deaths. Due consideration must also be given variations in the type of the disease.

Replying to Dr. Brannan's remarks, he said that if one would sit down and study carefully the chart of each case at the Willard Parker, he would find a different clinical picture from what had existed in cases of diphtheria prior to the use of antitoxin. Whether it was due to the serum or not he could not positively say, but he could conceive of no other cause. He was sorry Dr. Dorning was not present, who said he had been compelled to give up antitoxin in private

practice, because all of the seven patients on whom he had used it had died; that so able a practitioner as Dr. Francis Huber was not present to give his experience, having declared to him that it was a humbug; and so with others.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, May 30, 1896.

W. R. PRYOR, M.D., CHAIRMAN.

Anencephalia, Acrania.—DR. SARA WELT-KAKELS presented a foetus of about the twelfth week without brain or upper cranial bones. The cause of the abortion was endometritis.

Multiple and Pedunculated Fibroid of Uterus.—DR. H. T. HANKS presented a uterus with multiple fibroids, one of which, springing from near the cervix, had become pedunculated and twisted, interfering with its nutrition and starting fatty degeneration in its walls. It could be felt up near the umbilicus through the thin and relaxed abdominal walls. The woman had borne four children, had had two miscarriages; the last labor occurred a year and a half ago when, on account of the obstruction, the child had to be removed piecemeal. Dr. Hanks thought the tumor must have so obstructed the pelvis that a child of usual size could not possibly have passed. The operation was by suprapubic hysterectomy. The patient was doing well.

Quintuplets.—DR. HIBBE presented photographs of five babies of one labor and of the placenta, which had been given him during a flying trip south. All that he had learned of the case was that the mother was thirty-nine years old, had borne seven children, had had no trouble up to the sixth month of her last pregnancy, when she consulted Dr. Mathews on account of her great size. Labor came on at the eighth month. Dr. Mathews found the os dilated, the membranes ruptured. The first foetus presented by the feet, the second by the head, the third, fourth, and fifth by the feet. Two were boys, three girls; one lived four days, two ten days, three twelve days, and two were still alive. The mother had made an uninterrupted recovery.

Fibroids and Induction of Labor.—DR. MARX said in connection with Dr. Hanks' case that the question had been in his mind for some time whether in cases of uterine fibroids complicating pregnancy it would not be wise always to do elective labor about six weeks before term, and thus anticipate possible trouble, especially risk to life from hemorrhage. Some years ago he had nearly lost a case from hemorrhage, in another he had found it necessary to make Dührssen's incisions into the cervix on account of the same complication, and this experience had led him to induce labor in three other cases.

DR. HANKS thought Dr. Marx's suggestion could not be accepted as a general rule. Every case should be managed according to its individual merits.

DRS. EDGAR, JEWETT, and GRANDIN agreed with Dr. Hanks. At the present day we ought to be able to take care of post-partum hemorrhage, should it arise at term.

Dr. Edgar asked Dr. Hibbe if there was but one placenta in the case of the quintuplets, and Dr. Hibbe replied that it seemed so from the photograph. Dr. Edgar had never heard of such a case; usually a quintuplet pregnancy was the result of triplets and twins, and there were two placentæ. Dr. Jewett thought there might be two placentæ here, fused.

Medical Treatment of Eclampsia.—DR. SIMON MARX read a paper upon the medical treatment of eclampsia, and was followed by Dr. Grandin who dealt with the surgical treatment. He said the patho-

genesis of eclampsia was surrounded by much doubt. The uncertainty regarding its cause modified men's views regarding its treatment. The urine in every case of pregnancy ought to be examined monthly or bi-monthly for albumin and as to quantity and proportion of solids. It was too late to wait for convulsions, for one could not say that the woman would not die in the first attack. Albumin was significant, but its absence did not preclude eclampsia. One must consider all the symptoms and signs in order to prevent eclampsia or successfully meet it when it occurred.

They divided the cases into four classes: 1, cases of acute toxæmia depending on heart disease; 2, cases depending on acute exacerbation of chronic nephritis; 3, cases depending on acute degenerative kidney changes; 4, cases in which albumin or casts appeared in the urine, a true uræmia.

In the first class, so long as the heart's rhythm was good, and the general condition seemed satisfactory, there was nothing to be done except to wait and watch. As soon, however, as the heart showed a tendency to become rapid and irregular, in spite of cardiac stimulants, one should not temporize, but empty the uterus at once. Among the remedies mentioned as having proved useful in these cases, according to the indications, were nitroglycerin, strychnine, and caffeine in the absence of cerebral symptoms. In the second class, depending on acute exacerbation of chronic nephritis, it was useless to prescribe absolute rest and exclusive milk diet, for the patients would rebel. It was not until they had tried nitroglycerin that they had found it to fulfil an ideal indication, that of cerebral anæmia, to which they attributed eclamptic seizures. It could be given in doses of from $\frac{1}{100}$ to $\frac{1}{50}$ of a grain every two or three hours throughout pregnancy, if necessary. In the case of a physician's wife they had given seven hundred grains of nitroglycerin during the course of pregnancy, and she gave birth to her child without an eclamptic seizure, which she had not done in a former pregnancy. Her condition was one of chronic nephritis. It was their custom to let these patients bleed freely after the second stage of labor.

Speaking of the next class, the mere presence of albumin and casts, or occurrence of constitutional symptoms during the course of pregnancy, should lead the physician to put the patient to bed at once and stimulate every emunctory to action and rid the system of poisonous substances supposed to be circulating in the blood. Catharsis should be produced with calomel and jalap, followed by a saline; or a saturated solution of salines might be given per rectum, or even hypodermically. A hot bath, the tub covered with a blanket may be followed with sweet spirits of nitre. They were absolutely opposed to jaborandi and pilocarpine. A milk diet should be given, and as much water as the patient would drink. They abstained from the use of potash salts because they were cardiac depressants. Digitalis was objected to in acute but not in chronic kidney cases. They objected to the use of the tincture of chloride of iron. Of value were caffeine, one to five grains; nitroglycerin, sulphate of sparteine, nitrites, chloral. They questioned the value of veratrum viride in cases in which it had been supposed to be of use. Under those conditions surgical measures would answer better. After labor, however, if the pulse were full and bounding, they administered veratrum. It should not be used in valvular lesion, weak, dilated, or fatty heart. As to venesection, if it were indicated, let it be from the uterus by emptying that organ.

In acute toxæmia, where albumin and casts appeared in the urine, a true uræmia, nearly all malignant cases died. It was good treatment to empty the uterus at once.

The Surgical Treatment of Eclampsia.—DR. EGERT H. GRANDIN read this paper. Surgical treatment of eclampsia began where judicious medical treatment had been tested and failed to control the premonitory symptoms, or where the urgency of the symptoms did not admit of the institution of medical treatment. The indications for drugs had been pointed out in the previous paper. The aim of surgical treatment was to empty the uterus. Dr. Grandin impressed the point that one should give attention to the daily secretion of urine, the relative proportion of solids, even though albumin were absent. It was toxæmia which we should endeavor to forestall.

When the patient had shown any of the classical symptoms of eclampsia, the uterus should be emptied. If already in the throes of eclampsia when seen, measures of the most active type should be employed for emptying the uterus. Fortunately cases were seldom so urgent as to preclude sufficient preparatory measures, for in emptying the uterus it should always be done with the care of a major surgical operation.

The only method which he would resort to in non-urgent cases, because he considered it safe, effective, and aseptic, was the following: The external genitalia and vagina having been rendered aseptic, the cervix was dilated sufficiently with steel dilators to permit of being packed with gauze up to the internal os. The upper vagina was filled firmly with gauze. After twenty-four or thirty-six hours the gauze was removed. Prior to the sixth month he found it preferable to introduce a second packing under absolute asepsis, for rarely after the first one was the cervix sufficiently softened to enable the finger to be utilized in conjunction with the dull curette in bringing out the fœtus. Under the third month, at the end of twenty-four hours, in the absence of pathological change in the cervix, under anæsthesia, the finger aided by the dull curette could now absolutely empty the uterus. He did not consider the procedure properly performed unless the finger was inserted to the fundus and the organ was completely emptied. After the third month and up to the sixth, dilatation was more difficult. The only risk was from hemorrhage, and this was forestalled by use of the uterine tamponade. Forceps above the brim should never be used unless version was contraindicated; if used, it should be axis-traction forceps. The uterus being emptied the tamponade might be employed after sufficient bleeding had taken place. Many patients were benefited by this loss of blood to an extent which we little appreciated. If infection took place, the operator or attendant was to blame.

In eclampsia, if there was no pathological obstruction, it was usually possible under surgical anæsthesia to empty the uterus by the method of manual dilatation alone within the space of forty-five minutes. In the mean time such remedies as the operator had faith in could be given hypodermically, and, if needed, venesection by the uterine route could be resorted to. The only risk which rapid dilatation subjected the woman to was sepsis. There was no danger from hemorrhage, as experience had shown. Should rupture occur it could easily be repaired.

In Dr. Grandin's experience, the symptoms abated after the uterus had been emptied, except in fulminant cases, in which neither drugs nor surgical interference availed. Here, slow preliminary dilatation could not for a moment be thought of, but such cases were extremely rare, and Dührssen's incisions could be resorted to. The criticisms upon this formerly made by him he now considered not well founded, but the indications for Dührssen's incisions, as stated, were rare.

A third group of cases was that in which there was obstruction to the parturient tract by tumors, etc. Here the only course was by Cæsarean section.

DR. CHARLES JEWETT agreed with most points contained in both papers, but said he had found veratrum valuable.

DR. HANKS referred to the significance of headache, anæmia, pulse of high tension, etc., even in the absence of urinary symptoms. He doubted whether one should wait for the action of gauze; and as to Barnes' dilators, one always had his fingers with him.

DR. J. CLIFTON EDGAR thought there were clinical indices of eclampsia which should enable us to avoid it. We ought not to pin our faith to any single symptom. Pressure on the ureters had been mentioned as a cause, but he had not been able to confirm it. He found use for veratrum viride. He felt thankful that Dr. Grandin had placed manual dilatation of the cervix in the light which he had this evening. He thought that formerly it had been spoken of too lightly, and that harm had been done the past two years in undertaking manual dilatation when it was not called for or without taking proper steps for its safe performance. He wished to repeat that manual dilatation was extremely difficult and dangerous if undertaken before the internal os had disappeared or as long as there was a cervix.

DR. R. A. MURRAY was fully in accord with Dr. Grandin's paper. He had not heard Dr. Marx's. Calomel caused the kidneys to act, and enabled us to use veratrum viride with advantage. Nitrogenous foods required to be used with care. Many cases of eclampsia seen by him had been precipitated by some impropriety of diet. Dr. Murray was opposed to the use of chloral hydrate by the rectum, as had been recommended by Playfair and others, as he thought it was liable to produce fatal narcosis after the uterus had been emptied.

DR. AUSTIN FLINT, JR., asked Dr. Marx whether he had known of a case of eclampsia due to valvular or other forms of cardiac disease. Also whether he had known of occlusion of the ureters from bending. Dr. Flint thought that veratrum viride, next to nitroglycerin, was the best drug we had in these cases. He forbade morphine.

DR. H. E. CRAMPTON thought there were cases of eclampsia which were purely neurotic in origin.

After some further remarks by DRs. GORDON and L. S. RAU, DR. MARX closed.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 13, 1896:

	Cases.	Deaths.
Tuberculosis.....	170	100
Typhoid fever.....	15	5
Scarlet fever.....	101	9
Cerebro-spinal meningitis.....	3	2
Measles.....	228	17
Diphtheria.....	262	31
Small-pox.....	0	0

Almsgiving.—Every gift that a man receives from some other man without work, without reciprocal service, is an alms, and as such is deeply immoral. The sick, the old, the weak, those who cannot work, must be supported and tended by their fellow-creatures; it is their duty and it is also their natural impulse. But to give to men capable of working is under all circum-

stances a sin and a self-deception. If men capable of work find no work, this is obviously attributable to some defect in the economical structure of society; and it is the duty of each individual to assist earnestly in removing this defect, but not to facilitate its continuance by pacifying for a while the victim of the defective circumstances by a gift. Charity has in this case merely the aim of deadening the conscience of the donor and furnishing him with an excuse why he should shirk his duty of curing recognized evils in the constitution of society. Should, however, the capable man be averse to labor, then charity spoils him completely and kills in him entirely any inclination to put his powers into action, which alone keeps the organism healthy and moral. Thus, alms extended to an able-bodied man degrades both the donor and the recipient, and operates like poison on the feelings of duty and the morality of both.—MAX NORDAU ("Degeneration," p. 156).

Bigotry.—Dr. Savage, in the *Journal of the American Medical Association*, says that "Bigotry, whether characterizing an individual or a class of individuals, in matters medical never had other than a harmful effect. It would be well if this ill-shaped monster could be forever buried, without hope of resurrection. Men who are not willing to accept facts presented by others, and will not weigh the conclusions that have been based upon them, are not the men who will make advances themselves nor will they be helpful to others who would. Destroy bigotry and there will be no 'pathies,' but in their stead would stand one grand brotherhood of physicians. A medical bigot knows not enough to know that he does not know it all, and therefore always stands ready to destroy anything that does not emanate from a source peculiarly his own. Such an one would say, 'I will not use this instrument because it was invented by a homœopath; I will not administer that drug because it was introduced by an eclectic; I will not bathe my fevered patients nor give them cooling draughts because this is the method of the hydropath; I will not listen to suggestions coming from common people.' The man who would attain to the greatest wisdom must gather grains of thought from all fields, must use his judgment in separating the good from the bad, and must be willing to feed his fellow-men from his well-filled granary. If Jenner had not listened to the stories of the milkmaids, vaccination would not have been discovered, and the era of immunization, inaugurated by Pasteur but founded on Jenner's discovery, would have been long delayed. We should not forget that all people are God's people, and that He may use one or another in bringing into the world the good which comes alone from Him. Away with bigotry and send bigots with it!"

Numerous Names for Roentgen's Discovery.—Among the many names used to designate the discovery of Professor Roentgen are the following: "X" ray photography, shadowgraphy, radiography, cathode photography, cathography, electrography, fluorography, skiagraphy, skotography, and Roentography.—*American Medical and Surgical Bulletin*, April, 1896.

Origin of the Cocktail.—The most remarkable explanation of the origin of the word "cocktail," according to the *New York Press*, comes from an ancient print. The old doctors had a practice of treating certain diseases of the throat with a pleasant liquor, applied with the tip end of a long feather plucked from a cock's tail. They finally began to use this preparation as a gargle, and the name cocktail clung to it. The gargle gave way to an appetizer, and the appetizer to a mixture of bitters, vermouth, and liquor, that is still in occasional demand.

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Original Articles.

THE STATE OF THE GASTRIC MUCOSA IN SECRETORY DISORDERS OF THE STOMACH.¹

By MAX EINHORN, M.D.,
NEW YORK.

You all know the great strides which have of late years been made in the study of diseases of the stomach. The chief progress lies in our ability to examine the different functions of the organ, but principally that of secretion. In this latter function many deviations from the normal condition are found, and indeed these constitute the ailments of the greater number of patients with chronic digestive disturbances.

Must there always be a manifest anatomical lesion for such gastric disorders, or can they be caused and entertained by some purely nervous influences? This question has been and is still studied by the foremost clinicians of this country and Europe, and a positive answer cannot as yet be given. Leube and Ewald on the other side of the ocean and in this country Dr. Charles G. Stockton, of your city, have laid much stress upon the neurotic character of these secretory disorders. Dr. Stockton even showed that some functional gastric anomalies are occasionally of reflex origin. Hayem,² however, is of the opinion that the secretory anomalies are due to anatomical changes in the gastric tubuli, which view is also held by Boas and others.

The minute anatomical condition of the stomach can seldom be studied in autopsies, as soon after death and sometimes even during the agony the glandular layer is subject to manifold artificial changes, which more or less mar the true picture. For this reason efforts have been made to study the pathology of the stomach by means of small pieces of mucosa excised while performing major operations on the stomach (Korczyński and others). Boas, appreciating the importance of such examinations, was the first to investigate with the microscope pieces of gastric mucosa found occasionally in the wash water of the stomach after using lavage, and Cohnheim³ has recently published an extensive paper comprising his own and Boas' experience on this subject.

During the last three years I had the opportunity of examining small pieces of gastric mucosa from thirty-two patients. From several of them pieces of gastric mucosa were obtained at different periods of time, and in this way the examination could be repeated and the result compared with the first examination. It appeared to me of interest to compare the results of the microscopical examinations of the specimens found in these patients with the condition of the gastric secretion manifested by them. This may perhaps give us a clew as to the question above ventilated, namely,

whether the secretory anomalies are dependent upon anatomical changes. But before analyzing my cases permit me to say a few words with regard to the occurrence of these pieces of gastric mucosa and to their examination.

In washing out the stomach (especially in the fasting condition) occasionally a small piece of gastric mucosa may be found in the wash water. Such a piece may also be found occasionally in the gastric contents, when examining the patient after a test breakfast or test dinner. I have also observed that in some cases the occurrence of small pieces of gastric mucosa in the wash water is a constant phenomenon (erosions of the stomach). The number of these pieces varies from one to four. Such a piece looks quite red. The thickness may vary from one-half to one millimetre, while the size may vary from that of a large pin's head to that of a small bean. Sometimes they are found embedded in mucus. While the presence of glands in these small pieces may be found by examining them in the fresh condition under the microscope, a thorough examination can be made only after a sufficient preparation of these particles (hardening in alcohol, embedding in celloidin, and staining with eosin-hæmatoxylin, picro-carmin, methylene blue, and thionin).

In examining the microscopical picture of the different specimens the following groups can easily be distinguished:¹

1. N.—Normal: Glands and interglandular tissue exist in normal proportions.
2. C.—Connective tissue: While there is a normal proportion between glands and interglandular tissue, there is a marked proliferation of connective tissue around the glands.
3. P.—Proliferation: There is a marked proliferation of glands; they are nearer each other, and sometimes have an elongated and curved shape.
4. B.—Beginning atrophy: The glands exist in smaller numbers and are sometimes also smaller in size, the interglandular spaces being quite large and filled partly with small-cell infiltration, partly with connective-tissue formation.
5. A.—Atrophy: Complete atrophy; no glands visible; only indications of their previous existence; round-cell infiltration.
6. V.—Vacuolization: Within the glands exist vacuoles of different shape, being the result of a mucoid degeneration of some glandular cells.

Sometimes one specimen shows characteristics belonging to two of the groups mentioned.

In the following table is found a list of all the cases examined, stating diagnosis, the condition of the gastric secretory function, and the pathological structure as found in these pieces of mucosa under the microscope and characterized by the above-mentioned initials. Whenever one specimen belonged to two different groups, it was signified by the two corresponding initials, the first marking the principal feature of the specimen. In going over the table it will be advisable first to consider each secretory group apart.

¹ The illustrations have been taken from my book, "Diseases of the Stomach" (Wm. Wood & Co.), now in press.

¹ Read before the Alumni Association of the University of Buffalo, at the fiftieth anniversary, Tuesday, May 5, 1896.

² Gazette Hebdomadaire, 1892, Nos. 33 and 34.

³ P. Cohnheim: Archiv für Verdauungskrankheiten, Bd. i., Heft 3, p. 274.

TABLE OF CASES IN WHICH SMALL PIECES OF GASTRIC MUCOSA HAVE BEEN EXAMINED.

	Name.	Diagnosis.	Gastric Secretory Function.	Anatomical State.	Remarks.
I.	1. R. H., Nov. 26, '94..	Erosions of the stomach.....	Euchlorhydria.	P. C.	Glands small; round-cell infiltration.
	2. do. Dec. 12, '94..	do.	do.	A.	
	3. do. Jan. 11, '95..	do.	do.	C.	
	4. E. D.	Neurasthenia gastrica	do.	B.	
	5. B. E.	Carcinoma cardiae.....	do.	B.	
	6. Gustav D.	Erosions of the stomach; gastritis glandularis chronica mucosa.	do.	N. V.	
II.	7. Mrs. K. A., Jan. 9, '95	Erosions of the stomach.....	Hyperchlorhydria.	C.	Glands near each other.
	8. do. Jan. 15, '95	do.	do.	P.	
	9. Ernst T.	Atonia ventriculi	do.	N.	
	10. Mrs. J. H. W.	Gastro-succorrhœa continua periodica.	do.	C.	
	11. Dr. B.	Hyperchlorhydria	do.	N.	
	12. Theodore S.	do.	do.	P.	
	13. Timothy M.	do.	do.	P.	
	14. S. W.	Erosions of the stomach.....	do.	P.	
	15. Edgar H.	Gastro-succorrhœa continua chronica.	do.	P. V.	
	16. M. Z.	Hyperchlorhydria	do.	N. C.	
	17. Mrs. L. S.	Enteroptosis	do.	C. V.	
	18. Adolph L.	Ulcus ventriculi	do.	A.	
	19. H. C.	Neurasthenia gastrica	do.	P.	
III.	20. Henry R. A.	Gastritis glandularis chronica....	Hypochlorhydria,	A.	Only traces of glands visible. Glands not distinct and small, vacuolization only slightly marked.
	21. Mrs. S.	Ischochymia, stenosis pylori....	do.	B. V.	
	22. Mrs. J. S. H., Nov. 4, '95.	Gastritis glandularis chronica....	do.	N.	
	23. do. Feb. 11, '96.	do.	do.	N.	
	24. Morris H.	Vitium cordis; gastritis glandularis chronica.	do.	C.	
	25. Mrs. B.	Gastritis glandularis chronica....	do.	N. C.	
	26. Morris J., June 29, '94.	Erosions of the stomach; gastritis glandularis chronica.	do.	A.	
	27. do. Jan. 10, '95.	do.	do.	P.	
	28. Jacob K.	Gastritis glandularis chronica....	do.	B.	
	29. H. M.	Erosions of the stomach; gastritis glandularis chronica.	do.	V.	
IV.	30. J. McG.	Ulcus ventriculi	do.	P.	Beginning vacuolization. Glands enlarged.
	31. Miss Lina S.	Enteroptosis; achylia gastrica....	Achlorhydria.	N. B.	
	32. M. G.	Erosions of the stomach; achylia gastrica.	do.	N.	
	33. S. F.	Tuberculosis pulmonum; achylia gastrica.	do.	P.	
	34. G. J.	Carcinoma pylori	do.	V.	
	35. B. T.	Carcinoma ventriculi	do.	A.	
	36. David S.	Achylia gastrica	do.	A.	
	37. R. H. A.	do.	do.	A.	

There were four cases of euchlorhydria (or normal gastric juice). The anatomical state presented quite varied pictures: proliferation of glands with connective-tissue formation, beginning atrophy, and slight vacuolization.

One patient (R. H.), from whom pieces of gastric mucosa were obtained on three different days, presented varied pictures on each occasion.

Twelve cases of hyperchlorhydria showed proliferation of glands in six, while in the remaining six the gastric mucosa presented either a normal appearance or slight connective-tissue formation around the glands; only twice was slight vacuolization visible, and once atrophy of glands with connective-tissue formation.

Nine cases with hypochlorhydria presented a normal condition of the glands in three, atrophy in two, beginning atrophy in two, connective-tissue proliferation in one, and proliferation of glands in one. Of these nine cases two were examined on two different occasions; in one the microscopical pictures were pretty much alike, while in the other once atrophy and the second time proliferation of glands were found.

Seven cases of achlorhydria (principally achylia gastrica) showed a normal condition twice, complete atrophy three times, while once there was very

marked vacuolization and once slight proliferation of glands.

In none of the four different secretory conditions was there found a perfect harmony in the microscopical picture of the gastric mucosa. It, therefore, does not appear justifiable to make a positive diagnosis as to the existing disease from the examination of such small pieces of gastric mucosa.

Two facts, however, are quite apparent: proliferation of glands is frequently met with in hyperchlorhydria (in half the number of cases) and atrophy is encountered in the same proportion in achylia gastrica.

If we now return to our first question, whether anomalies of the gastric secretory function are dependent upon anatomical lesions, it seems that the results of the table speak against this assumption. For if anatomical changes are the primary factors, there ought to be more constancy in the results of these microscopical examinations.

The table, however, shows that there is some connection between hyperchlorhydria and proliferation of glands on the one hand, and between achylia and atrophy of the glandular elements on the other hand. How are we to explain these anatomical changes if we do not deem them the principal factors in these conditions?

Before answering this question I would like to

remind you of Edinger's¹ excellent paper: "A new theory of the causes of some nervous diseases, especially of neuritis and tabes," in which he explains the anatomical changes found in the nerves and the spine by a disproportion between the functional activity and the replacement of these elements. You all know that normally the increased activity of an organ leads to

The facts just mentioned show the importance of the functional activity with regard to the state of an organ: the elements which come more into play and do more work will gain supremacy, they will increase in strength and in numbers.

If now we return to the stomach there seems to be hardly any difficulty whatever in explaining why con-

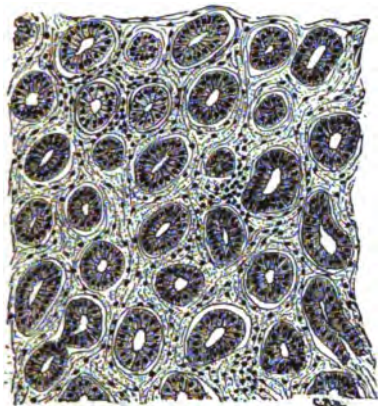


FIG. 1.—A small piece of gastric mucosa (from patient, Mrs. H.) presenting a cross-section of the glands in normal appearance. $\times 80$.

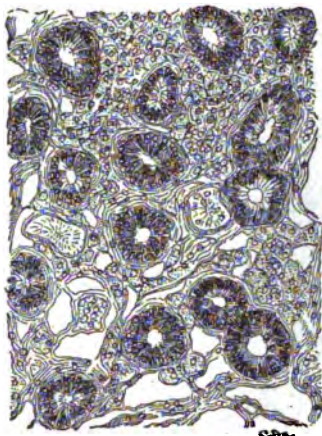


FIG. 2.—A piece of gastric mucosa (from patient, Mrs. R. S.) showing beginning atrophy of glands (small pale areas within the glands) and connective-tissue proliferation. $\times 120$.

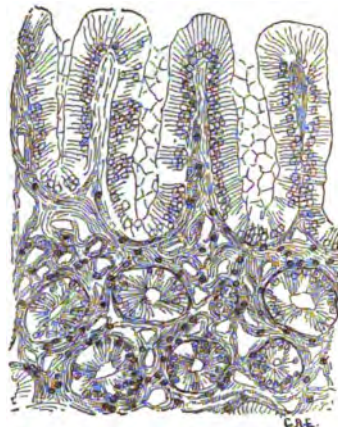


FIG. 3.—A piece of gastric mucosa (from patient, H. R.) showing the mouths of glands; the pale spots show beginning atrophy of the glands; connective-tissue proliferation best shown in lower part of specimen. $\times 120$.

the strengthening of the same; often also to a direct increase in volume. On the other hand, inactivity of an organ leads gradually to a weaker and atrophic state of it.

According to W. Roux² there exists the following law: "Increased activity heightens the specific force of the organs, while a diminished activity causes a

ditions of hyperchlorhydria are frequently found associated with a proliferation of glands, while those of achylia occur with an atrophy of same. It would be contrary to the above-mentioned law if this were not the case.

It remains only to explain why the increased function of the glands does not always show hypertrophy of same, and, *vice versa*, their inactivity an atrophy. But this can be answered by assuming that the functional activity or inactivity has not lasted long enough to produce those changes over the entire organ.

The hypothesis which I have expounded before you is not merely of a theoretical nature, but seems to me to be of practical importance with regard to treatment.

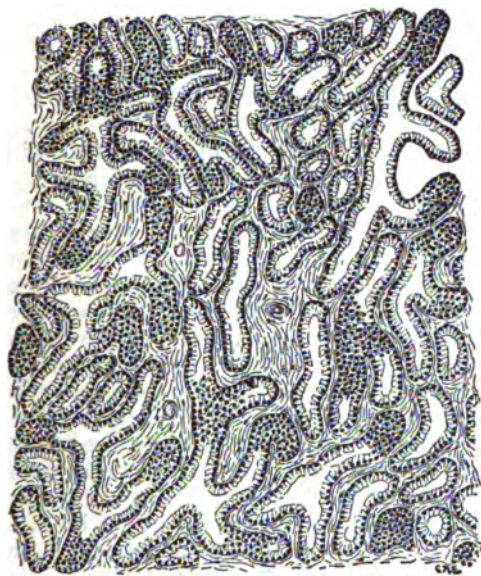


FIG. 4.—A piece of gastric mucosa (from patient, E. H.) showing proliferation of glands. $\times 80$.

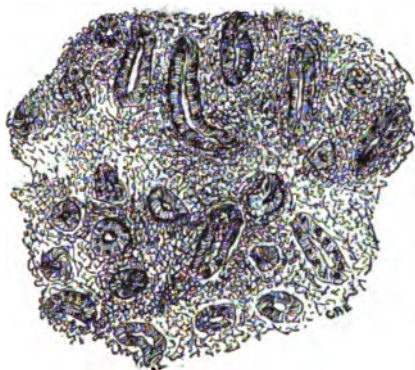


FIG. 5.—A piece of gastric mucosa (from patient, B. E., with carcinoma cordis) showing destruction of glands by connective-tissue proliferation. $\times 60$.

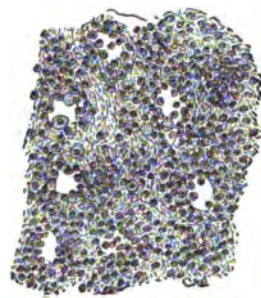


FIG. 6.—A piece of gastric mucosa (from patient, R. H.); no glands visible, only some empty spaces where glands had previously existed. $\times 80$.

weaker state of the organs." Each cell, according to this writer, has to gain a living by work, and the more it works the better nourished it is and the stronger it grows.

Πόλεμος πατήρ πάντων—"Strife the cause of all"—Heraklitos once said, and the entire truth of this sentence has been appreciated since the work of the great Darwin and his followers (Haeckel, Roux, and others).

¹ Edinger: Volkmann's "Sammlung klinischer Vorträge," 1894, No. 106.

² W. Roux: "Entwicklungsmechanik der Organismen," 1895.

Referring the functional disorders of gastric secretion as due to direct anatomical changes (inflammatory processes of the organ), the treatment would have to look principally to according the organ more rest and to diminishing its work in every conceivable manner. If the above hypothesis be true, that the secretory disorders are primary, not dependent upon inflammatory processes, then the treatment will have to be directed toward improving the general (and also nerve) state of the system and also toward methodically strengthening the stomach in such a manner that the increased

function shall be balanced by increased nutrition and replacement of waste.

To recapitulate, permit me to draw the following conclusions:

1. The microscopical examination of a small piece

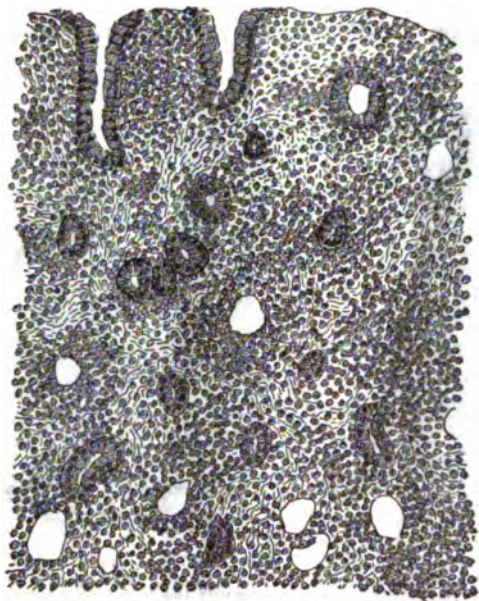


FIG. 7.—A small piece of gastric mucosa (from patient, D. S., with achylia gastrica) found in wash water from stomach; only few glands visible, empty spaces where glands had previously existed; general small-round-cell infiltration. $\times 80$.

of gastric mucosa found in the wash water after using lavage does not permit a positive diagnosis.

2. Although we frequently meet with anatomical

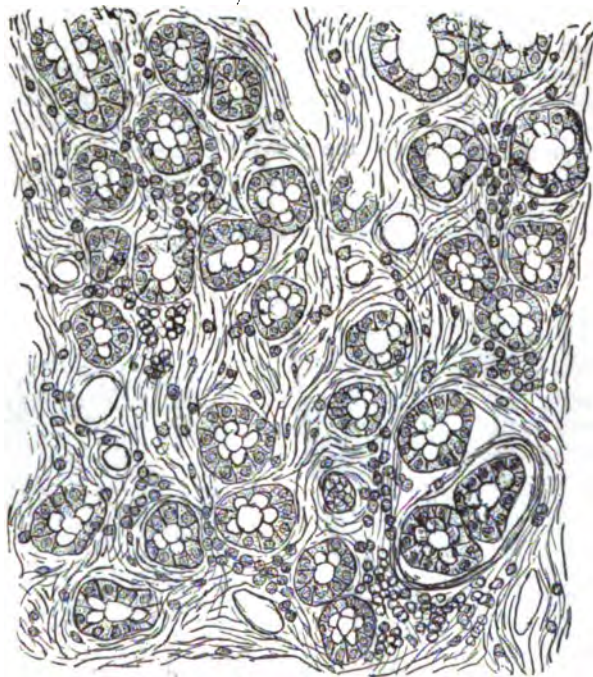


FIG. 8.—A small piece of gastric mucosa (from patient, J., with carcinoma pylori) showing mucoid degeneration of the glands with vacuolization; some connective-tissue proliferation. $\times 140$.

conditions of the gastric mucosa which correspond to functional disorders of secretion, this does not prove that these are due to the anatomical state. The latter, instead of being the cause, may be the effect.

To Prevent Rusting.—Common baking-soda put into the water in which instruments are boiled in order to sterilize them will, to a great extent, if not totally, prevent rusting.—*Medical Summary.*

A SUMMARY OF THE TREATMENT OF CHRONIC RENAL DISEASES.¹

By WILLIAM H. MCENROE, M.D.,

NEW YORK.

MANY attempts at classification have been made to indicate the various conditions found in the kidneys after death, and to give to each form a definite clinical history; but as not one of these has received general acceptance the result has been to confuse the nomenclature of an already intricate subject. The various forms of chronic renal disease, while presenting considerable difference in their origin and symptoms, have general points of resemblance so positive and so numerous that they are easily recognized clinically. In many cases the kidneys present a great variety of morbid changes as regards the color, the size, the condition of surface, etc. They are sometimes small, red, hard, and nodulated; again, they may be large, white, soft, and smooth. Three varieties are generally recognized, viz.: chronic diffuse nephritis, chronic interstitial nephritis, and amyloid degeneration of the kidneys.

During the early stages of chronic diffuse nephritis, the kidneys are swollen and are red or gray in color. Later on, during the progress of the disease, they become very large in size and white in color. This has been described by writers as the large, smooth, white kidney, and generally remains as such to the end. Sometimes, however, the kidneys shrink and become granular. This form of disease is most often caused by exposure to cold and by scarlet fever. It sometimes follows repeated pregnancies and may occur in pulmonary phthisis. The onset is generally very sudden, especially if cold or scarlet fever are the exciting causes, and as a rule is accompanied by general dropsy. The urine at first is scanty in quantity, dark in color, and contains albumin, blood, and casts. Later on the urine becomes more copious, pale in color, and the quantity of albumin is diminished. An attack of acute uræmia may occur at any time during its course. Retinitis albuminurica is quite a common complication, and cardio-vascular changes are often found during the later stages of this condition.

Chronic interstitial nephritis or cirrhosis of the kidney is a very slow, insidious affection, and in a large number of cases is chronic from the start. It often remains latent for an indefinite period. It is seldom if ever seen in early life, but usually occurs in persons over thirty-five years of age. The chronic abuse of alcoholic beverages, such as whiskey, brandy, and gin, is an important factor in the production of this condition. Persons in whom the arteries have a tendency to early degeneration are more likely to develop cirrhosis. It is very often caused by dietary errors—eating too fast and too much, the excessive use of animal food, producing a condition of lithæmia by overtaxing the liver and interfering with the elaboration and excretion of poisonous materials, which by their presence in the blood produce renal irritation. Gout and chronic poisoning by lead are also factors in its production.

Amyloid degeneration or lardaceous disease of the kidneys is mainly caused by syphilis or by prolonged suppuration. The kidneys are very large, pale, and waxy-looking, their tissues giving the characteristic reaction with iodine. The urine is very copious, clear in color, and contains a large amount of albumin, as a rule. General anasarca is a very frequent symptom, but cardio-vascular changes are rarely found.

Before taking up the subject of treatment, I will proceed to name certain symptoms and effects that be-

¹ Read before the New York Medico-Surgical Society, May 31, 1896.

long in common to all the forms of diseases of the kidney.

Albumin.—This is found in a greater or less amount in every form of chronic renal disease. The urine in some cases may contain as much as five per cent., a quantity more than half as great as that found in the serum of the blood. Hyaline, granular, epithelial, and sometimes blood casts are found. The normal solids of the urine are all diminished and urea is markedly reduced. The presence of albumin in the urine is undoubtedly due to changes in the glomeruli and renal tubules.

Dropsy.—This is a constant symptom, but occurs more frequently in the acute form. It is also most often found with the smooth, large, white kidney, and usually begins in the face, about the eyelids. The effusion may pass to the feet and legs, becoming excessive and general and involving the whole body. It may disappear for a long time and then return. After the disappearance of the effusion oedema will be found underneath the eyelids, around the ankles, over the anterior surface of the tibiae, and sometimes about the genital organs.

There is another form of dropsy occurring in chronic Bright's disease, which is almost identical in all its characters with that produced by chronic cardiac disease or by pulmonary emphysema, and is caused by obstruction in the systemic veins owing to weakness of the heart. It is always found in the most dependent portions of the body—around the ankles and in the legs. It is often accompanied with intense dyspnoea and great lividity. The skin is usually very dry, pale, and glossy, sometimes sallow and rough. There is no pain in the back in the majority of chronic cases.

Retinitis Albuminurica.—This is a very significant symptom and generally assumes a degenerative character from the start. It consists of a number of white spots arranged closely around the optic disc and sometimes assuming a fan-like streaked appearance. Hemorrhages are often associated with this condition. In some cases there is an intense optic neuritis with great swelling and oedema of the retina, completely hiding the optic disc. Notwithstanding the severity of these symptoms, it is rare that central vision is lost or complete amaurosis follows.

Secondary Inflammations.—These are sometimes the direct cause of death and are always serious complications. Secondary inflammation of the serous membranes of the pericardium, the pleurae, and the peritoneum—are more frequent, and the tendency of such inflammatory action is to suppuration. The lungs are sometimes involved, and even meningitis is produced.

Pulmonary phthisis is a frequent complication. Very often the phthisical process is far advanced before the kidneys become involved. In other cases the renal disease precedes the pulmonary and always assumes the amyloid form of degeneration.

Cardio-Vascular Changes.—Coincident with the cirrhotic process in the tissues of the kidneys, the walls of the arteries and capillary blood-vessels become the seat of characteristic changes, consisting of chronic endarteritis with an exudation of hyaline material on the outside of the blood-vessels. The walls of the affected vessels become greatly thickened and their calibre diminished in size, and in the case of the smaller arteries the cavity is completely obliterated. This increase of connective tissue in the various organs of the body never occurs without injury to the proper cells of the part pressed upon, and as this shrinks the process goes on and uses up what is left of the proper cells of the part inflamed, until there is ultimately nothing but a mass of fibrous tissue left. This condition of arterial sclerosis is a constant companion of renal cirrhosis. It is the cause of

the hard, incompressible pulse of this disease, and gives rise to a greater or less derangement in the blood-supply of the different organs. It is a common cause of apoplexy, and the interference with the circulation in the brain gives rise to certain cerebral symptoms which are characteristic: First, impairment of memory, due to anaemia and malnutrition of the brain. Second, vertigo, especially in the morning or just after rising. Third, a persistent tendency to wake too early in the morning, sometimes with headache, which passes off soon after rising. The patient also suffers from cramps in the calves of the legs just after or before getting out of bed. Fourth, a vague sense of fear as of some impending danger; the intellect is dull and often greatly impaired.

Cerebral Symptoms.—The manner in which uræmic symptoms appear is varied and the different forms which they assume are very numerous. The most prominent symptoms of chronic renal disease are often of a cerebral character. Headache is a constant symptom; more often there is a sense of compression over the top of the head, and pain radiates to the back of the neck. These symptoms are caused by the presence in the blood of toxins or poisonous substances that are excreted by healthy kidneys. Delirium, often associated with rigidity of the leg or arm and accompanied by a tremor or trismus of the facial muscles or even the muscles of the eye, may occur. A very constant effect of uræmic poisoning is amaurosis, which usually comes on quickly, affecting both eyes, and is almost always complete. I have known complete loss of hearing to precede an attack of uræmic convulsions. Vomiting often occurs and is usually associated with diarrhoea. It is claimed that this is produced by the irritation of ammonium salts, caused by the disintegration of urea in the alkaline medium of the intestine. Following the attacks of vomiting there is a sensation of heaviness and a tendency to sleep. In other cases there are no premonitory symptoms, the patient passing into convulsions followed by profound coma. The convulsions may consist of a single paroxysm; more often there is a succession of paroxysms following each other, and they may continue for several hours between the attacks, the patient lying in a condition of profound insensibility from which he cannot be roused.

The following symptoms are characteristic of uræmic coma: The pupils will not react to light. There is a urinous odor from the surface of the body. The respirations are irregular, sometimes rapid and sometimes slow; they are always of a peculiar hissing character. The temperature is elevated at first, but later slowly falls. The pupils are as a rule irregular, and albuminuric retinitis is almost always present. The face is pale. The pulse in a large number of cases is incompressible, and rigid arteries are found. The phenomena of an epileptic attack closely simulate uræmic convulsions, and it is sometimes very difficult to distinguish between them. The convulsive movements in epilepsy are generally unilateral; both sides are equally affected in uræmia. The initial cry and great pallor of the face preceding the attack is peculiar to epilepsy. The temperature is not elevated in epilepsy and reflex sensibility continues all through the paroxysm. After an attack of uræmic convulsions the patient passes into deep coma. Following an epileptic seizure there is only a deep sleep, from which the patient can be roused. An examination of the urine will generally determine the nature of the case. In apoplexy the coma always precedes the convulsions. There is conjugate deviation of the eyes, facial paralysis, and hemiplegia. In opium poisoning the pupils are symmetrically contracted, even down to a pin point in size. The respirations are exceedingly slow, even as

few as five per minute. The pulse is strong, full, and readily compressible. The patient is not absolutely comatose, and can therefore be partially aroused. Acute alcoholic poisoning is a very common cause of coma. The respirations are hurried, and expiration quickly follows inspiration. The pulse is quick and strong and the patient can be partially aroused, but returns to a drunken consciousness. His answers are not rational, the words are not well articulated; he is irritated by interference and often uses profane language. There is another variety of coma due to concussion of the brain from blows or falls on the head, and it is of great importance to distinguish this form, as it is frequently due to criminal assault. There is something very characteristic in this form of coma, for the control of the brain over the spinal cord is withdrawn; hence the reflexes of the spinal cord are set free and every external impression leads to twitching of the muscles, sometimes great enough to produce a movement of the whole limb. Hence, whenever there is jactitation it points to some injury of this kind to the head, and is very significant.

Treatment.—This should consist of, first, measures taken to prevent further structural changes in the kidneys, to remove as quickly as possible all inflammatory products that may obstruct the smaller renal tubules, to facilitate the elimination of urea, and to remove or palliate certain symptoms, such as dropsy, anæmia, etc. The cause of the disease must be sought for and removed if possible. If the chronic abuse of alcohol is a cause, it must be stopped. Prolonged exposure to very severe weather must be avoided. It will be found in many cases of continued suppuration, caries, necrosis, chronic cystitis, and stricture of the urethra that renal degeneration has already taken place. This should be borne in mind by the surgeon, and should have great influence in deciding upon an operation.

The diet should be light and of the highest nutritive value. Milk as a rule agrees very well indeed. It is best given with equal parts of lime water. Alcoholic liquors are badly borne and should be withheld. If alcohol is absolutely required, one or two glasses of red wine may be taken during the day with food. The patient should wear flannel next to the skin, and moderate exercise in the open air should be indulged in. Many writers lay great stress on keeping up a constant flow of water through the kidneys, thus endeavoring to wash clear the renal tubules of all the cellular materials that they may contain, and using such remedies as the sweet spirit of nitre and other diuretics for this purpose. I approve of the regular administration of cathartics, and for this purpose twenty grains of the compound jalap powder given three or four times a week is very useful. It is also important that the function of the skin should be kept in action, and for this purpose the warm bath is very useful. The patient can be placed in a bath of the temperature of 100° F., and hot water may be gradually added to it until the temperature reaches 104° or 106° F. The patient is kept in the bath for about half an hour, and is then removed and wrapped in warm blankets for three or four hours, during which time great perspiration takes place. The hot-air bath is another method employed to induce diaphoresis. The patient should be stripped and placed upon a chair, under which a lighted alcoholic lamp is placed. A blanket closely pinned around the neck and reaching to the floor confines the heated air to the surface of the body. If the patient is too weak to sit up, the hot air may be introduced underneath the bedclothes, which can be elevated so as to form a tent or cradle.

In using diaphoretics as eliminatives, it must be remembered that the skin is an eliminative organ only to a small extent, and acts as such only when the

other eliminative organs fail. Therefore, whenever the skin is to be used for this purpose, it should be always prepared for this vicarious action. Any existing tension found in it must be removed; for when the skin has been dry for any length of time the epithelial layers are brought together and the mouths of the glands are closed, thus preventing the discharge of secretions. This condition is especially present in dropsy, when the skin is dry, owing to the subcutaneous effusion acting as an obstruction to the capillary circulation, thus preventing the action of the sebaceous glands by interfering with their blood supply. Diaphoresis, therefore, is greatly assisted by anointing the surface of the body with olive oil. It must be remembered that diaphoresis cannot be induced when other eliminative organs are in abnormal activity; consequently, diaphoresis should not be attempted while the bowels are under the influence of a cathartic. One of the best methods of applying moist heat is in the form of the hot pack. The surface of the body is well oiled and the patient is wrapped up in a woollen blanket that has been immersed in boiling water and wrung out as dry as possible; over this is placed a dry woollen blanket, and over all a linen sheet. Warm diaphoretics should be given internally.

Pilocarpine is undoubtedly the most powerful diaphoretic known, and were it not for certain drawbacks it would be used extensively. Its power is not increased by combination, and it is not necessary to assist or increase its action by keeping the patient warm; for pilocarpine acts at all times, and it is only necessary to keep the patient from being chilled. Owing to its depressant action on the heart, pilocarpine should be used with great care. I have given it in doses of from one-eighth to one-fourth of a grain hypodermatically for dropsy occurring in young or middle-aged persons, without fear.

Diuretics are remedies which increase the volume of urine excreted by the kidneys by increasing the general blood pressure, by causing dilatation of the renal arterioles, or by directly irritating the substance of the kidney itself. The condition of the urine should always be considered a guide for the administration of diuretics.

Urine of high specific gravity and normal quantity indicates high living with gouty tendency. Saline diuretics should be given, the diet regulated, and alcohol prohibited.

Urine of high specific gravity but diminished in quantity, unless due to excessive perspiration, calls for the administration of saline diuretics. The acetate or citrate of potassium may be given in twenty to thirty grain doses.

Urine with uric acid deposits indicates a tendency to formation of stone. Plenty of pure water should be taken; liquor potassæ in half-drachm doses largely diluted and sometimes the carbonate or citrate of potassium in twenty-grain doses should be given.

If bile is present in the urine, promote vicarious action by the skin and bowels; also use remedies to act on the liver.

Deficiency of solids and quantity due to renal congestion occurs in scarlatinal and acute nephritis. The object is to re-establish the normal secretion of urine. Digitalis and the saline diuretics are useful.

Deficiency in the quantity of urine in dropsy is very often caused by fluid in the abdomen. This mechanical obstruction must be got rid of, or else diuretics will not always act.

The turpentine class of diuretics are active renal stimulants, and are very useful in pyelitis, chronic cystitis, and chronic inflammation of the urinary tract. I have great faith in digitalis as a diuretic, especially if combined with calomel or corrosive sublimate. Digitalis produces a free flow of pale urine of low

specific gravity, and its action when once secured is often continued for four or five days, producing considerable depression of the system. When calomel is combined with digitalis so as to direct its action to the kidney, it becomes one of the best remedies for chronic Bright's disease, as it liquefies and absorbs the hyaline material which surrounds the arteries, hardening and contracting them, and setting up a slow inflammatory process, which destroys the glandular structure. In the treatment of chronic renal diseases the specific gravity of the urine is the guide. At first the specific gravity falls to about 1.010, and remains there for a long time, but falls again at the close of the disease. When it falls to 1.006 there is great danger. Calomel increases the watery flow of the urine, but not its solid constituents. One grain of calomel, one grain of squill, and one grain of pulverized digitalis make an excellent diuretic pill. If the pulse becomes intermittent the digitalis must be left out. Digitalis is especially indicated in acute nephritis; the stimulant diuretics cannot be given, as they intensify the renal congestion.

For the prolonged treatment of chronic renal diseases I prefer a pill containing one-twenty-fourth of a grain of corrosive sublimate, one grain of digitalis, one grain of squill, and one grain of quinine sulphate; one of these to be taken three times a day. Very often in this condition the arteries are hard and rigid, and there is great danger from the rupture of a blood-vessel owing to the increased arterial tension produced by digitalis. To overcome the bad effects of digitalis upon the arteries, nitroglycerin in the form of tablets of one-one-hundredth grain each should be given. It may be necessary to increase the dose up to one-fiftieth or to one-twentieth grain, or even to one-tenth grain. Therefore, for the hard incompressible pulse of arterial sclerosis with renal cirrhosis and the cerebral symptoms already described, no remedy equals corrosive sublimate, and if anæmia is very pronounced it can be given with the sweet spirit of nitre and the muriated tincture of iron. No remedy is so decidedly effective as corrosive sublimate against this common cause of declining health, producing premature old age. The bromide of lithium has been employed recently in these cases with some success. It is best given in doses of five grains three times per day. It can be combined with the benzoate of sodium in the same doses.

It is a well-known clinical fact that structural degeneration of the kidneys comes on very slowly, and is always the result of renal irritation, continuing sometimes for years by imperfect intestinal digestion. We know there are constantly forming in the intestines by normal processes of fermentation soluble alkaloidal poisons, which are taken up by the portal circulation and conveyed to the liver, whose function it is to destroy them. Now, if the liver is out of order and cannot kill these poisonous products, they enter the general circulation and produce most serious results. A large number of these poisons have been isolated, some of them resembling atropine, curare, and other powerful poisons. Healthy urine, which contains several of these, is more poisonous than the urine of diseased kidneys. It is now known that urea is not the cause of uræmia, for we often find no diminution in the amount of urea in the cases of many persons who show uræmic symptoms. It has been satisfactorily demonstrated that uræmia is entirely due to the presence of these alkaloidal toxins in the blood. Therefore, in every case of chronic nephritis intestinal antiseptics should be used. Five grains of salol and five grains of the subcarbonate of bismuth are very useful for this purpose. A course of mineral waters is a very useful adjunct to this treatment, especially if begun in the early stages of the disease.

When there is obstruction to the general circulation, caused by spasm of the arteries, the heart beat being rapid, strong, and vigorous and accompanied by an incompressible pulse, it means extreme danger. This condition is present in uræmic convulsions and puerperal eclampsia, where the pulse may run up to 130 or 140 per minute. In ordinary cases of fever a rapid pulse is not necessarily dangerous, but when the rapid action is accompanied with an incompressible pulse it becomes extremely serious. This condition is also found in acute alcoholic coma. General blood letting is imperative. If this cannot be done, large doses of the tincture of veratrum viride should be given. It will moderate the pulse, cause the heart to beat less strongly, open the contracted arteries, and make the pulse compressible. I have given twenty minims every twenty minutes for one hour and a half before the convulsions ceased.

Hypodermatic injections of morphine sulphate are sometimes very useful in uræmic convulsions. The dose should be increased from one-fourth grain up to one-half grain, and be repeated every two hours until the convulsions are controlled.

SEVERE POST-DIPHTHERITIC PARALYSIS IN AN ADULT TREATED BY ANTITOXIN.

BY GEORGE THEO. MUNDORFF, M.D.,

HOUSE PHYSICIAN, ST. FRANCIS HOSPITAL, NEW YORK CITY.

JOHN M—, aged twenty years, single, born in Ireland, by occupation a hotel porter, was admitted to St. Francis Hospital, service of Dr. August Seibert, March 2, 1896, complaining of general weakness and partial paralysis of the limbs. Family and previous personal histories were negative.

History of present illness: On December 25, 1895, the patient took sick with a severe attack of diphtheria, which kept him confined to his bed for ten days. He received internal medication, but no injections of antidiphtheritic serum. A few weeks after his apparent convalescence he noticed his articulation of words becoming indistinct, deglutition becoming embarrassed, the swallowed drinks regurgitating through the nares, and his voice acquiring somewhat of a nasal character. In addition, he suffered from double vision, scanty urination, and constipation. Subsequent to this walking became difficult, and finally his arms became powerless. Conscious of growing steadily worse, he decided to enter a hospital.

The patient was over six feet in height and weighed about one hundred and fifty pounds. He was anæmic and emaciated. The muscles of the trunk and of the four extremities were visibly atrophic, particularly noticeable in the pectorals, the deltoids, and the biceps. Patellary reflexes were entirely absent. The pupils were widely dilated and the vision was slightly impaired; there was no strabismus. The voice was hoarse, speech indistinct, and the pronunciation of the gutturals somewhat difficult. Examination of mouth: the velum palati was partially insensible to touch and absolutely motionless. The isthmus of the fauces and walls of the pharynx were slightly anæsthetic. The uvula was motionless and atrophied. There was difficulty in rising. The patient was barely able to support himself on his legs. The feet were cold. Application of electricity to various muscles elicited very weak response.

Diagnosis: Post-diphtheritic paralysis.

Treatment: Following Dr. Seibert's suggestion, an injection of the antitoxin of diphtheria (seven hundred and fifty units) was given above the right rectus abdominalis on March 4, 1896. There was no appreciable rise of temperature following this injection.

The patient was permitted to sit up the next day. Noticing the gradual improvement in the patient, we decided to give him another injection. This was done on March 13th, and at this time a strength of one thousand units was given. From this day until the present time there has been a marked improvement in the patient and a gradual disappearance of his former unpleasant symptoms. He has no more difficulty in articulation or deglutition. He is able to employ his arms and to walk about the wards.

This is the second case of severe post-diphtheritic paralysis within six months in an adult in Dr. Seibert's service, and in neither patient was any antidiphtheritic serum used. Whether or not the improvement of the paralysis in this case is due to a possible action of the antitoxin must necessarily remain doubtful until the complete action of the remedy has been fully analyzed.

March 30, 1896.

Progress of Medical Science.

Pylephlebitis and Abscess of the Liver Following Typhoid.—Dr. Lannois has recently described pylephlebitis and abscess of the liver following typhoid, in which the bacillus of Eberth was present in the pus from the abscess, though not in pure culture. He states that liver abscess following typhoid is very rare, occurring, according to Schultz, of Hamburg, once in thirty-six thousand and eighty cases. Lannois divides abscess of the liver following typhoid into three classes: (a) Metastatic abscesses having an external suppurative focus as a point of origin. (b) Abscesses from typhoid ulceration of the biliary passages. (c) Abscesses due to pylephlebitis. He places his case in the last class. The case occurred in a man of twenty-eight years of age and came on at the end of the attack, the patient having been afebrile for three days. At the end of this time he was taken with a violent chill with fever, and the signs of pleural involvement at both bases. This was followed by swelling of the abdomen and great pain in the right hypochondrium. There were no positive physical signs in the abdomen, and the case was regarded as one of tuberculous peritonitis on account of the pleural involvement and the swelling of the abdomen. The patient died three days after admission; the autopsy showing healed ulcers in the ileum, and also partly healed ones, both in this part of the intestine and in the appendix. The vena portæ, the inferior mesenteric vein, and the splenic vein all contained adherent ante-mortem clots. In the liver a number of abscesses were found containing creamy yellowish pus. A number of organisms were present in the pus, and one was isolated which resembled the typhoid bacillus in every way, except that it slightly liquefied gelatin. The author ascribes the liquefaction to impure culture, and states that this is the only case recorded where a satisfactory bacteriological examination has been made.—*Revue de Médecine*.

Is Surgical Intervention Warranted in Primary Renal Tuberculosis?—This question was the subject of an address delivered recently by Dr. Pousson. He first described the different methods of invasion in primary and secondary infection, as the bacilli locate in the vascular zone of the organ in the former case, and produce the phenomena of congestion, pains, and hæmaturia. Secondary infection attacks the zone of the pyramids and is a mixed process starting in the bladder, and revealing its presence chiefly by suppurative lesions, or pyuria. The hæmaturia is often the only symptom of infection for quite a while, and he cites many cases where it persisted alone for months. Here he thinks surgical intervention entirely uncalled

for, as this form is not exposed to complications from other infections, owing to the isolated position of the organ. Only when it is accompanied by severe pains preventing rest, or excessive, weakening hæmaturia, which forces the hand of the surgeon, as it were, is a surgical operation legitimate and nephrectomy indicated. In all cases in which the other organs seem to be exempt, he agrees with the majority of French physicians, that local attempts to exterminate these bacilli from the system are apt to be fruitless and followed by their reappearance there or elsewhere.—*Archives de Bordeaux*.

Fistula in Ano.—Dr. B. B. Porter (*Journal of Medical Science*) offers the following hints: 1. Remember to operate upon all cases of fistula where there is sufficient vitality or nutrition to heal the wound. Always divide the fibrous membrane at the bottom of the tract and pack the wound at the bottom for the purpose of healing by granulation. 2. Remember always to open abscesses early to prevent fistula in ano. 3. Remember, if you operate on a fistula in a tuberculous patient, to give him the benefit of the doubt. 4. Remember that you should never fail to examine your patients thoroughly for small arms leading out from the main tract, and examine for an associate stricture, which may be the cause of the fistulous tract. 5. Remember that you are never to cut the sphincter but once in any operation, and be careful and warn your patient of the danger of incontinence. 6. Remember that you are to confine your patient in bed, not trusting to care of the nurse exclusively. Tuberculous cases should be an exception to the rule; give them moderate exercise and fresh air. 7. Remember that physiological rest is the first principle in the cure of all diseases. 8. Remember that in all operations involving the rectum, it is good surgery to dilate the sphincter. 9. Remember that all cases of fistula in ano should be operated upon, and best by the knife, except in cases of Bright's disease, cancer, cardiac and hepatic affections.

On the Line of Action to be Adopted in the Case of a Woman Who is About to Die while yet Undelivered.—Remy advises under such circumstances as these that an effort be made to save the life of the child, and as a means of accomplishing this three plans have been suggested. They are: (1) To wait for the mother's death and then immediately to extract the child; (2) to do Cæsarean section while the mother is yet alive; (3) to employ means to expedite labor and to extract the child by the natural passages as speedily as possible. Remy then proceeds to discuss the relative advantages of these different modes of action. Prunshuber's statistics show that when the mother is allowed to die before the child is extracted by abdominal section, only about five per cent. of the children survive. Puech's statistics are somewhat more favorable; but there can be no doubt that the chance of obtaining a living child under these circumstances is very small. The performance of Cæsarean section upon a dying woman who is unable to give her consent to the operation is undoubtedly open to sentimental objections. Gusserow and Manasse consider that the operation is justifiable under the following conditions: (1) When it is clearly proved that the mother is about to die, and (2) that the child is alive. Remy favors the plan of rapid dilatation of the cervical canal and extraction of the child per vaginam. Violent measures should be avoided, and the dilatation should be proceeded with as slowly as the condition of the mother will permit. The cervix may be dilated by means of Champetier de Ribes' bag or by the hand alone. If traction is made upon the bag, dilatation may be produced in less than half an hour.—*Practitioner*.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE PAINS OF HEART DISEASE.

PAIN associated with diseases of the heart is one of the most alarming and distressing of symptoms. Nothing frightens even the bravest more than a feeling of pain in this region, with the sinking and feeling of helplessness that often accompany it. The prevalent idea that people who have heart disease are liable to die at any moment and the frequent reports of death from heart failure make symptoms of this kind particularly terrorizing.

Dr. James McKenzie, of Edinburgh, has published an article upon pains and other sensory symptoms that are associated with heart failure. Dr. McKenzie's article is devoted to the presentation of evidence showing the special kinds of pain, hyperæsthesia, and nervous disturbances that are produced by heart disease and heart weakness. He shows, also, the distribution and character of these pains and other sensations. He finds that the common seat of pain, in cases of heart weakness and in attacks of heart failure, is that which is familiar to all, namely, the region of the left breast and the left arm, especially the inner and ulnar side of it. He reports several cases of patients who had attacks of pain in this region, and in whom careful and repeated physical examination showed no heart disease. These patients all died suddenly, however, from acute heart failure. Dr. McKenzie finds that in persons who are liable to these attacks there is a cutaneous hyperæsthesia over the area where the pain is felt—a hyperæsthesia that is easily mapped out by slightly pinching the skin or pressing it with a pin-head. In most cases, he says, the pain starts in the chest and radiates into the arm. In rare cases the pain starts in the arm and radiates to the chest—a fact which has been noted by Walsh. There is sometimes, he finds, irregularity in the distribution of the pain; just as there are persons whose spinal nerves are distributed in a peculiar way. Thus, he gives an account of a man, fifty-two years old, whose chief complaint was pain induced by exertion. This pain began in the left chest, extending to the armpit, down the inside of the arm, thence across the palm to the thumb, causing great aching in the thumb. This man had no detectable heart disease, but he died rather suddenly, and the cardiac muscle was found to be fatty and degenerated.

Other cases are cited in which the pain was confined to the left chest under the nipple, and other cases in which it is limited to the ulnar border of the left

arm. These pains were generally brought on by some exertion, associated with some cardiac distress. At times the pain extends over to the right side and right arm, and one case is given in which the patient, with a very damaged heart, used to suffer from great pain over the right scapula and the inner part of the right elbow-joint. The bilateral distribution of the pain in heart disease is not equal, it being more marked upon the left side than upon the right.

Besides the hyperæsthesia and pain, which are described as occurring in the left chest and arm and sometimes the right chest and arm, Dr. McKenzie finds at times an abnormal sensitiveness over the neck, in the region of the sterno-mastoid and trapezius muscles. The pain of heart disease in some cases, starting in the left side of the chest, runs up into the neck and behind the ears, and in these cases hyperæsthesia is present here. Sometimes the pain and tenderness affect the whole of the left side of the face and may extend down, involving in this case the shoulder and outer side of the arm, instead of the inner side, as is the rule.

These phenomena of transferred pain are due, of course, to the irritation from the diseased organ passing up to the spinal cord, and thus referred down along the cervical nerves. This tendency to transference of pains has been often studied, and is one of the curious and at the same time important phenomena observed in one's clinical studies.

ICE CREAM.

THE British Institute of Preventive Medicine has dealt a deadly blow to ice cream. A very exhaustive inquiry regarding the nature and adulterations of this toothsome substance has just been completed by Dr. MacFadyen and Mr. Collyer, F.I.C. These gentlemen tell us that ice-cream has only 26.5 per cent. of solids, the rest being water; that the solids consist of fats, four per cent.; sugar, twelve per cent.; starch, six per cent.; albuminoids, four per cent.; and mineral matter, one-half per cent. This all sounds well enough, and would lead the unwary reader to think that ice cream was all right, but the denouement comes in the results of microscopical research. The microscope shows the presence, in London ice cream at least, of bedbugs, bugs' legs, fleas, straw, hair, coal dust, woollen and linen fibre, tobacco, epithelial scales, and muscular tissue. Even the microscopical examination, however, is delectable compared with the results of bacteriological studies. These reveal in street-barrow ice cream, a maximum number of seven million microbes per cubic centimetre, while the ice cream of the shops has only one million per cubic centimetre. The character of the micro-organisms is extremely mixed. There are the bacteria coli commune, besides spirillæ and putrefactive microbes of various kinds. We find no account of a chemical analysis, which would perhaps add the final touch to the pathological picture of the ice cream of the shops. In this country it is known that ice creams chemically contain a poison known as tyrotoxin. But in London

it seems, what with the bugs and the microbes and the filth generally, there is no particular need of further research to prove that the ice creams of the peddlers and the streets are not good things to eat. It would be a manifest injustice to the ice-cream industry, however, to suppose that the supply which is furnished to the American public is at all comparable to that which has been investigated by the English authorities.

News of the Week.

Royal College of Surgeons in Ireland.—At the election of officers of this body, held on June 1st, Mr. Thomson was chosen *President*, Mr. Kendal Franks *Vice-President*, and Sir Charles Cameron *Secretary*.

Section on Alcoholism at the Moscow Congress.—The organizing committee of the Twelfth International Medical Congress has, at the request of Dr. Ignatiew, decided to establish a section for the discussion of the alcohol question. This is the first time there has ever been a special section for alcoholism at an international congress.

The Plague in Hong-Kong.—Eighty-one cases of bubonic plague were reported in Hong-Kong during the week ending June 1st, the deaths during the same period numbering seventy-three.

An Epidemic of Hysteria visited several of the public schools in this city last week. It began with a statement by one of the little girls that she had seen the devil, and during that and the following days many of the other girls, frightened by each other's stories, were seized with hysterical convulsions and delusions of visions of evil spirits.

Appropriation of a Name.—Harvard University, on behalf of its medical school, has filed a bill in the United States Court in Chicago, against the Harvard Medical College of Chicago, seeking to enjoin the latter from the use of the name "Harvard," as being a fraud upon the university and the public. Suit was begun June 13th in the United States Court, Northern District of Illinois, in equity. The title of the case is "The President and Fellows of Harvard College vs. The Harvard Medical College of Chicago."

The Mississippi Valley Medical Association.—A meeting of the executive committee of the Mississippi Valley Medical Association was held at Atlanta, on May 6th, and the following gentlemen were appointed to deliver addresses: Dr. H. N. Moyer, Chicago, address on "Medicine"; Dr. Horace H. Grant, Louisville, address on "Surgery."

The New York Polyclinic.—Dr. W. W. Van Valzah has been elected professor and Dr. J. Douglas Nisbet adjunct-professor in the department of general medicine at the New York Polyclinic Medical School and Hospital.

A Jenner Memorial Medal.—At the annual meeting of the Epidemiological Society of London, on May 15th, it was unanimously resolved, having regard to

the historical connection of the society with vaccination and other preventive measures, to found a medal in memory of Edward Jenner. It is proposed that the medal shall be founded with a view to the promotion of epidemiological research, and that it shall be bestowed from time to time by the society on persons who shall have contributed to the knowledge of preventive medicine.

Obituary Notes.—DR. WILLIAM ANDERSON died at Indiana, Pa., March 29, 1896, aged seventy years. He graduated at Jefferson Medical College in 1852, locating at Indiana, Pa., where he continued in the practice of his profession until the time of his death. He was one of the founders and for many years secretary of the Indiana County (Pa.) Medical Society, and in 1865 president of the Medical Society of the State of Pennsylvania.—DR. THOMAS HUN, of Albany, died at his home in that city on June 22d. He was born in 1808, and attended Union College, from which he was graduated in 1825. He received his degree in medicine from the University of Pennsylvania in 1830, and afterward studied for a time in Paris. He was for many years dean of the Albany Medical College.—DR. MORGAN L. FILKINS, an eclectic physician of Rochester, died at his home in that city on June 13th, at the age of seventy years.—DR. CARL FINKELNBURG, professor of hygiene at the University of Bonn, is dead. He was born in Maria-linden, June 16, 1832.

The French Congress of Ophthalmology, which was held last month, was presided over at its closing session by Dr. Lucien Howe, of Buffalo, N. Y. The prevention of blindness, which was one of the questions receiving especial attention, was brought up by Dr. Howe, who stated that in America laws have been passed in several States to punish midwives by imprisonment and fine if they do not give prompt notice to the medical authorities of the occurrence of ophthalmia in new-born children.

St. John's General Hospital at Pittsburg, Pa., was formally opened on May 12th. The hospital will be in charge of a superintendent and an assistant superintendent, who are deaconesses from the Drexel Home at Philadelphia.

The First Scandinavian Congress for Internal Medicine will be held in Göteborg on August 27th, 28th, and 29th of the present year. Dr. H. Köster, of Göteborg, is the provisional secretary.

Dr. James Hamill, a veterinary surgeon of Brooklyn, died a few days ago in the witness chair in court, while giving his testimony in a suit over the sale of a horse.

American Association of Genito-Urinary Surgeons.—At the meeting of the American Association of Genito-Urinary Surgeons, held at the Hotel Brighton, Atlantic City, N. J., June 2d and 3d, the following officers were elected for the ensuing year: *President*, Dr. Francis S. Watson, of Boston; *Vice-President*, Dr. J. William White, of Philadelphia; *Secretary*, Dr. W. K. Otis, of New York.

Dr. R. A. Blood, of Charlestown, has been appointed by the governor surgeon-general of the Massachusetts Volunteer Militia to fill the vacancy caused by the death of the late Dr. Edward J. Forster.

The American Association for the Advancement of Science will hold its forty-fifth annual meeting at Buffalo, August 22d-29th.

Washington State Medical Society.—At the annual meeting of this society, held at Tacoma on May 19th and 20th, Dr. R. L. Thomson, of Spokane, was elected *President*, and Dr. J. M. Semple, of Medical Lake, *Secretary*. The next meeting will be held in Spokane in May, 1897.

The Woman's Medical College of Baltimore has lengthened its annual course to eight months, from October to May inclusive. The following appointments in the faculty have been made: Dr. R. T. Taylor, orthopædics; Dr. T. C. Gilchrist, dermatology; Dr. H. P. Hynson, pharmacy; Dr. G. M. Linthicum, physiology; Dr. K. B. Batchelor, associate professor of obstetrics. A chair of mental diseases has been added and also departments of bacteriology and embryology.

Famine in China.—There is a famine in Kwangsi province, China, and it is reported that the people have been driven to the killing of children for food.

Cholera in Egypt.—The official statistics show that during the first ten days of June there were in Egypt 761 new cases of cholera and 631 deaths. Of these, 249 new cases and 230 deaths were in Cairo.

Garbage Disposal.—It is proposed to organize a private company in Plainfield to dispose of garbage. The system will, however, be under the supervision of the board of health. The company will furnish each house with an air-tight can and have a set of cans numbered in duplicate. The gatherer when he leaves the plant will have the same number of cans on his wagon as he will bring back, and at each house where he removes a can he will leave the duplicate. As soon as the cans are emptied they will be disinfected with steam. All the garbage will be burned in a crematory.

Sailors Killed by Sunstroke.—On a recent voyage of the British cruiser *Bonaventure*, the flagship of the East India squadron, from Colombo to Pondicherry, seventy men were lost by heatstroke.

A Gift to the Public Library.—Mr. J. S. Kennedy has presented to the New York Public Library on the Tilden, Lenox, and Astor foundations, the American historical collection of Dr. Thomas Addis Emmet. The collection will be known as the Emmet Library.

Andrea Verga.—A bust to the memory of Prof. Andrea Verga, the Italian alienist, whose death occurred last year, was unveiled in Milan on May 15th. The bust was placed in the hall of the Society for the Protection of the Insane Poor, of which he was the founder.

Anti-Vivisectionists and Hospitals.—An anti-vivisection society in England has issued a manifesto

advising the withholding of Hospital Sunday contributions from hospitals to which laboratories are attached. How the post-mortem examination of human tissues in hospital laboratories can hurt the feelings of dogs and horses is not explained.

Medical Examinations in England have become multiplied to such a degree as to be a burden, and the General Medical Council is considering how far the unessentials may be cut out from the list of requirements.

Degeneration of the British Army Medical Service.—Owing to the low social standing to which medical officers in the British army are condemned, there has been an unusual lack of candidates at recent examinations. Instead of removing the difficulty by recognizing the doctors as gentlemen and soldiers, it is proposed to tempt more candidates by lowering the standard of requirements.

The Anti-Vivisection Bill.—Dr. Atkinson writes to the *Journal of the American Medical Association* that he has received letters from Senator M. S. Quay, Congressman Robert Adams, Jr., Senator McMillan, and from the commissioners of the District of Columbia, all of whom appear to be impressed with the justice of the protests against the obnoxious anti-vivisection bill, and will aid to defeat it.

Dr. Renvers, fleet-surgeon to the German Asiatic squadron, died of accidental poisoning on board the flag-ship *Kaiser*, in Yokohama harbor, on April 11th. In the early hours of that morning Dr. Renvers wished to take a dose of medicine, but inadvertently poured into the glass a solution of bichloride of mercury and drank it off. He at once discovered the mistake, and the stomach was emptied without delay, but without avail, as death speedily followed.

The Population of London, according to the census taken last March, is 4,411,271. In 1891 it was 4,211,743, an increase of nearly 200,000 in five years.

Dr. Arthur Stradling died recently in Ceylon from a snake bite. He had for many years been studying the venom of snakes in India and Ceylon with a view to the discovery of an antidote. He believed that he had succeeded in this and that he was immune against snake bites, but his belief was ill-founded, for he died within a few hours after being bitten.

Lead Poisoning is doubtless of much more frequent occurrence than is generally supposed. In England the law now compels the report of all cases of plumbism to the Faculty Department. For the month of February fifty-three cases were reported, and in March sixty-five. Of the latter thirty-eight were men, twenty-one women, and six children—four boys and two girls.

A Berlin Society of American Dentists.—The dentists of Berlin who are graduates of American dental colleges, at a meeting recently held, decided to form an organization.

Prophylactic Injections before Operations on Diabetics.—M. Boucheron, at a recent meeting of the

Biological Society, read a paper on the importance of injecting streptococcic serum previous to operating on diabetic patients. He especially recommends this treatment in operating for cataract.

Tillmanns on Lister.—A recent number of *Nature* contains an appreciative biographical sketch of Sir Joseph Lister from the pen of Prof. R. H. Tillmanns, of Leipsic. "As long as there is an earthly immortality it must be his, for as long as ever surgery is scientifically discussed his name cannot fail to be mentioned," are the closing words of the article.

Stricken Cuba.—Reports from Cuba to the newspapers and press associations continue to bring notice of epidemics in many parts of the island. At Cienfuegos small-pox is epidemic, forty deaths from the disease having occurred during the second week in June, and yellow fever, dysentery, and pernicious malarial fever prevail to a constantly increasing extent. Yet no attempt is made to improve the sanitary condition of the place, the Spanish officials' indifference in such matters being illustrated by the fact, as reported by the Associated Press, that there was a large heap of dead horses decomposing in the steaming heat near the railway station, and not the first step had been taken to bury them. In Havana measles and dysentery are epidemic, small-pox and yellow fever are steadily increasing, although the latter is confined chiefly to the Spanish troops, and the usual malarial fevers of the rainy season are rife. The sanitary condition of the city is very bad, the water supply is poor and in danger of being cut off entirely by the revolutionists, and milk is scarce and of bad quality. From Santiago the United States Marine Hospital inspector reports that small-pox is raging epidemically and is constantly increasing, as no attempt at isolation of the sick is made, pernicious malarial fever is very common, and many deaths occur from dysentery among adults and from gastro-enteritis among children. From Sagua la Grande the American consul reports that the number of deaths from yellow fever in the army of occupation is steadily increasing.

Chiropodists, Too.—Our esteemed contemporary, *The Medical Press*, takes umbrage at the striving after higher things of our opticians, giving vent to scorn in the following: "The vendors of spectacles propose to follow the example of the plumbers, nurses, midwives, and, perhaps, the chimney sweeps and pork butchers, and to get themselves recognized and registered by law. At least, a bill with that object has been introduced into the New York legislature, which provides for a State board composed of spectacle sellers, with a corps of examiners, and all sorts of penalties for any one who sells a pair of goggles without a license." Our contemporary forgets the chiropodists and their society. But why shouldn't all be registered whose trade or profession demands the exercise of special skill, through lack of which injury may be inflicted upon innocent persons?

The Teaching of Science in Elementary Schools is said by the Bishop of London to be a very great evil, and he urges that it be got rid of. We wonder

what he would think of wasting several hours a week in trying to teach six-year-olds the chemistry of alcohol.

To Prevent the Spread of Contagious Diseases.—Secretary Carlisle has issued an order designed to prevent the spreading of contagious disease by immigrants in other places than the port of entry. It provides that after arrival at a quarantine station of a vessel upon which there appears, or has appeared during the last voyage, a case of cholera, small-pox, typhus fever, or plague, and after quarantine measures provided by regulations of the treasury department have been enforced and the vessel given free pratique, it is ordered that notification of the above-mentioned facts be transmitted by the quarantine officer to the commissioner of immigration at the port of arrival, whose duty it shall then be to transmit by mail or telegraph to the State health authorities of the several States to which immigrants from said vessel are destined, the date of departure, route, number of immigrants, and the point of destination in the respective States of the immigrants from said vessel, together with the statement that said immigrants are from a vessel which has been subject to quarantine by reason of infectious disease, naming the disease. This information is furnished to State health officers for the purpose of enabling them to maintain such surveillance over the arriving immigrants as they may deem necessary.—*Boston Medical and Surgical Journal*.

A Wasted Life.—Dr. J. R. Fabricius, of New York, writes: "Reading your article, 'A Physician's Heroism,' in a recent issue of your paper, recalls to my mind the case of Dr. Maier, who during his service as assistant physician in the Julius-Spital, Würzburg, in 1894, received an alcoholic suffering from diphtheria. After tracheotomy had been performed, the doctor thought it necessary to remove some obstructing membrane from the air tract, for which purpose he inserted a catheter, sucking up the material. The result of this was that Dr. Maier contracted a malignant type of the disease, which rapidly proved fatal, while the patient recovered."

The British Medical Association is to be invited to hold its annual meeting for 1897 in Montreal.

Turning the Tables.—A physician complains in *The Lancet* that he recently went to the New Hospital for Women in London, and asked to be allowed to be present at the dispensary hour. The superintendent informed him, however, that the hospital was conducted by female practitioners only, and no medical man could be admitted, as the patients would not like it. Our contemporary comforts the indignant correspondent by informing him that the Pathological Society of London has recently refused by a large majority to admit women members.

Shorthand for Medical Students.—A petition, signed by the members of the Society of Medical Phonographers and others, has been presented to the General Medical Council of Great Britain, praying that shorthand shall be an extra optional subject for the preliminary examination required by the council.

Vaccination in the Philadelphia Schools.—The Philadelphia board of health is endeavoring to enforce strictly a law enacted a year ago, which makes it obligatory on the heads of Sunday, parochial, and private schools to see to it that no child is allowed to remain in the school who cannot present a certificate of successful vaccination or of having had small-pox. It is merely the application to Sunday schools, parochial schools, and private schools of the same conditions which in the past have been imposed in the public schools.

Foreign Students in France.—The medical students of Paris are still exercising themselves concerning the question of competition by foreigners. A petition, signed by most of the hospital internes, has been presented to the government, praying that every foreigner may be allowed to be registered as a medical student, but that the doctor's degree shall not give foreigners the right to practise in France. This right should be exercised only by those who are graduates in arts of a French university and naturalized French subjects. In other words, foreigners may be allowed to imbibe knowledge and pay out good gold in exchange, but shall not be allowed to utilize the knowledge so acquired or get back any of the money so expended from French subjects.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C. Changes in the Medical Corps of the U. S. Navy for the week ending June 13, 1896. June 6th.—Passed Assistant Surgeon P. H. Bryant ordered to Naval Station, Newport, R. I. Assistant Surgeon C. M. De Valin detached from the Chelsea (Mass.) Hospital and ordered to the *Blake*. June 13th.—Passed Assistant Surgeon E. R. Stitt, detached from the *Bache* and ordered to the *Vermont*. June 15th.

Changes in the Medical Corps of the U. S. Navy for the week ending June 20, 1896. June 12th.—Surgeon R. Whiting detached from the *Monterey*, ordered home, and granted three months' leave. Surgeon C. T. Hibbett, detached from the *Bennington* and ordered to the *Independence*. Surgeon H. T. Percy, detached from Board of Examiners, Washington, D. C., July 1st, and ordered to the *Monterey*. Surgeon W. A. McClurg, ordered as member of Medical Examining Board, Washington, D. C. Passed Assistant Surgeon J. W. Baker detached from Board of Examiners, New York, June 22d, and ordered to the *Bennington*. Passed Assistant Surgeon C. F. Stokes ordered as recorder of the Medical Examining Board, New York, June 22d. June 13th.—Surgeon A. C. Russell detached from the Board of Medical Examiners, New York, July 5th, and granted leave until August 7th, with permission to go abroad. Assistant Surgeon M. K. Johnson detached from the *Franklin* and ordered to the *New York*. Assistant Surgeon F. C. Cook detached from the *New York* and ordered to treatment at Naval Hospital, New York. June 15th.—Assistant Surgeons W. N. Wheeler and R. S. Blakeman ordered to instruction at Naval Laboratory, New York. Passed Assistant Surgeon J. W. Baker ordered to delay reporting until July 18th.

Obituary.

THOMAS F. COCK, M.D., LL.D.,

NEW YORK.

THE death of the veteran physician, Dr. THOMAS F. COCK, closes an eventful life history intimately associated with the medical progress of the past half-century. It is so seldom vouchsafed to a medical man to compass such an extended sphere of usefulness that his final taking off carries with it a satisfaction of unusual privileges well improved and valuable services modestly and consistently fulfilled. His entire career was marked with such an earnestness of purpose and sincerity of endeavor that he was a shining example to all the numerous medical friends with whom his onerous and responsible duties brought him in professional and social contact. From the commencement of his career he took a leading place and proved how much could be accomplished by faithful work, untiring ardor, and loftiness of purpose. His large family practice, which grew with his years and strengthened with his rapidly extending associations, was, in the fulness of his prime, the substantial evidence of properly estimated and widely appreciated worth. The soul of gentleness shone in all the phases of his varied duties and made him to his patients not only the calm and self-reliant physician but the ever helpful friend in most trying emergencies. Eminently practical in his instincts, he enjoyed to the fullest measure every opportunity for those broader and more varied experiences which make the life work of the general practitioner so interesting and so fraught with well-requited labor. Thus he worked, quietly, modestly, and earnestly, leaving behind an unblemished life and the highest exemplification of a consistently earnest Christian character. Better than this can be said of no man whose every effort was directed to the saving of the life of others, and none can better merit the divine benediction of "Well done, thou good and faithful servant."

He was born in this city in 1819, and after a preliminary training entered Columbia College in 1832 and subsequently Haverford College (Pennsylvania), in 1834, from which latter institution he graduated in 1836. He then commenced the study of medicine in 1836 in the office of Dr. Alexander H. Stevens, of New York. In 1838 he went to Philadelphia to attend lectures in the University of Pennsylvania, and was graduated there in 1839. During his stay in that city he was a private pupil in the office of Dr. George B. Wood. In 1840 he entered Bellevue Hospital as interne and commenced practice in New York in 1841. He was elected visiting physician to Bellevue Hospital in 1849 and served there until 1855, when he resigned. He was then elected visiting physician in 1855 to the New York Hospital and continued in service until that institution was removed to Fifteenth Street in 1868, when he resigned and was appointed on the consulting staff, which office he held until his death. He was also consulting physician to the Woman's Hospital, Woman's Infirmary, and New York Lying-in Asylum, to which he was attached since 1841. He was also a member of the Medical Society of the State of New York, of the County Medical Society, of the American Medical Association, of the Society of Widows and Orphans of Medical Men, honorary member of the Medical and Surgical Society, and an original member of the New York Academy of Medicine and New York Pathological Society. The degree of LL.D. from Haverford College (the first one granted by it) was conferred on him in 1883.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL MEETINGS AND MANAGEMENT—MEDICAL SOCIETY'S CONVERSAZIONE—THE BREAKING-STRAIN—POST-OFFICE MEDICAL ASSOCIATION—WOMEN AND THE PATHOLOGICAL SOCIETY—A FEMALE EXAMINER—A JENNER MEDAL—JENNER SOCIETY—HIS STATUE—THE GLOUCESTER EPIDEMIC—THE VACCINATION COMMISSION—CLINICAL SOCIETY.

LONDON, June 6, 1896.

HOSPITAL meetings are very thinly attended unless some dispute is on hand. Governors who subscribe handsomely can seldom be induced to attend, and officials are often obliged to canvass to secure a quorum for the transaction of the formal business. It is not altogether indifference, as the handsome subscriptions often attest; but to many men it is easier to give money than time, especially during business hours. And then, "after office hours" most people have engagements of some kind, absolute leisure being almost unknown in their lives. Family claims are more urgent than those of charity, and it is assumed that the latter is well covered by subscriptions so long as confidence is felt in the management. The misfortune of this is that the average governor is profoundly ignorant of the elements of hospital management, and when some excitement or scandal threatens is unable to form a reliable judgment on the case. At Wolverhampton lately the annual meeting was followed by a good concert, and in other towns some such inducement has been successful in attracting attendance. The dinners so often held are seldom the occasion of transacting any business. Indeed, they are almost invariably nothing more than efforts to raise money, and an invitation to a festival dinner is regarded only as a begging letter.

The apathy of subscribers as to the management of their charities accounts to some extent for the way in which the officials and a few officious persons are able to rule these institutions and for not a few of the scandals that occur. These officious persons attain to such importance in their own eyes that they cannot bear to have their opinions or plans discussed. Some treat their medical officers in a way that menial servants would resent, and when the staff decline to be domineered over are quite incapable of appreciating the position. The newspaper correspondence on the Liverpool case illustrates this. One of the board actually has written in the local papers that the doctors had claimed to decide whether a case is theirs or may be trusted to the midwife, and adds that this would give the doctors too much control, so the board was bound to resist. The best thing a board so prejudiced could do would be to resign their offices, and so make way for a new set of managers who would not be so blind as to prefer the control of the matron midwife.

The *conversazione* of the Medical Society was a sufficiently successful function, and amid light refreshments and smoking afforded opportunity for chit-chat and renewed intercourse with professional friends. The annual oration was a sufficiently serious make-weight. It was delivered by Dr. Allchin, who took for his subject "The Breaking Strain," or the exact conditions of death. How living protoplasm passes into the state of dead matter he regards as a proper subject of scientific research, and as quite distinct from the necessarily insoluble Why. He pointed out that death is not inevitable to every living creature, unicellular organisms merely dividing and so having a kind of immortality; but the power of self-division

is lost by cells which have advanced in differentiation, and propagation is then confined to certain elements, the individual dying. The life of the soma is identified with its nutrition and closely related to its reproductive power, the failure of the last being associated with senescence. Perhaps, then, the necessary stimulus to vitality may reside in the sexual elements—a ferment, perhaps, or internal secretion. This is surely material enough for any one. The hypothesis is certainly no more unreasonable than its opposite—the development of an antitoxin.

The annual meeting of the Association of Post-Office Medical Officers was held last week, when a report was submitted, prepared at the request of Lord Tweedmouth, on the sanitary state of the post offices of the country. At the dinner in the evening Sir Walter Foster was among the guests, and, replying to the toast of the Houses of Parliament, commended the officers as having wisely and well organized themselves, and expressed his desire to see life peerages occupied by medical men in recognition of their self-sacrifice for the good of humanity. None are more worthy of seats among the Lords.

The *Press and Circular* is excessively angry with the Pathological Society for declining to admit women, and declares that all the arguments were with the innovators but the votes with the conservatives. The arguments of the latter are termed by the *Press* "tiresome old platitudes" and "diatribes against the impious trespass of women." This is pretty strong, but your contemporary goes on to declare that there is "pruriency in the very suggestion" of feeling it "indelicate to discuss certain subjects before a fellow practitioner, female though she be," and that it is "mere professional jealousy and petty rivalry." After this, it was hardly necessary to call names, such as "sexual hyperæsthetics," or sneer at "superannuated fellows" defending their society from "moral contamination." If these angry phrases represent "the arguments of the innovators," it is scarcely to be wondered at that the "votes of the conservatives" went against them. After such a display of feminine anger I hope your contemporary feels relieved.

A different phase of the woman question has been reached in Dublin. There the students are excited because the College of Surgeons has appointed Miss Dr. Dickson examiner in obstetrics. This is only the corollary of admitting ladies to the profession, and, as Miss Dickson is a most distinguished Dublin student, I cannot see why her fellow-students should object to her becoming an examiner. Perhaps it is only Pat's love of excitement that makes him threaten. Irish students could not be destitute of the national humor.

The Epidemiological Society proposes to found a memorial Jenner medal, to be bestowed from time to time on persons who shall have contributed to the knowledge of preventive medicine.

A Jenner society has been formed at Gloucester, of which the zealous medical officer of health, Dr. Bond, is secretary. The first work of the society will be to circulate truthful literature on vaccination and otherwise check the false statements of the misguided "antis," or, as Jenner called them, "anti-vaccs," for he met with the usual opposition of ignorance and self-conceit.

The colossal bronze statue of Jenner in Kensington Gardens is the work of Mr. Calder Marshall, R.A., and is dated 1858. There was at first no little discussion as to the site it should occupy. It was first placed in Trafalgar Square, but some argued that Jenner would be out of place among soldiers and sailors, and some cynically pretended that no place could be found for one who only saved lives instead of destroying them. Mr. Punch had some lines addressed to England by

the ghost of Jenner, in which occurred the cutting couplet:

"I saved you many a million spots,
And yet you grudge one spot for me."

A spot was eventually found, and the statue removed from Trafalgar Square to Kensington Gardens.

The epidemic at Gloucester is abating somewhat, but is still a terrible object lesson. Four per cent. of the population has been attacked. During the last three weeks only two hundred cases were notified, bringing the total of the epidemic up to more than eighteen hundred.

On May 29, 1889, the vaccination commission was ordered to "report with as little delay as possible." During these seven years, at a cost of nearly £20,000, the inquiry has dragged its slow length along, but no report has yet seen the light and the laws on vaccination have been in many places left in abeyance pending the expected report.

At the meeting of the Clinical Society of London, on Friday, Dr. A. H. Weiss Clemon read notes of a case of typhoid fever with hyperpyrexia, in which acute cardiac dilatation occurred, treated by venesection and resulting in recovery. Mr. A—, aged twenty-five, became ill on November 13, 1895. His condition was, on the 26th, satisfactory; pulse 90, tongue moist and not excessively furred, and no abdominal distention. At 10 and 11:45 P.M. epistaxis occurred. Temperature at midnight, 103.4° F. Two hours later there was a severe rigor, he became wildly delirious, and the axillary temperature rose to 106.7° F. Vigorous iced sponging reduced this to 103° F., and he became quiet, though he continued unconscious. At 7 A.M. his temperature was normal, but at 7:30 there was another rigor with delirium, and the axillary temperature rose to 107° F. Iced sponging again lowered the temperature and quieted the delirium. Between 11 and 11:30 A.M. a rapid change for the worse occurred. The patient was apparently *in articulo mortis*, the face deeply cyanosed, the jaw dropped, conjunctival reflex absent, and respiration consisting of almost futile inspiratory efforts. Examination of the heart revealed a very considerable distention of the right side of acute onset. He was at once bled eight ounces, and subcutaneous injections of digitalin (one-one-hundredth grain) and strychnine (one-thirtieth grain) and brandy administered. The cyanosis then gradually diminished; the pulse, although very feeble and irregular for a few minutes, became fuller and less rapid; and shortly the respiratory movements improved, air entering the chest more readily. An hour later, and subsequently every three hours for the next twenty-four hours, the injection of digitalin and strychnine was repeated, supplemented by enemata of peptonized milk, beef tea, and brandy. About five o'clock he regained consciousness and was able to take some nourishment. The next day considerable hypostatic congestion of the lungs manifested itself, but passed off under appropriate treatment. During the remainder of his illness rigors threatened on two or three occasions, the temperature rising to 103° or 104° F., but the patient ultimately made a complete recovery.

Dr. Chapman noticed that the venesection was successful in reducing the temperature after the usual antipyretics had failed.

Dr. F. L. Benham said it was an open question how far this reduction in the temperature was due to the venesection. In a case of rheumatic hyperpyrexia which resisted antipyretic measures he employed venesection as a last resort, but without any benefit.

Dr. S. West pointed out that rigors not unfrequently follow hyperpyrexia. Bleeding, he said, is a great relief to the overdistended right ventricle, acting in a mechanical way, but will not of itself reduce pyrexia.

Dr. H. D. Rolleston and Mr. Warrington Howard related a case of chronic dilatation of the colon in a boy aged twelve. During the three months that he was under observation his condition varied, often very suddenly. He would improve for a time, the bowels acting daily and the abdomen becoming soft. Then suddenly constipation and vomiting would come on without manifest cause. These attacks usually subsided in a day or two, but in one of them he died. There was never any obstruction, the bowels acting nearly every day. Treatment was varied, but, with the exception of calomel, nothing seemed to do any material good.

Post-mortem: Great dilatation of the colon was found; the ascending colon passed up to the hepatic flexure, from which point the transverse colon descended to the neighborhood of the cæcum; the descending colon occupied the greater part of the right half and upper portion of the abdomen; it passed out of sight in the left lumbar region, and then joined the dilated sigmoid flexure. No stricture or cause for obstruction could be found anywhere. There were numerous ulcers in the colon, due presumably to distention. The muscular coats were hypertrophied.

Mr. Baldwin related a case of central sarcoma of the femur with early dissemination, in a man aged thirty-five, who died two days after admission. A post-mortem examination was made, and widely disseminated growths were found.

OUR BERLIN LETTER.

THE TWENTY-FIFTH (JUBILEE) CONGRESS OF THE
GERMAN SURGICAL SOCIETY.

(From our Special Correspondent.)

THE German Surgical Society, which was founded in 1872 by Langenbeck, Volkmann, Simon, Bardeleben, v. Bruns, Gurlt, and Billroth, held its twenty-fifth meeting here during Whitsun week. There was a large attendance of surgeons from all parts of Germany, and many foreign guests were present. Among the latter were Sir Spencer Wells, Reginald Harrison, and John Langton from England; Halsted, of Baltimore, and Lange, of New York; Ollier and Guyon, from France; d'Antona and Bottini, from Italy; and Sklifossovski, from Russia. The meeting was opened by v. Bergmann, who gave a sketch of the foundation and work of the society and spoke of the many great surgeons who had taken part in its deliberations. The cultus-minister welcomed the members on the part of the State.

The first paper was one of an historical nature, by v. Esmarch, of Kiel, in which he reviewed the history and development of his method of bloodless operation. When the speaker was a student, the main objections to many operations were the pain, the danger of infection, and the hemorrhage. It had been his fortune, after the first two of these obstacles had been overcome, to discover by accident the way to remove the third.

Bruns, of Tübingen, then delivered an address upon the development of the modern treatment of goitre. The earlier treatment by injection of iodine and other medication had been superseded by extirpation of the gland, for it was thought that the thyroid was of no special importance in the economy. The symptoms following this operation had, however, demonstrated the physiological significance of the gland, and now the extirpation was only a partial one. The most recent treatment is with thyroid extract, by means of which a rapid and extensive improvement in the symptoms, if not an absolute cure, is obtained. König followed Bruns with a paper on the development of

our knowledge of local tuberculosis, particularly of the bones and joints, in the past twenty-five years. He said that surgeons were now more conservative than formerly in their treatment of these affections, injections of appropriate remedies and orthopædic measures being now approved. The results were more satisfactory than those of the more energetic modes of treatment. Wölfler, of Prague, then presented a communication on gastro-intestinal surgery, and Sonnenburg, of Berlin, one on the surgical treatment of appendicitis. The latter said that every case must be treated by itself, according to the special indications. In simple catarrhal inflammation, an expectant treatment is indicated, but in cases of frequent relapses or when suppuration has set in, an operation is necessary. When septic infection has occurred the operation is too late. The best results are obtained in uncomplicated cases in which the appendix is removed. Langenbuch, of Berlin, closed this series of addresses by an historical review of surgery of the gall bladder.

Anger, of Munich, then read a paper on the results of Thiersch's neurexæresis, which consists in seizing the diseased nerve with forceps and gradually twisting the latter. In this way from twenty to twenty-five centimetres of the affected nerve may be removed. The speaker regarded this as an excellent method, and one which guarded more surely against relapses, and which was free from the dangers of some other operations.

Credé, of Dresden, spoke of the advantages of silver as an antiseptic. It was found that a bacteria-free zone was always present about a piece of metallic silver introduced into a culture. Chemical investigation had shown that a lactate of silver was here formed, but of all the salts of silver the carbonate was the best for antiseptic purposes. A silver solution destroys pathogenic germs when it is of the strength only of 1 to 8,000, whereas the required strength of a sublimate solution was 1 to 2,000. In practice Credé used silver powder and silver gauze, which he said gave excellent results in the case of small wounds.

Petersen, of Heidelberg, spoke on the bacteriotherapy of malignant tumors. His experience had demonstrated that sarcomata could be cured by the action of toxins, but carcinomata had hitherto proved refractory to such treatment. Riedel, of Jena, remarked that the microscopical diagnosis of sarcoma could not be made with absolute certainty, and it was quite possible that the supposed sarcomata in these cases were pseudoleukæmic tumors which were also curable with arsenic.

The recognition of bone lesions by the "X" rays was the subject of two communications by Kümmel, of Hamburg, and Geissler, of Berlin. The presence of diseased bone was shown in the skiagraph by a wavy blurring of the sharp contour of the bone. Kümmel had obtained pictures with an exposure of only twenty to thirty seconds. He passed around pictures showing disease of the elbow, the knee, the shoulder, swelling of the phalanges of the fingers, sarcoma, foreign bodies, etc. The apparatus with which these clear pictures were taken in so short a time was very expensive, costing about \$250. Feilchenfeld said that long exposures were not without their inconveniences, for he had seen an eczema solare produced in the case of a girl by an exposure of a half-hour's duration to the Roentgen rays.

Lexer, of Berlin, read a paper on experimental osteomyelitis. He had found that osteomyelitis in animals ran a much shorter and milder course after injections of attenuated cultures of streptococcus. v. Zolge, of Dorpat, showed the skeleton of a sixteen-year-old boy who had died of myositis ossificans. The bony outgrowths corresponded to the former muscles.

Olshausen read a paper on vaginal extirpation of the cancerous uterus. The cases for operation should be selected with the greatest care, for when the lymphatics of the uterus are already involved the operation should not be undertaken, or, if already begun, should be discontinued. In one hundred cases of vaginal extirpation he had had but one death. He believed that this operation formed one of the greatest advances of modern times, more patients being saved from certain death by this means than by any other. After Dührsen, of Berlin, had described a method intended to replace Cæsarean section, and Schuchart, of Stettin, an operation devised by himself for treatment of advanced stages of carcinoma of the uterus, Baumgärtner, of Jena, read a paper on the surgical treatment of hemorrhoids. The speaker was not in favor of the thermo-cautery or of ligation of the tumors, since by these methods too much normal tissue is destroyed. His method is to dissect out the individual tumors and tie them off, suturing the incised mucous membrane. The loss of blood is very slight, and the superficial incisions are quickly healed.

A paper by Lorenz, of Vienna, on the bloodless surgical treatment of congenital dislocation of the hip, excited quite a lively discussion. He drags the head of the femur down and presses it into the rudimentary acetabulum; the limb is then so fixed by an ingenious arrangement of bandages that the weight of the body presses the head of the femur firmly into the cotyloid cavity. This method does not necessitate confinement, for the more the child walks the more the head is pressed into the acetabulum, although walking is somewhat difficult at first. The speaker had treated forty-three children in this manner and had obtained a permanent reposition in all. He showed among other cases the three-year-old child of a physician, who had been cured in three months. Most of his cases had already been treated for long periods with plaster-of-Paris without result. He expressed the conviction that every case of unilateral dislocation up to the age of six years, and every one of double dislocation up to the age of five years, could be cured. Dolega, of Leipsic, Mikulicz, of Breslau, and Hoffa, of Würzburg, also described bloodless methods of treatment.

Riedel, of Jena, drew attention to the dangers to which workers in match factories are exposed, especially since the yellow poisonous phosphorus has come again to be used. The speaker had observed especially a fragility of the bones, one workman having had thirteen fractures in eight years. In the discussion it was suggested that the government should interfere and establish rules for the prevention of phosphorus poisoning. Küster, of Marburg, reported a case of malignant tumor of the bladder in which he had separated the ureter, and, after the removal of the growth, had fastened it into a healthy portion of the bladder.

Jürgens, of Berlin, presented a communication on the etiology of sarcoma. He had succeeded in inoculating animals with sarcoma. He held that certain forms at least of sarcoma were without any doubt caused by micro-organisms, by coccidia about the size of a cell nucleus, which probably have amœboid movements and in this way penetrate the cells and destroy them. In the course of his experiments the speaker had inoculated himself, and had a tumor of the finger which disappeared only after energetic treatment with sublimate for six or eight weeks. As the cause of this growth he found a form of gregarina which is always present in epithelioma contagiosum of chickens. The speaker also succeeded in inoculating animals with melanotic sarcoma.

The Murphy button was then discussed by Czerny, Kümmel, and Braun, the general opinion being in

favor of this ingenious apparatus, although cases were mentioned in which the button was retained in the bowel, causing pressure gangrene and necessitating a second operation. Stelzner exhibited a hair tumor weighing one hundred and eight grams which he had found in the stomach of a girl seventeen years old. The child had been in the habit of biting off hairs and swallowing them. Rhen, of Frankfort, then read an interesting paper on wounds of the stomach caused by non-penetrating blows. The subcutaneous injury may consist in tears varying in kind and depth, in separations of the mucous membrane, hæmatoma, abscesses of the stomach wall, and cysts. Among the causes of these injuries the speaker mentioned kicks, trampling, crushing between buffers, etc. In one case the mucous membrane was torn into strips. The nature of the lesion depends much upon whether the stomach was full or empty at the time the injury was received, for a full stomach is more easily injured by a force direct from in front toward the spinal column. Rupture often occurs from increased internal pressure when the force acts so as to compress one portion of the full stomach. Most cases of this sort terminate fatally in spite of operation, although the speaker reported some cases of recovery.

Several communications were presented by Bürgner, of Hanan, Cramer, of Cologne, Riedel, of Jena, Schnitzler, of Vienna, and Hasse, of Nordhausen. The latter described the alcohol treatment of carcinoma, and reported four cases of cancer of the uterus which were treated with alcohol injections twenty-three years ago, the patients being still alive. Mammary cancer was treated in the same way. In several cases the tumor had been removed by operation, but the carcinoma returned. These recurrent growths were treated by injections of alcohol encircling them, and their spread was thereby checked. Those who listened to this paper seemed little inclined to credit alcohol with any cancer-destroying properties.

In connection with the congress there was an exhibition of surgical apparatus and instruments, and also of Dr. Berliner's colored plastic representations of surgical and pathological specimens. Besides the purely scientific work of the congress, the members took part in a number of entertainments. The first day's session was closed by a dinner at the Kaiserhof, at which there were three hundred and sixty covers. The cultus-minister, Dr. Bosse, presided, and on his right was Sir Spencer Wells, on his left the president of the congress, Professor v. Bergmann, and next to the latter Dr. Ollier, of Lyons. Among the speakers were English, French, German, and Russian surgeons. On the evening of the second day the members of the congress were entertained by the Freie Vereinigung der Chirurgen Berlins in Kroll's Theatre. The Emperor and Empress were also present. The entertainment consisted of nine-tableaux which symbolized the history of surgery. The first represented the battle of Teutoburger-Wald, showing how the place looked where the soldiers' wounds were dressed on the battlefield. The others showed the monk, the quack, and the barber as healers, and so followed the progress of surgery down to the present day, the final picture being in honor of the Red Cross. After this the guests with their ladies adjourned to the Königssäle, where there was a splendid supper spread on long rows of tables.

The subject of an international surgical congress was discussed, and it was determined to hold the first in London in 1900. Successive congresses will be held in France, Germany, and America. Each congress will be governed by a committee of the country in which it is held.

Prof. Paul Bruns, of Tübingen, was chosen president for the ensuing year. v. Bergmann announced

the closure of the twenty-fifth session with the remark that after a meeting so fruitful and so rich in scientific labors, the society entered under most favorable auspices upon its second quarter of a century. Bruns proposed a "Hoch" for the retiring president, and Riedel expressed the thanks of the society to the Free Society of the Surgeons of Berlin for the entertainment at Kroll's Theatre.

The number of members present at the congress was five hundred and nineteen.

OUR PARIS LETTER.

(From our Special Correspondent.)

WASHING THE BLOOD—ARTIFICIAL SERUM—TREATMENT OF ANÆMIA, TYPHOID FEVER, AND PERITONEAL INFECTION WITH SERUM—METHOD OF APPLICATION—NO CHOLERA AT MARSEILLES OR TOULON, THE PORTES D'ENTRÉE OF FRANCE—TRAFFIC IN STREPTOCOCCIC SERUM—RESIGNATION OF DR. ROGER IN CONSEQUENCE.

PARIS, June 10, 1896.

THE expression "washing the blood," although a technical one, well defines treating the blood-vessels as well as the liquor sanguinis itself by means of introduction into the circulatory system of artificial serum. This method is entirely different from and not to be confounded with "seropathie," which has received several terrible blows lately, one case having resulted in death within an hour after the injection.

Physiologists have known for some time past by repeated experiments in the laboratory that a frog may be bled until the arteries and veins are empty, and these may be to a greater or less extent recharged, not with the blood of another frog, but with artificial serum or simply salt and water, without the frog ceasing to live and to move freely. The presence alone of artificial serum in its veins is sufficient to furnish that stimulation or nutrition to the nerve centres that supports life.

It was these facts that led Professor Dastre, in 1889, to inject large quantities of artificial serum into the veins of animals that had first been anæmiated or intoxicated. It was some time after that Professor Hayem, the eminent therapist of the Faculty of Medicine, applied this method in the treatment of cholera, as did also Dr. Sahli, of Berne, in the treatment of typhoid fever and uræmia. Both obtained results that are extremely encouraging. There was a lull then, and not much was said on the subject in the meetings of the scientific societies until quite suddenly and recently three very important communications, one after the other, have been made—one by Dr. Duret, another by Dr. Lejars, and a third by Dr. Tuffier, at the Société de Biologie, which place the question of washing the blood among the most interesting of the moment. This blood washing, which may be more properly so designated when applied to the human subject, is, in the case of animals bled dry, really a substitution of the saline fluid for the blood itself; that is, the blood which contains a certain proportion of serum is transformed entirely into serum, and it would thus seem that the serum is that which nourishes the nerve centres, as well as the whole nervous system, and that which sets in motion the physiological mechanism—in other words, life.

It is in uræmia that this treatment has thus far been mostly employed, and it is in these cases that the "washing" is most evident, for we have here a blood thick with the uric poisons that the kidneys have been unable to eliminate; there is renal insufficiency, and unless prompt relief is given death will quickly result. If, now, eight hundred grams, one thousand grams, fif-

teen hundred grams, even two thousand grams of a saline solution of 10 to 1,000 be injected into a vein, under the most minute precautions as regards antiseptics and sterilization, the patient may be saved. Within from twenty minutes to an hour at the longest after the injection is practised, the comatose condition disappears, the tongue becomes humid again, the conjunctiva and cornea retake their transparency, the skin is moist with a profuse perspiration, the kidneys act freely as well as the other glands of the body, the intestines move, and there is a general return to life. The saline water taken into the circulation by the vein goes out by all the emunctories, carrying with it the toxins causing the uræmic symptoms; literally washing the blood of them. Dr. Lejars, of the Beaujon Hospital, and Dr. Tuffier report cases of tetanus, of peritoneal infection, severe hemorrhages, and operatory shock, cured by means of injection of artificial serum. Only in two or three cases did the patients succumb in spite of all, several hours after the injection. In addition to the cases reported at the Société de Biologie and at the Academy of Medicine, those reported by Drs. Segond, Delbet, and Pinard are equally important, as proving incontestably the efficacy of injections of artificial serum in uræmia, typhoid fever, cholera, tetanus, severe hemorrhage, intoxications, and nervous exhaustion, whether following an operation or idiopathic. Dr. Cheron's method of employing artificial serum is to use it in small quantity and oft-repeated injections, thus producing an alterative and nutrient effect, which is doubtless more efficacious in those cases in which such treatment is indicated than would be the method of Professor Dastre, which is destined to supersede entirely transfusion of the blood.

The recent epidemic of cholera in Alexandria, Egypt, seems to be on the wane; nevertheless, it has inspired fears, which, we are happy to say, are absolutely groundless, that the disease, which is evidently Asiatic in character, may be or has been brought into France. It has already been reported as existing at Marseilles, that and Toulon being the usual *portes d'entrée*. These rumors are utterly false, the truth being that all ships coming from Egyptian ports are submitted to most rigorous quarantine and other sanitary measures. The last official bulletins from Marseilles and Toulon show the health of these towns to be in a very satisfactory condition. The mortality is low and the cases of cholera sometimes observed in them at this season of the year are wanting. The same may be said of Paris, the mortality rate of which is just now considerably below the average. Moreover, Paris and Marseilles are two of the best-watered cities in Europe. Marseilles has the Durance to depend upon, which carries fifty cubic metres of water a second, so that it has been and is possible to give to all the canals, and especially to the Marseilles canal, their normal quantity of water, and hygienists know how much that means in times of drought, which always favor and foster outbreaks of epidemic cholera.

An incident has just occurred that is making quite a stir in the medical and pharmaceutical world, and which has resulted in the resignation of one of our most distinguished *chefs de laboratoire*, as it has in the dismissal of his aid, or *garçon de laboratoire*.

The facts are briefly as follows: Dr. Bouchard, professor of general pathology at the Faculty of Medicine, has for one of his favorite pupils Dr. Roger, professor agrégé and médecin des hôpitaux, editing at the same time with Professor Bouchard his great work, "Traité de Pathologie Générale." Dr. Roger's best-known contribution to science is his discovery of the antistreptococcic serum, a serum entirely different from that of Marmorek.

It seems that the pharmaceutical house of Chaix &

Rémy undertook the sale and advertisement of Dr. Roger's serum, and as the discovery became public property the inventor remained entirely out of the case. Unfortunately, the aid or *garçon*, who understood perfectly the handling of toxins and how to use them, earning but a slender one hundred francs a month, yielded to the tempting offers of Messrs. Chaix & Rémy, and began to give more attention to the manufacture of serums than to his regular laboratory duties. When Dr. Roger was informed of this he did nothing to prevent it, and the matter was referred to Professor Brouardel, dean of the faculty. The resignation and dismissal above noted were the consequence.

No blame is attached to Dr. Roger, who certainly made a mistake in not bringing the matter to light at once. He evidently acted from motives of kindness. The serum is used chiefly in the treatment of erysipelas and puerperal fever, in both of which diseases the streptococcus is characteristic.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 20, 1896:

	Cases.	Deaths.
Tuberculosis.....	258	115
Typhoid fever.....	11	1
Scarlet fever.....	91	6
Cerebro-spinal meningitis.....	3	6
Measles.....	204	16
Diphtheria.....	239	35
Small-pox.....	0	0

Surgical Morals.—According to Dr. David W. Cheever in the present feverish condition of operative surgery it may be prudent to ask ourselves what is the object of an operation and how should we regulate our conduct in unforeseen contingencies (*Boston Medical and Surgical Journal*). The problem may be condensed into the following questions: 1. When to operate. 2. When not to operate. 3. When to stop. 4. When not to stop. In regard to the first question, says the author, if we confine our selection of cases to those which clearly come under the cardinal rule for operation—namely, to relieve suffering, to prolong life, or both—there will be very little difficulty in the choice. We must consider whether life is imperilled and whether the suffering can probably be relieved. If we are asked to operate, he says, shall we accept only good risks, and decline the doubtful or hopeless cases? The second question is a difficult one to decide. Operations should not be undertaken without the full consent of the patient and his family, if it is possible to obtain it, and there should be some responsible person who understands the nature of the operation to be done and what may be reasonably expected from it. No operation should be done when the patient is in a state of shock, unless hemorrhage, apnoea, or obstruction of the bowels is present, as in hernia, for example. If there is time the systemic condition of the patient should be fully considered—for example, as to the integrity of the heart, the arteries, and the kidneys. In a case of no emergency the age and the prospect of life of the patient should be taken into account. In cases of glandular infiltrations which are so extensive as to preclude perfect removal, he says an operation should not be done; for instance, in a tuberculous organ, or in a sarcoma of the antrum where the

sphenoid cells cannot be extirpated. There are two important exceptions to this rule, however: 1. To relieve agonizing pain an operation should be done on any slight chance, for, unless the suffering can be palliated, the patient had better die than live. 2. In a forlorn hope, so to speak, after the risk has been fairly stated, the patient is entitled to an operation, if he wishes it, and if he takes the responsibility; here, however, the limit must be those cases in which there are one or more chances of success. Must we stop when the patient fails? Not always, for the failure may be due to the anæsthetic or even to simple nausea. In this case the surgeon should stimulate the patient and consider carefully before giving up the operation. Stopping, he says, is indicated when we come to the end of all that can be taken out—for instance, in a case of malignant tumor; in an operation in the abdominal cavity, when a glance or a touch reveals that the tumor is not removable and that it has grown into vital parts; in an operation on the surface of the body when stopping will not imperil life so much as going on; in syncope with a pulse at 108; with sighing respiration, and with a colliquative sweat. Concerning the fourth question, says the author, When not to stop, keep on as long as the patient breathes; it is his only chance. The contingencies are: An operation which has so far displaced and broken up a soft internal tumor as to render death from bleeding or from sepsis certain if any is left; an oozing hemorrhage; a difficult tracheotomy; a crushed skull with a pulse of 40 and Cheyne-Stokes respiration (having trephined, he says, we cannot stop until compression is removed and the bleeding checked; extravasation of urine, and a bladder to be drained; if the patient dies in the process, we must drain the bladder. If we do not do all these things, the patient dies; his only chance lies in their being done. Surrounded with these terrible chances the surgeon, like the executioner, raises or depresses his thumb, and the patient lives or dies. There is no responsibility like this. All this should teach us, first, to be over-careful about getting in so deep that we cannot withdraw, or about meddling with what had better be left alone. Second, not to imperil life to cover our mistakes, for we all make them. Third, in self-defence to withdraw from an operation or from a case at once if our advice is not followed. To bear the responsibility, we must be absolute masters.

Medical Practice in Spain.—Medical organization is greatly wanted in Spain. Every week the medical journals report lists of vacancies for district medical officers for the poor, appointments of a kind similar to dispensaries in this country; but the appointment is made for a term of years; when no term is fixed the doctor is liable to dismissal at any moment (*The Medical Press*). The payment is, as a rule, very small, as the following will show: District C, population 1,021, salary, 995 pesetas (£39 17s. 6d.). But the advertisement naively states that the doctor shall be at liberty to attend wealthy families in the neighborhood. For the district of P, population 5,411, the salary is 875 pesetas, and there is no mention of any wealthy families being in the neighborhood. District V, population 593, salary 150 pesetas, for attendance on seventeen poor families, and liberty granted to attend the 156 wealthy ones in the neighborhood—the contract to be for a term of four years. By the termination of contract the district of A, which includes three towns, offers 3,000 pesetas (£120), the contract to be for four years. The advertisement states that there is a good road connecting the towns, and that the country is very beautiful. In all cases the application is to be made to the alcalde. Such conditions are not likely to advance medicine, and they have undoubtedly been injurious to the people. Under the startling heading

"Dinamiteros," *El Siglo Medico* has published a series of long articles on the present condition of Spanish society, which that journal states is being undermined by drunkenness and clandestine prostitution, and appeals urgently for a better system of education, which it looks to as a remedy capable of raising Spanish women to a sense of the worth of purity.

Pathological Society of Philadelphia.—At the stated meeting of the Pathological Society of Philadelphia, held on May 14th, Dr. Joseph Sailer presented a specimen of carcinoma of the cardia with contiguous involvement of the liver, and also five specimens of right-sided endocarditis. Dr. A. E. Taylor read on behalf of himself and Dr. Sailer a valuable communication entitled "The State of the Blood in the Carcinomatous Cachexia," detailing nineteen cases in which careful differential estimations of the blood corpuscles were made. They found myelocytes in but four of the cases, while in the large majority the mononuclear leucocytes and the transitional forms were increased in number. As a rule the eosinophilous cells were few in number. Dr. F. A. Packard presented "Multiple Tuberculomata of the Brain and Tuberculous Adrenals" attended with epileptiform convulsions and cutaneous pigmentation. Dr. M. H. Fussell presented a number of gall stones from a case in which death had resulted in consequence of peritonitis in the absence of perforation. Dr. J. Dutton Steele exhibited a greatly dilated stomach whose capacity was easily three quarts; a liver presenting an extreme degree of cirrhosis, with peculiar and extensive adhesions to adjacent structures; and the cæcum and vermiform appendix from an infant, twenty days old, in whom these parts had entered the internal ring of the inguinal canal, and the appendix had apparently been constricted. Dr. H. W. Cattell exhibited the stomach from a case of arsenical poisoning due to the ingestion of "Rough on Rats" taken with suicidal intent. Dr. M. V. Ball exhibited an anencephalic monster. Dr. A. E. Taylor exhibited a carcinoma of the posterior wall of the stomach close to the cardia, characterized during life by intense cachexia and copious hemorrhage, and also surgical kidneys and bladder due to hypertrophy of the prostate in a man thirty years old.

Philadelphia County Medical Society.—At a stated meeting of the Philadelphia County Medical Society, on May 27th, Dr. Lawrence F. Flick read a paper entitled "Calomel as a Specific in Diphtheria." Dr. G. Erety Shoemaker reported "Cases Illustrating Three Methods of Hysterectomy for Different Indications." Dr. T. S. K. Morton read a paper upon "Saline Infusion for Hemorrhage, with Reports of a Case of Extra-Uterine Pregnancy and a Case of Stab Wound of the Thorax Apparently Saved by its Employment." Dr. John S. Miller reported a case of hæmothorax from a stab wound of an intercostal artery, in which the hemorrhage was controlled by packing the wound with gauze.

The Poor in London Hospitals.—The following announcement appeared in the society column of the *Standard* a few days ago: "Upon inquiry at St. George's Hospital last evening, it was ascertained that Mr. Philip Richard Morris, A.R.A., who three weeks since underwent an operation, was progressing satisfactorily toward recovery." In a few weeks the collection boxes will be sent around London factories and workshops to receive the pence contributed by working men and boys in aid of St. George's and other hospitals. The question arises whether these sons of toil know that their charity is being made use of to relieve gentlemen in the position of Mr. Morris, A.R.A.—*The Medical Times*.

The Significance of Pain.—In a recent lecture Professor Potain spoke of the value of pain in the diagnosis of disease, and stated that its absence usually made the prognosis more sombre, latent affections being grave because they develop freely without any warning to the patient (*New York Medical Times*). It is because of the absence of pain that many affections have remained so long obscure and have caused great ravages, such as endocarditis, chronic nephritis, and aortitis. Certain diseases, usually painful, may sometimes exist without this symptom; in waking typhoid fever the pain is so slight that the patient can carry on his ordinary vocation until intestinal perforation occurs, causing rapid death. In pleurisy the pain, sometimes so great, may be absent, but the disease is none the less serious on that account. Cases of angina pectoris in which there is no pain are the most dangerous. Certain diseases consist only of pain, such as gastralgia and enteralgia; in others pain is the predominant symptom. It should, therefore, be studied with the greatest care, and its characteristics fully determined. Its intensity is what naturally strikes the patient, but this is not at all proportionate to its cause, and depends upon individual conditions. It is well known that certain races are but slightly sensitive to pain and that education plays a great part in this sensitiveness. A reliable physician states that there is at Chantilly a colony of English jockeys who, accustomed to horseback riding, are liable to numerous fractures, but seem to feel only slightly the pain caused by them; while their wives, with but rare exceptions, never utter a cry during delivery. The intensity of pain is of value to the physician only when it is excessive; for instance, an intensely painful spot in the side may indicate gangrenous pleurisy; the appearance of peritoneal pain in typhoid fever may indicate perforation of the intestine. The seat of the pain has but little relation to the disease; thus the painful point in pleurisy is nearly always the same, no matter what may be the precise location of the inflammation. The only exception to this is the pleuritic pain of tuberculosis. Dorsal and substernal pain ordinarily indicates an affection of the œsophagus, but to make an exact diagnosis it is necessary to use the sound. Gastric pain indicates the location of the disease, as a general rule, and the patients are not deceived when they complain of pain in the stomach. Disturbance of the biliary passages is generally marked by pain in the right hypochondrium to the other. Nephritic colic causes pain along the corresponding ureter. Vesical pain is easily recognized because of the tenesmus which accompanies it. There are pains, the seat of which is pathognomonic, such as angina pectoris, in which it is prethoracic and radiates into the left arm, and sometimes into both arms. To this rule, however, there are many exceptions. Hepatic colic may cause pain only in the epigastrium and simulate gastralgia, while epigastric pain is often related to alterations of the solar plexus, such as that due to aneurism of the abdominal aorta. Reflex pain is also an important aid in diagnosis. It is necessary to bear in mind, in this connection, the dorsal pain in gastric affections; the scapulargia of hepatic colic; the pain in the posterior portion of the deltoid region in diseases of the liver; the irradiations of nephritic colic into the testicles and thighs; the brachial and cervical pains of angina pectoris; the costo-xiphoidal pain of diaphragmatic pleurisy and pericarditis. Rectal pain often extends to the thighs, especially in elderly, constipated men, and such pain should always call for a rectal examination. In affections of the colon pain is frequently felt in the precordial region. Chronic colitis causes the arrest of fecal matter at the bend of the intestine between the transverse and descending colon, and the precordial pain

arising from this is a source of frequent errors in diagnosis. Of one hundred persons complaining of heart disease, about seventy have some affection of the colon. Ovaritis often gives rise to intercostal pain, and when the cause of a persistent neuralgia of this region in a woman cannot be found, it is well to consider the possibility of ovarian trouble. Pain upon pressure gives more precise information to the physician than any other. When this exists at the points of emergence of nerve branches only, it indicates a neuralgia. When it exists along the entire course of the nerve the case is one of neuritis. The absence of pain upon pressure in cases of spontaneous pain indicates its reflex nature.

Femoral Cystocele.—Dr. Thierier, of Brussels, reports a case of this uncommon disease. The patient, a man, aged fifty-one, presented himself with a well-marked femoral hernia, which was easily reducible, and he was anxious to have a radical operation performed. On cutting down on the tumor something unusual was recognized, and the protruding sac opened. A free flow of urinous-like fluid followed upon the incision, and by passing a catheter by the urethra it was plainly demonstrated that the tumor consisted of the bladder. Femoral cystocele is one of the least common of tumors. Ruysch, in 1737, reports some cases of inguinal cystocele, and cautions the surgeon that a hernia may contain any of the contents of the abdomen. Baron Haller, in 1755, copies the advice and cases of Ruysch, who, though he appears to have recognized the possibility of femoral cystocele, does not appear to have ever seen one. Pott, whose treatise on ruptures was published in 1756, writes: "A hernia formed by a protrusion of a portion of the urinary bladder through the opening in the abdominal muscle into the groin or scrotum is a disease sometimes, but not very frequently, met with." He describes two cases of inguinal cystocele that came under his own notice. Cystocele, perineal, inguinal, and femoral, is mentioned by Mr. Samuel Sharp (1740), M. C. Verdier (1784), Morgagni (letter 42), Petit, Ponetus, and Bartholin, who credits Dom. I. Sala (1623) with being the first to describe inguinal cystocele.—*Medical Press*.

Typhoid Thymus Extract.—Dr. George B. Henshaw reports, in the *Boston Medical and Surgical Journal*, May 14, 1896, thirteen cases of typhoid fever treated with the typhoid thymus extract. Of these the results in eight were satisfactory, in four the course of the typhoid was not materially shortened, and one death from hemorrhage occurred. One case of typhoid fever was treated with injection of the plain sterilized thymus extract (without inoculation of typhoid bacilli, for control experiment). There was no appreciable change in the chart, or in the condition of the patient at any time, showing that the presence of the typhoid organisms is essential to the success of this treatment. If these cases be added to those previously reported, there will be a total of ninety-eight cases of typhoid fever treated with this extract. Where the treatment has been started reasonably early, the author says there has not been a single death as yet recorded. He believes that this is worthy of further trial, and after two or three hundred cases have been reported some positive conclusions can be reached.

Did he Need it?—

Little Willie from his mirror
Sucked the mercury all off,
Thinking, in his childish error,
It would cure his whooping cough.
At the funeral Willie's mother
Aptly said to Mrs. Brown:
" 'Twas a chilly day for William
When the mercury went down."

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CASE II.—E. W—, aged seventeen, had the most profound anæmia after recovering from a severe attack of scarlet fever. Examination of blood showed six and one-half per cent. hæmoglobin and 2,533,000 corpuscles to a cubic millimetre. After taking the preparation forty days the amount of hæmoglobin had increased to ten per cent. and the corpuscles to 4,500,000.

CASE III.—A. W—, female, aged twenty-two, had been excessively anæmic for over a year; complained of headaches, ringing in ears, dizziness, neuralgic pains, no organic lesion. Blood showed seven per cent. hæmoglobin and 3,500,000 corpuscles to a cubic millimetre; the corpuscles themselves were changed, some being microcytes and poikilocytes. After twenty-three days the treatment was stopped, as the hæmoglobin was normal in amount and the corpuscles had increased to 5,000,000 to each cubic millimetre. The result in this case was the most pronounced of any.

CASE IV.—Charles M—, aged twenty-one, subacute pleurisy lasting six weeks; very anæmic; no fever; some loss in flesh. Had taken syr. ferri iodidi for a month, with but slight improvement in general appearance. Hæmoglobin eight and one-half per cent.; corpuscles 3,800,000 to each cubic millimetre. At the end of twenty days, when the treatment was stopped, the hæmoglobin had increased one and one-half per cent. and the corpuscles to 4,600,000; the fluid in the chest had disappeared.

CASE V.—F. B—, female, aged twenty-two, was admitted to the hospital suffering from insufficiency of the mitral valve. Presented the pale and anæmic appearance seen in cardiac disease. After the patient had improved so that she was up and about the ward she was put on the pepto-mangan (Gude). The examination of the blood at that time showed eight and one-half per cent. of hæmoglobin and 2,600,000 corpuscles to the cubic millimetre. After taking the preparation twenty-five days the hæmoglobin was eleven per cent. and the corpuscles 4,000,000 per cubic millimetre.

CASE VI.—B. M—, aged twenty-four, suffering from primary anæmia and menstrual disturbances. No organic lesion. Hæmoglobin ten per cent., corpuscles 3,000,000 per cubic millimetre. After taking the preparation forty-three days the amount of hæmoglobin remained at ten per cent., but the corpuscles had increased 1,200,000 per cubic millimetre.

CASE VII.—C. V—, aged fifteen, presented the ordinary appearances of the anæmic girl at the age of puberty. No organic lesion. Hæmoglobin eight per cent., corpuscles 2,800,000. The examination of the blood after taking the pepto-mangan (Gude) forty days showed that the hæmoglobin was normal in amount, and that there were 4,000,000 corpuscles to each cubic millimetre of blood.

CASE VIII.—M. M—, female, aged twenty-four; six weeks after ovariectomy; presented a markedly anæmic appearance. Had shown a slight improvement in color after taking Bland's pills for three weeks. These were stopped, and the iron and manganese preparation given. Examination of blood showed eight per cent. hæmoglobin and 3,200,000 corpuscles per cubic millimetre. After forty-eight days the hæmoglobin had increased two and a half per cent. and the corpuscles 1,300,000.

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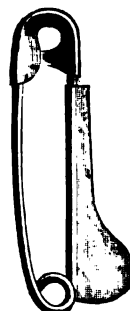
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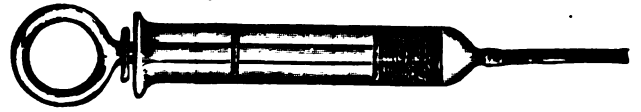


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CANADIAN MEDICAL ASSOCIATION.

Annual Meeting at Montreal, Can., 1896.
F. N. G. STARR, M.D., Sec., JAMES THORNBURN, M.D., Prest.,
204 Markham St., Toronto, Ont. Toronto, Ont.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Annual Meeting at Philadelphia, Pa., May 12, 13, and 14, 1896.
EUSTATHIUS CHANCELLOR, M.D., Sec., COL. LOUIS W. READ, M.D., Prest.,
613 Pine St., St. Louis, Mo. Norristown, Pa.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Annual Meeting at Lakewood, N. J., May 12 and 13, 1896.
GUY HINSDALE, M.D., Sec., J. B. WALKER, M.D., Prest.,
2043 Chestnut St., Philadelphia, Pa. 1617 Green St., Philadelphia, Pa.

NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

Annual Meeting at Cincinnati, Ohio, 1896.
D. EMMETT WELSH, M.D., Sec., J. B. MURPHY, M.D., Prest.,
Grand Rapids, Mich. Chicago, Ill.

AMERICAN PÆDIATRIC SOCIETY.

Annual Meeting at Montreal, Can., May, 1896.
SAMUEL S. ADAMS, M.D., Sec., JOSEPH O'DWYER, M.D., Prest.,
1 Dupont Circle, Washington, D. C. New York City.

ARMY AND NAVY MEDICAL ASSOCIATION.

Annual Meeting at Havana, Ill., June 23 and 24, 1896.
EDWARD P. BARTLETT, M.D., Sec., E. F. COOK, M.D., Prest.,
Springfield, Ill. Mendota, Ill.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Annual Meeting at Nashville, November 10, 1896.
W. E. B. DAVIS, M.D., Sec., E. A. LEWIS, M.D., Prest.,
Birmingham, Ala. New Orleans, La.

TRI-STATE MEDICAL SOCIETY.

Annual Meeting at Chicago, Ill., April 7, 8, and 9, 1896.
GEORGE W. CALK, M.D., Sec., ROBERT H. BASCOCK, M.D., Prest.,
4406 Washington Boul., St. Louis, Mo. Venetian Bldg., Chicago, Ill.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Annual Meeting at St. Paul, Minn., October 20, 1896.
H. W. LORE, M.D., Sec., H. O. WALKER, M.D., Prest.,
2536 Olive St., St. Louis, Mo. Detroit, Mich.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Annual Meeting at Council Bluffs, Ia., September 17, 1896.
DONALD MACRAE, JR., M.D., Sec., F. S. THOMAS, M.D., Prest.,
Council Bluffs, Ia. Council Bluffs, Ia.

THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Annual Meeting in New York City, April 17, 1896.
ROBT. CUNNINGHAM MYLES, M.D., Sec., EDW. BRADFORD DENCE, M.D., Prest.,
New York City. New York City.

STATE.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Meeting at Montgomery, April 21 to 24, 1896.
JAMES REID JORDAN, M.D., Sec., WILLIAM H. JOHNSTON, M.D., Prest.,
Montgomery, Ala. Birmingham, Ala.

THE ARKANSAS MEDICAL SOCIETY.

Annual Meeting at Fort Smith, April 29, 1896.
F. VINSONHEALER, M.D., Sec., L. P. GIBSON, M.D., Prest.,
Little Rock, Ark. Little Rock, Ark.

CONNECTICUT MEDICAL SOCIETY.

Annual Meeting at New Haven, May 27 and 28, 1896.
N. E. WORDIN, M.D., Sec., SETH HILL, M.D., Prest.,
174 Fairfield Ave., Bridgeport, Conn. Stepany, Conn.

THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Annual Meeting at Los Angeles, April 21, 1896.
WM. WATT KERR, M.D., Sec., W. LE MOYNE WILLS, M.D., Prest.,
283 Sutter St., San Francisco, Cal. Los Angeles, Cal.

COLORADO STATE MEDICAL SOCIETY.

Annual Meeting at Denver, June 16, 17, and 18, 1896.
E. R. AXTELL, M.D., Sec., I. B. FERRIS, M.D., Prest.,
Denver, Col. Denver, Col.

MEDICAL ASSOCIATION, DISTRICT OF COLUMBIA.

Semi-Annual Meeting at Washington, April 7, 1896.
J. B. WELLINGTON, M.D., Sec., C. H. A. KLEINSCHMIDT, M.D., Prest.,
1235 N St., N. W., Washington, D. C. 2107 N St., N. W., Washington, D. C.

MEDICAL SOCIETY OF DELAWARE.

Annual Meeting at Newark, Del., June 23, 1896.
WM. C. FIERCE, M.D., Sec., JAMES T. MASSEY, M.D., Prest.,
227 Washington St., Wilmington, Del. Canterbury, Del.

FLORIDA MEDICAL ASSOCIATION.

Annual Meeting at Sanford, April 7, 1896.
J. D. FERNANDIZ, M.D., Sec., C. B. SWEETING, M.D., Prest.,
Jacksonville, Fla. Key West, Fla.

THE MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Augusta, April 15, 1896.
R. H. TAYLOR, M.D., Sec., F. M. RIDLEY, M.D., Prest.,
Griffin, Ga. La Grange, Ga.

ILLINOIS STATE MEDICAL SOCIETY.

Annual Meeting at Ottawa, Ill., May 19, 20, and 21, 1896.
JOHN B. HAMILTON, M.D., Sec., DAVID W. GRAHAM, M.D., Prest.,
Room 20 P. O. Building, Chicago, Ill. Chicago, Ill.

INDIANA STATE MEDICAL SOCIETY.

Annual Meeting at Fort Wayne, May 28 and 29, 1896.
KENT K. WHEELOCK, M.D., Sec., MILES F. PORTER, M.D., Prest.,
Fort Wayne, Ind. Fort Wayne, Ind.

IOWA STATE MEDICAL SOCIETY.

Annual Meeting at Des Moines, April 15, 1896.
J. W. COCKENOWER, M.D., Sec., D. S. FAIRCHILD, M.D., Prest.,
Des Moines, Ia. Clinton, Ia.

NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

STATE—CONTINUED.

INDIAN TERRITORY MEDICAL ASSOCIATION.

Semi-annual Meeting at Wagoner, June 2 and 3, 1896.
J. G. BRUCKER, M.D., Sec., Claremore, Ind. Ter. J. S. FULTON, M.D., Prest., Atoka, Ind. Ter.

IDAHO STATE MEDICAL SOCIETY.

Annual Meeting at Boise City, September, 1896.
W. D. SPEDDEN, M.D., Sec. and Treas., Boise, Idaho. C. L. SWEET, M.D., Prest., Boise, Idaho.

KANSAS MEDICAL SOCIETY.

Annual Meeting at Topeka, May, 1896.
G. A. WALL, M.D., Sec., Topeka, Kan. R. S. BLACK, M.D., Prest., Ottawa, Kan.

KENTUCKY STATE MEDICAL SOCIETY.

Annual Meeting at Lebanon, June, 1896.
STEELE BARNY, M.D., Sec., Stanford, Ky. JOHN A. LEWIS, M.D., Prest., Georgetown, Ky.

THE LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting at New Orleans, May 5, 1896.
P. B. McOUTCHON, M.D., Sec., 4025 Prytanis St., New Orleans, La. R. M. LETTELL, M.D., Prest., Opelousas, La.

MAINE MEDICAL ASSOCIATION.

Annual Meeting at Portland, June 3, 1896.
OSCAR D. SMITH, M.D., Sec., 186 Free St., Portland, Me. LEWIS W. FENDLETON, M.D., Prest., Portland, Me.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Annual Meeting at Baltimore, April 28, 1896.
JAS. M. CRAIGHILL, M.D., Sec., 1720 N. Charles St., Baltimore, Md. J. EDWIN MICHAEL, M.D., Prest., 301 W. Franklin St., Baltimore, Md.

MASSACHUSETTS MEDICAL SOCIETY.

Annual Meeting at Boston, June 9 and 10, 1896.
F. W. GOSS, M.D., Sec., Roxbury, Mass. F. K. PADDOCK, M.D., Prest., Pittsfield, Mass.

MICHIGAN STATE MEDICAL SOCIETY.

Annual Meeting at Mt. Clemens, June 4 and 5, 1896.
G. B. JOHNSON, M.D., Sec., Grand Rapids, Mich. V. C. VAUGHAN, M.D., Prest., Ann Arbor, Mich.

MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting at Minneapolis, June 17, 1896.
I. DOWNHILL, M.D., Sec., St. Paul, Minn. FRANK ALLPORT, M.D., Prest., Minneapolis, Minn.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Vicksburg, April 15, 1896.
J. R. TACKETT, M.D., Sec., Meridian, Miss. H. H. HARALSON, M.D., Prest., Forest, Miss.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting at Sedalia, May 19, 20, and 21, 1896.
FRANK R. FRY, M.D., Sec., 5133 Pine St., St. Louis, Mo. C. LESTER HALL, M.D., Prest., Kansas City, Mo.

MEDICAL ASSOCIATION OF MONTANA.

Annual Meeting at Bozeman, April 21, 1896.
WM. C. RIDDELL, M.D., Sec., Helena, Mont. J. F. SPELMAN, M.D., Prest., Anaconda, Mont.

NEW HAMPSHIRE MEDICAL SOCIETY.

Annual Meeting at Concord, June 1 and 2, 1896.
G. P. COHN, M.D., Sec., Concord, N. H. E. F. McQUESTEN, M.D., Prest., Nashua, N. H.

NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting at New York, October 13, 14, and 15, 1896.
A. D. FERGUSON, M.D., Sec., Troy, N. Y. DARWIN COLVIN, M.D., Prest., Clyde, Wayne Co., N. Y.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Albany, February 2, 1897.
F. C. CURTIS, M.D., Sec., 17 Washington Ave., Albany, N. Y. JAMES D. SPENCER, M.D., Prest., Watertown, N. Y.

MEDICAL SOCIETY OF NEW JERSEY.

Annual Meeting at Asbury Park, June 23, 1896.
WILLIAM PIERSON, M.D., Sec., Orange, N. J. WILLIAM ELMER, M.D., Prest., Trenton, N. J.

NEBRASKA STATE MEDICAL SOCIETY.

Annual Meeting at Fremont, June, 1896.
GEO. WILKINSON, M.D., Sec., Omaha, Neb. J. E. SUMMERS, Jr., M.D., Prest., Omaha, Neb.

MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Annual Meeting at Winston, May 12, 1896.
ROBERT D. JEWETT, M.D., Sec., Wilmington, N. C. R. L. PAYNE, M.D., Prest., Lexington, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Socorro, August 12, 1896.
H. M. SMITH, M.D., Sec., East Las Vegas, New Mex. F. MARBON Y. ALONSO, M.D., Prest., Las Vegas, New Mex.

THE OHIO STATE MEDICAL SOCIETY.

Annual Meeting at Columbus, May 27, 28, and 29, 1896.
THOS. HUBBARD, M.D., Sec., Toledo, Ohio. DAN WILKINSON, M.D., Prest., 2d and Ludlow Sts., Hamilton, Ohio.

OREGON STATE MEDICAL SOCIETY.

Annual Meeting at Portland, June, 1896.
E. F. TUCKER, M.D., Sec., Portland, Ore. O. D. DOANE, M.D., Prest., The Dalles, Ore.

ONTARIO MEDICAL ASSOCIATION.

Annual Meeting at Windsor, June 4 and 5, 1896.
J. N. E. BROWN, M.D., Sec., 186 King Street, Toronto, Canada. F. LE M. GRASSETT, M.D., Prest., Toronto, Canada.

THE STATE MEDICAL SOCIETY OF PENNSYLVANIA.

Annual Meeting at Harrisburg, May 20, 1896.
WM. B. ATKINSON, M.D., Sec., 1400 Pine St., Philadelphia, Pa. WM. S. FOSTER, M.D., Prest., Pittsburg, Pa.

RHODE ISLAND MEDICAL SOCIETY.

Annual Meeting at Providence, June 4, 1896.
FRANK L. DAY, M.D., Sec., Providence, R. I. ELISHA P. CLARK, M.D., Prest., Hope Valley, R. I.

SOUTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at Yankton, June 10, 1896.
W. J. MATTHEW, M.D., Sec. and Treas., Alexandria, So. Dak. G. E. MARTIN, M.D., Prest., Carthage, So. Dak.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual Meeting at Spartanburgh, April 22, 1896.
EDWARD F. PARKER, M.D., Sec., Charleston, S. C. JAMES L. NAPIER, M.D., Prest., Blenheim, S. C.

TENNESSEE STATE MEDICAL SOCIETY.

Annual Meeting at Chattanooga, April 14, 1896.
O. R. ATCHISON, M.D., Sec., Nashville, Tenn. G. C. SAVAGE, M.D., Prest., Nashville, Tenn.

THE TEXAS STATE MEDICAL ASSOCIATION.

Annual Meeting at Fort Worth, April 23, 1896.
H. A. WEST, M.D., Sec., Galveston, Tex. F. C. COLEMAN, M.D., Prest., Colorado, Texas.

UTAH STATE MEDICAL SOCIETY.

Annual Meeting at Salt Lake City, October 1 and 2, 1896.
J. N. HARRISON, M.D., Sec., Salt Lake City, Utah. WALTER R. PIKE, M.D., Prest., Provo City, Utah.

VERMONT STATE MEDICAL SOCIETY.

Annual Meeting at St. Johnsbury, October 15 and 16, 1896.
D. C. HAWLEY, M.D., Sec., Burlington, Vt. C. F. BRANCH, M.D., Prest., Newport, Vt.

MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Danville, Va., September, 1896.
J. F. WYNN, M.D., Corresponding Sec., Richmond, Va. WILLIAM L. ROBINSON, M.D., Prest., Danville, Va.

THE WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting at Tacoma, May 19, 20, and 21, 1896.
R. L. THOMSON, M.D., Sec., Spokane, Wash. G. S. ARMSTRONG, M.D., Prest., Olympia, Wash.

THE WISCONSIN STATE MEDICAL SOCIETY.

Annual Meeting at Madison, June 2, 4, and 5, 1896.
CHARLES S. SHELDON, M.D., Sec., Madison, Wis. F. W. EPLEY, M.D., Prest., New Richmond, Wis.

THE MEDICAL SOCIETY OF WEST VIRGINIA.

Annual Meeting at Wheeling, July, 1896.
G. A. ASCHMAN, M.D., Sec., Wheeling, W. Va. J. A. CAMPBELL, M.D., Prest., Wheeling, W. Va.



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ing Surgeon to the Brooklyn Eye and Ear Hospital; Presi-
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have done their work well. We commend the work to all students of ophthal-
mology, and are sure they will find it a safe guide.—*American Medical and Sur-
gical Bulletin*.

The author is clear, accurate, concise, practical, and, like most successful
medical writers, bases his effort upon personal experience.—*Massachusetts
Medical Journal*.

The book is thoroughly practical, and contains much that is valuable, not
only to the specialist, but to the general practitioner as well.—*Texas Medical
Journal*.

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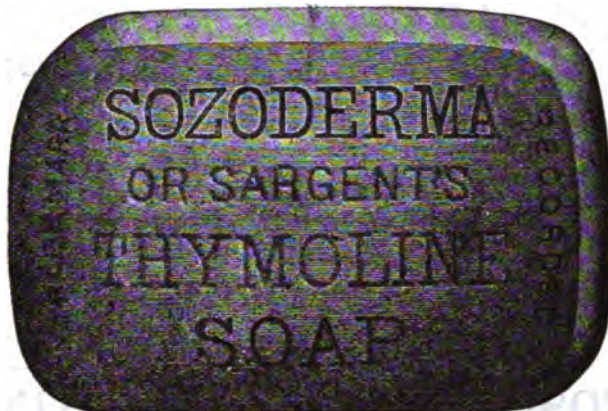
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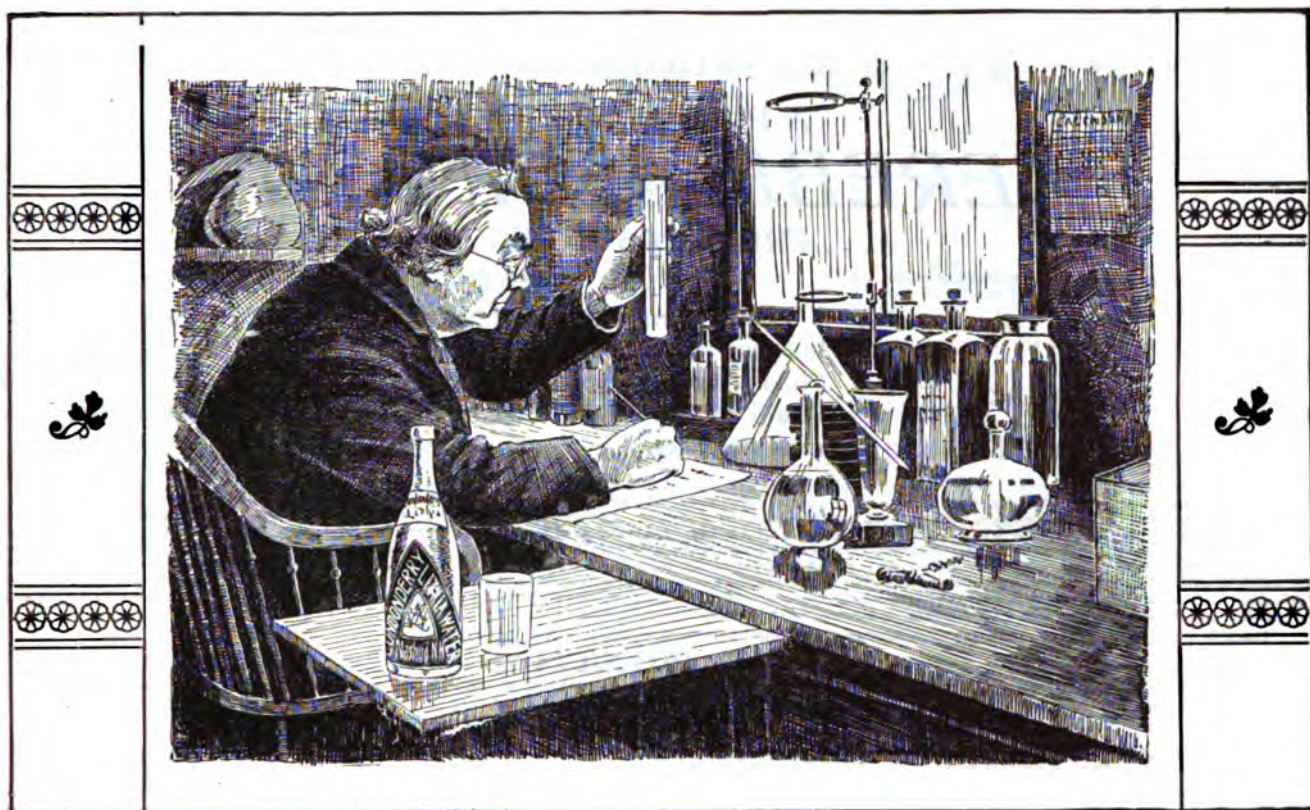
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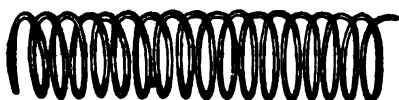
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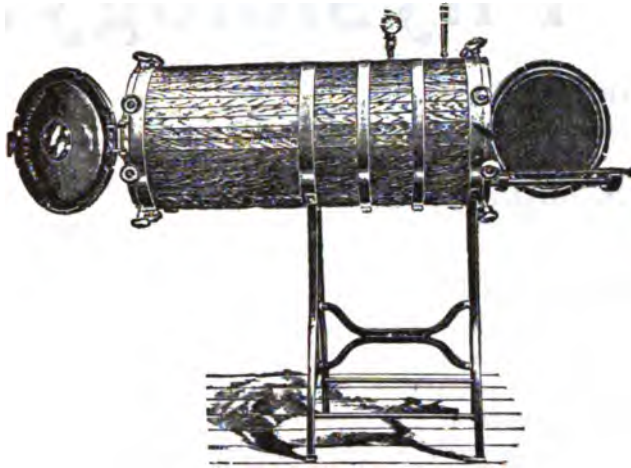
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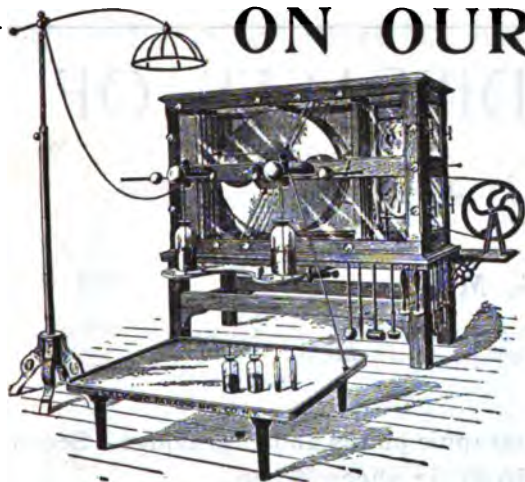


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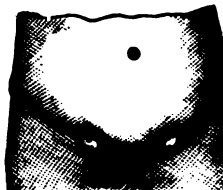
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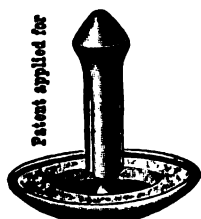


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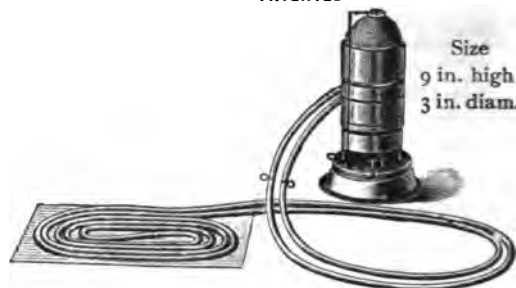
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